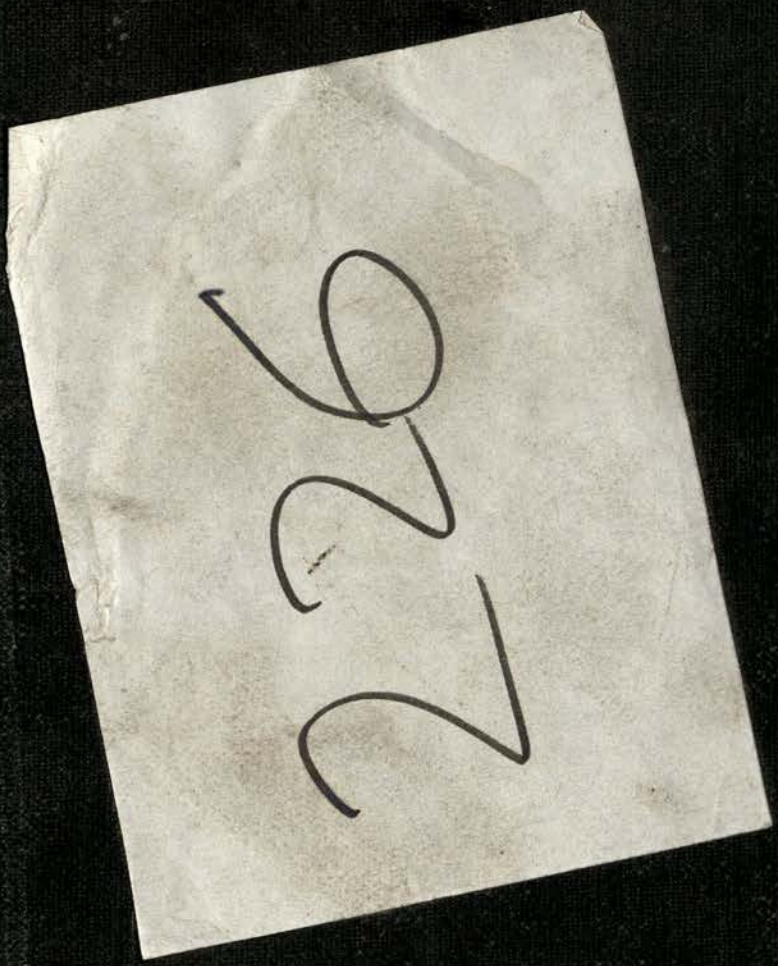

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THE

CYCLOPÆDIA OF INDIA

AND OF

EASTERN AND SOUTHERN ASIA,

Commercial, Industrial, and Scientific;

PRODUCTS OF THE MINERAL, VEGETABLE, AND ANIMAL KINGDOMS, USEFUL ARTS AND MANUFACTURES.

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BY

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VOL. III. O—ZYMOOSHT.

THIRD EDITION.

LONDON

CYCLOPÆDIA OF INDIA

AND OF

EASTERN AND SOUTHERN ASIA.

O

O is the fifteenth letter and fourth vowel of the English language, in which it has several sounds,—long as in note, grown, old; short as in not, hot; a sound as in the Italian or German, or the French ou as in move, do; a similar but shorter sound as in wolf, cloth; and a longer sound as in form, mortal. Sanskrit, O, like e, is always long, but in the Prakrits is also there is a still more prolated sound, ō.

OAK.

Allim,	ARAB.	Dub,	PER.
Bao,	DAN.	Carvalho,	PORT.
Eik,	DUT.	Roble, Carballo, Roble,	SP.
Chene,	FR.	Lubh,	RUS.
Eiche,	GER.	Ek,	SW.
Drus, Balanis,	GR.	Meyshe,	TURK.
Quercus, Quercus, IT., LAT.			

The genus Quercus of plants embraces about 300 species, many of them tropical plants, not only abounding at low elevations in the mountains, but descending in abundance to the level of the sea. Though not known in Ceylon, the Peninsula of India, tropical Africa, or South America, they abound in the hot valleys of the Eastern Himalayas, East Persia, Malay Peninsula, and Indian Archipelago, where perhaps more species grow than in any other part of the world.

In the tract of country from Asia Minor along the north of Persia to China and Japan, also in the Transcaucasian provinces, several oaks occur, but in this presence of other valuable timber trees, their woods do not attract the same attention as that of English oak. An oak is mentioned in the Hebrew Scriptures, but it is not identical with the British oak, being either the holm oak or evergreen oak (Quercus ilex), or a species nearly resembling it. Near Shechem, also, there stood "the" tree of the same genus, which probably was remarkable for its size, being called in Genesis xxxv. 4, "the oak which was by Shechem." In the war of 1812 to 1814, the people of Spain and the French both frequently fed on the acorns in the woods of Portugal and Spain. In Morocco and Algiers, the acorns of Quercus Ballota are [illegible] public markets [illegible]

[illegible] of some of the oaks are met with in [illegible] Indian towers. Gould's names 39 species. Sir [illegible] Wallich found Q. lanestrata, Lamellata, velutina, Amherstiana, Tridens, growing in Nepal and on the Tenasserim coast, all affording [illegible] though inferior to the English oak. Two oaks [illegible] chestnut ascend above 9000 feet on the upper [illegible] of Sikkim, where they are replaced by a species of hazel (Corylus); in the North Himalaya, on the other hand, an oak (Q. semecarpifolia) is amongst the most alpine trees, and the pine is a different species, more resembling the European. On the outer Sikkim ranges, oaks (Q. annulata) ascend to 10,000 feet, and there is no hazel.

There are three species of oak in the Hurra valley.—Quercus incana, 'bar;' common hoary oak, Q. semecarpifolia, 'barsu;' Q. [illegible] 'morbu,' which are next in importance to the pines. Vast forests of them occur in various places, [illegible] on the east side of Hattu, on the upper track between Mutsana and Nagkunda, in Mandi, [illegible] Chail, etc. The trees are of great size, 80 to [illegible] feet in height; they prefer dry situations, and [illegible] generally convenient to the river. The [illegible] do not float the first and second years, [illegible] respect like the blackwood of Malabar. [illegible] wood has been well reported of by [illegible] at Murree. Oak bark, in Europe, is largely used as a tanning material, and the Quercus suber of Spain furnishes the cork of commerce. It could be introduced into India. The Australian forest oak, she oak, and swamp oak are species of Casuarina. In N. America, the red oak, Quercus rubra, and Q. aquatica, occur. Oak galls are produced on different species of oak by the [illegible] or Diplolepis piercing the bark, leaves and buds and depositing its eggs. [illegible] found on the Quercus infectoria, Q. [illegible] Q. [illegible] and others.—*St. John's Hort. Brit. Gen. Hooker's Journ.*

OAKUL, Pers., Barrad, [illegible] and other [illegible] used as [illegible] China [illegible] [illegible]

current, its application to desert ready-made lakes. The person who occupies [illegible] in the [illegible] business.—Hunter, *Oxus*.

OASIS, a fertile portion of land in the deserts of Arabia, Africa, and India. Hugh Murray, in his *Geography of Africa*, and [illegible] Burton, in his *Pilgrimage to Meccah*, [illegible] with Arabs and Hyænas, but it is believed [illegible] is a corruption of the Arabic [illegible] a valley, generally speaking, a [illegible] by the bed of a mountain [illegible] dry during the hot season, or any low-lying ground on such places the Bedouins love [illegible] Besides they find forage, and water is [illegible] by digging. Petra is an [illegible] Murray. Wadee Ghor is south of the Dead [illegible] and Wadee Malh, S.E. of Aleppo, is the [illegible]

OATH, Anglo-Saxon, Hadh, Scandinavian, Eidr, Gothic, Aith, Old High German, Eid, appeal to witness of the Supreme God. The British races have, in England and Ireland, the custom of kissing the book [illegible] the words 'so help me God.' The [illegible] Hebrews is the Lamb, as in Genesis xxi. 28; Leviticus xxvii. 10; Jeremiah v. 7 forbids [illegible] and in 1 Samuel i. 26, the [illegible] of the ordeal was invoked. The [illegible] and Romans swore by their tutelary gods, [illegible] Christians by their guardian [illegible] The oath taken by the servant of Abraham [illegible] was completed by the servant [illegible] hand under Abraham's thigh, and [illegible] till great age. The oath administered to [illegible] who erected the boundary pillars, [illegible] Rimé, is the sange-lal, or the shoun or raw hide [illegible] of swearing by his son. By Hindus, [illegible] of Ganges and water are swallowed [illegible] a Muhammadan is sworn on the [illegible] by placing his hands on his son's head. [illegible] the shoun, and swearing by his own [illegible] The Gond's cow oath [illegible] swearing while holding a cow's tail; [illegible] by swearing while touching the [illegible]

Among the Kondh race of Orissa peacocks' [illegible] are used. They are also sworn on the [illegible] Ganges, or lands also on an ant-hill.

The oath of the Pahari in the Bhagulpur [illegible] was by planting two arrows in the [illegible] in the form of the letter A reversed, and [illegible] swearing took in his hand the blade of one and the feather of the other. On solemn [illegible] he who put on the blade of a sword, and [illegible] words of the oath are repeated, the [illegible] placed on the under lip of the person [illegible] the salt is washed into his mouth by the [illegible] moistening it.

In the Book of the Oath, which a Burmese [illegible] places on his head in swearing, one of the [illegible] imprecations which it contains is, 'All [illegible] do not speak truth, . . . if they travel by [illegible] in ships or boats, may they sink, [illegible] bitten or devoured by crocodiles. [illegible] the sengmung, an inter- [illegible] solemnly cements an oath. [illegible] to cement an oath [illegible] food [illegible] to food [illegible]

[illegible] All Hindus [illegible] [illegible] [illegible] sworn by [illegible] [illegible] Ganesa, Vishnu, Surgeon, [illegible] from the Ganges, [illegible] mouths and swallow [illegible] *Tuzuk*, i. 171; *Vide* [illegible]

OATS, Avena sativa, [illegible] Oriental Year Book, [illegible] Having Power Book, [illegible] Arabic, [illegible] Hebrew, [illegible] Persian, [illegible] Bromus Bromus, Linn., [illegible]

The cultivation of [illegible] the Greeks. The oat is [illegible] cereal grain by [illegible] [illegible] profusely of the Poaceæ, [illegible] varieties are cultivated in [illegible] of one when deprived of [illegible] grows; when [illegible] cultivated [illegible] prepared grain; when [illegible] [illegible] stripped of its husk and [illegible] [illegible] [illegible] nearly granular consistency [illegible] of Scotland. The husk will [illegible] starch from the seed. [illegible] great change of species [illegible] nutrient [illegible] deciduous. [illegible] water (2 oz. to 1 pint [illegible] grain is formed, which [illegible] [illegible] stick. Oatmeal, when of thicker [illegible] porridge. Oats are [illegible] Britain. In the [illegible] of all the [illegible] cultivated in Britain. Observers [illegible] Pebua and Mogahyr, but the cultivation [illegible] carried on to any great [illegible] [illegible] moisture, 180°. [illegible] [illegible] severity, [illegible] [illegible] mineral constituents [illegible] *Cat. Ex.* 1862.

OBEID-ALLAH (Ibn Maymun), [illegible] from Fatima, daughter of [illegible] and wife of Ali, [illegible] A.D. 910 after [illegible] [illegible] and succeeded in [illegible] [illegible] of the Abbasi Khalif at Baghdad. The [illegible] founded on the old Mogian [illegible] which [illegible] time to time appeared [illegible] the Shiite [illegible] party, were now openly [illegible] [illegible] of Ismaileyeh, by the Alavi [illegible] [illegible] and their followers, and were [illegible] official agents, of whom the [illegible] ul-Du'at, or supreme minister [illegible] not unlike freemasonry in [illegible] founded, and held lodges in Cairo, [illegible] of Majalis-ul-Hikmah, or [illegible]

OBLATIONS or offerings have always [illegible] an essential part of public worship [illegible] piety. Jeremiah xliv. 17 says, 'To burn [illegible] unto the queen of heaven, and to [illegible] drink offerings unto her.' The Hindu [illegible] to the sun three times a day, and [illegible] the time of worshipping the planets. Hindu [illegible] many deities and spirits to which [illegible] oblations.

Amongst Hindus, kula means [illegible] a tribe. Properly the [illegible] tribe, and kula is the rule. But kula [illegible] the Rajputs means a tribe, and [illegible] Afghan, khel. Amongst the Hindus there [illegible] three kinds of devata or deities to whom worship [illegible] is paid,—the Grama-deva, or village god; [illegible] Kula-deva, the race, household, or family [illegible] and the Ista-deva, the person or personal [illegible]

with a double alternate series of sessile

Sepia octopodia, Linn.; Sepia octopus, Gmel. Body short and oval, the eight ... connected at its base by a web; viviparous. ... Chinese and Javanese. ... Mr. Lowe, writing on the habits of the ... genus, mentions that into one of her ... aquaria she had put a living Purpura subtilis adhering ... fragment of rock; this aquarium also ... contained an Octopus vulgaris and some living ... edible molluscs. One day she saw that the ... poulpe was holding a fragment of rock in one of ... its arms, and watching the point which was ... opening its valves. As soon as they were perfectly open the poulpe placed the stone between ... the valves, preventing the valves from closing ... them again, when the octopus set about devouring ... the mollusc. The next day she saw the poulpe ... crush some Tellinæ, then search about amongst ... other shells, and finally stretch itself close to a ... Triton nodiferum. The triton extended half the ... body from its shell, no doubt to seek its food; ... when the poulpe sprang upon it, and surrounded ... it with his arms; the mollusc retired precipately ... into its shell, and in closing this, with its operculum pinched the point of one of the arms of ... the poulpe, which, by struggling, at last left the ... tip of its arm in the shell of the triton. The ... voracity of the poulpe was such, that, notwithstanding the abundance of nourishment with which she ... furnished it, she was obliged to remove it from ... the aquarium, or it would have devoured all the ... molluscs. So great is its voracity, that it even ... attacks man, tears away his flesh, and eats it. In ... the port of Messina they occur in great numbers, and of large size. One Octopus Cyanea, ... measured by Adams, was 6 feet from tip to tip of ... the arms.—*Ad. columna and Reeve's Voyages; Dufossé ... Jeanette; Bosset, Mag. Nat. Hist.; Eng. Cyc.; ... Woodward's Shells; Indian Archip.; A. Adams' Z. ... in Japan.*

ODLAIKKOTTAR was one of the Tamil poets at the Chola court, who flourished with Kuttuvar in the 11th century. He was noted for his composition on War Chariots, called Tarali. His Kulingkattu Parani celebrated the conquest of the Kulinga or Telugu country by Kulottunga Chola. The seventh book of the Tamil Ramayana, Uttara Kandam, was composed by this author.

ODEYA, Canar., in the plural Wodeyar, a lord, a chief, a ruler.—*W.*

ODHA. Mahr. As much grain as can be grasped in both hands; the Scotch gathan.

ODHIYA, a caste of ironsmelters and ironsmiths in Hindustan.

ODIN has been supposed by some to have been the Buddha Sakya Sinha, by others to have been a follower of that reformer. In Scandinavian mythology, he was the chief of the gods, like Zeus, he was the ether. If he came with Sakya Sinha, or one of his pupils, there never in the world been two other religions so diametrically opposed to one another, as the two persons of different as the gentle Sakya Muni, who left his kingdom to alleviate the sufferings of mankind, and Odin, the terrible and god of battle of slaughter. Nevertheless the Yggdrasil Ash Tree, in the Norse mythology, with one of its roots over the Well of Knowledge and with Nidhog

Dhaniia Sylhet, Beng.	Goyal, Jeypore, Sansk.
Hunbal, Vaghai, Bomb.	Hilligass Hirgass, Singh.
Sarmatu Powell, Ceylon.	Pesiri, Sinhal.
Kanul Batrua, Pb. Hills.	Libra Inda,
Kanju, "	Anticarra, Oodaya, Tam.
Kanju, Hindu, Bengal.	Goompana, Tel.
Mogoor, Assam.	Gangina, "

This very large tree grows in the warmer parts of the island of Ceylon, up to an elevation of 1500 feet. It is a native of mountainous districts in the Peninsula of India; grows in Chittagong, in Bengal, Munroe, and Rivaree in the moist jungles of the Bombay Presidency. In the Madras Presidency it is grown from cuttings and planted in avenues, but it yields no shade in the hot weather being without leaves till June. The tree is rather common on the hills of British Burma and a valuable timber, much used in Moulmein for the manufacture of oil-presses and rice-pounders; the inner heart-wood is red, and is used for sheaths of swords, spear handles, oil presses, door frames, and rice-pounders. A cubic foot weighs 65 lbs. The wood is very difficult to season, quiring to be kept even in planks, two or three years; but once well seasoned, it is a close-grained, beautiful wood, well adapted for cabinet-making purposes, the central reddish portions in particular. A considerable quantity of gum exudes from the trunk, called Kamla or kuhi good, also gum-jingna, and it resembles the true gum-arabic both in appearance and properties, and is often largely mixed up with the East India gum-arabic of commerce, which contains gums collected indiscriminately from several species of Acacia, and from Odina wodier and Feronia elephantum. The gum is used in cloth-printing, also by weavers for stiffening their thread, and is given in asthma, and as a cordial to women. The tree is lopped for fodder. It ascends the slopes of the mountains in the Bahar forests of Kamaon, and attains considerable size. In the Siwalik region of the Panjab, up to near the Indus, and near the Salt Range, to a height of 3500 to 4000 feet, the outer wood is liable to be attacked with worms.—*Cal. Cat. Ex.*, 1862; *Thwaites Enum.*; *Voigt*; *Mason*; *Brandis*; *Stewart.*

ODOARDO BARBOSA, a gentleman of Lisbon, who in his youth travelled in the east, and he appears to have visited Malacca before it was taken by the Portuguese in 1511. He wrote a book in 1516. In 1519 he joined Magellan, and was treacherously murdered in 1521 by the natives of Zebu, one of the Philippines, four days after the great navigator had suffered a like fate. —*Biburn*, p. 100.

ODORICO DI PORDENONE, Minorite friar (born 1281, died 1331), a Beatus of the Roman Catholic Church, travelled in the east and in India between 1316 and 1330. He proceeded by way of Constantinople and Trebizond, Arziron (Erzeroum), Turis, Soldania (Sultanieh), and the Sea of Bachu (i.e. of Baku, the Caspian), Cassin (Kashan), Iast (Yezd), and the Sea of Sand, the Kingdom of Comerum (Persepolis), and the kingdom of Chaldea (Baghdad), to Ormes (Ormuz), where he took ship to Tanna in Salsette, near Bombay. Here or at Surat, where

Friar Jordanus [illegible] the town of the four crowned martyrdom there [illegible] Polumbum (or Columbum (Quilon), the immense quantity of [illegible] Mutfilee (Nellore), as [illegible] the towns of Flandrina (Pandarani), (Cynkali, Shinkala, Gangala, [illegible] He then went on to Sinkin (the coast), "where hath the body of St and thence in fifty days sail to Lo and to the kingdom of Sumatra. From Sumatra he went on to [illegible] Island called Thalamasyn or Pentam, been thought to be Borneo, and thence (Cochin-China). He next touched at Nicoveran (Nicobars) and to Sin[illegible] who gave his narrative carried [illegible] India (China) and the provinces of [illegible] China), and the cities of Cenculan, Zayton (Chin-chu), Fuzo [illegible] (Hang-chu-fu), Chilenta (Nanan), Saleth (Pekin), and Sardu (Xanadu, Shang-tu, the summer residence of the Great Khan). He describes the lands of Tebet, Gog and Magog, the realm of Thibet, and the Grand Lama, or pope of that country. He also gives an account of the 'Old Man of the Mountain,' and of his dealings with the 'Devils of Tartary.' He returned to Padua A.D. 1331. Lassen has shown that Odoricus is to be the Arabic Al-Rashi. His name in Odoricus. His account was delivered [illegible] the person by whom it was written down, [illegible] extremely meagre and unsatisfactory.—*Yule's Cathay and the Way Thither*, p. 7; *Sir G. Birdwood's Report*, p. 7; *Sir G. Birdwood's Records*, p. 7; *Sir G. Birdwood's Records*, p. 7; *Sir G. Birdwood's Records

Bombay, and one at Trevandrum, capital of the Travancore kingdom.

OCEAN.

Palm Zone or Region	Arc.	Samoiedes	Asiatic Tun.
Cotton	Orca	Ovenchis	Ki-
Rice and Dorys	Hirca	Samoede	Tura.
Locust	Ur.	Tungis	Tonga.

The south and east of Asia is girt by Ocean, the portions of which are known as the Red Sea, the Persian Gulf or Bahr-al-Fars, the Arabian Sea, or N. Indian Ocean, the S. Indian Ocean, the Bengal Bay, and the Pacific. Some say, the Ocean Sea is called the Dark Sea, or Bahr-al-Muzlim, and is almost always in commotion with violent winds, and covered by thick fogs. To the ocean near land the Arabs give the name of Bahr-al-Khazr, or Green Sea; and the natives of India generally style the Great Ocean the Kalapaul or Black Water.

Surrounding the coasts of South-eastern Asia, patches of the waters become occasionally crimson, brown, black, or white, which, especially in the Indian Ocean, occasionally extend as far as the eye can reach. These are caused by animalcular matter, but whether it is wholly animal or wholly vegetable, or both, has not been satisfactorily ascertained. The waters from such-stained patches have been found to contain animalcules. The Red Sea has been supposed to take names from the quantities of shiny red colouring matter which it at certain times throws up on its shores, and which consists of a delicate seaweed. Along the coasts of China, yellowish spots are said not to be uncommon, and red and white patches occur on the waters of the Pacific. In lat. 8° 40' S., and long. 105° 30' E., Captain Kinguria entered a white patch of dusky; he filled a tub with the water, and found it filled with luminous particles, insects and vermin, some like a hair, and about two inches long. This patch was 23 miles in length, north and south, with a strip of dark water dividing it centre. The whole appearance was that of a plain covered with snow. There was scarcely a cloud, but the sky was as black as if a storm was raging. A red water was seen by M. Lesson off [illegible] and by the vicinity of California there occurs a phenomenon which has been called the 'Vermilion Sea.' Dr. F. Fleming has described changes in the sea around Ceylon of similar hue, and which he ascertained to be owing to the presence of infusorial animalcules. The Red Sea is in an arid and rainless region, and its waters are browner than any other mere arm of the ocean. The saltest part is in the Gulf of Suez, whence it diminishes south of Socotra, and also eastwards to Bombay; the temperature of the waters for three or four hundred miles from the Straits has been found as high as 95°. This is probably caused by the slight evaporation, as the more saline a fluid is the slower is its evaporation. The observations as to the rate of evaporation elsewhere have led to very extravagant estimates as to the rate of rainfall. The mean annual fall of rain on the entire surface of the earth is estimated at about three feet. The area of the Indian Ocean north of the equator, including the Arabian Sea and Bay of Bengal, is about four millions of square miles. The rivers of India are [illegible] to the ocean, which have to do [illegible] their moisture has been [illegible]

...ge of Tranquebar, and in the Coromandel coast, in its bed, among the ... concentric often resembling heavy ... and ... of stones. Its average velocity, both ... current, is 3 Furnongs and Teague Strait, has been found to be from 33 to 40 miles in 24 hours. Off the Gulf of Tezo, its maximum strength is recorded at 3 knots, 72, 74, and 80 miles respectively on three successive occasions; but local causes give rise to changes in the velocity and its direction. To the northward of lat. 40° N., in long. 138° E., there is a cold counter-current intervening between this stream and the south coast of Yezo, as shown by the sudden thermometrical change of the water from 47° to 52°, whilst it is believed also to the westward through the Strait of Tangar. The waves of the sea are very high, but rarely rise more than 18 feet above the level. In the Indian Ocean, the tide follows the moon to the west, with a somewhat northerly course.—*Murray's Dict. Geography; Horsburgh, Oriental Navig. Sailing Directions; Wilson's Selection of Ships' Sailing Orders; Adams*, pp. 340, 350; *Horsburgh's Captain's Pocket Companion; Heather's Navigator's Companion; Young's Navig.*

OCHNA SQUARROSA. *Vahl. Roxb.*

Hara, Hind. Sans.	Sirial Tamil.
Kundalanga, Sans.	Shrang, Tel.
Kolanchi-maram, Tam.	Kerre-jeri, "

A small but handsome tree, growing in the mountainous parts of India. Leaves deciduous in the cold season, and appear with the sweetly-scented flowers in February and March. *O. nana, Roxb.* occurs at Courtallum; *O. Wightiana, Wall.*, in Travancore; and *O. Heyneana, Wight & A.*, in the Carnatic. *O. Wallichii, Planch.*, the Yoma-ra of the Burmese, *O. Andamanica, Kurz*, has a hard reddish wood, similar to *O. squarrosa*, and *O. Wallichii*.

OCHRE, Eng.

Ochre,	Rasi chalk, Hind. Sans.
Pewanee,	Powdee. Guz. Hind.
Yellow clay, Reddle, Eng.	Somagaree, Tel.

An earthy mixture of alumina, silica, oxide of iron, and other substances, found in beds in various parts of India. Ochre occurs in great beds beneath the laterites of S. India. It is generally of a yellow or brown colour, but is sometimes red. It is employed as an ingredient in painters' colours, in the polishing of metals and stones, and for other purposes. Ochra sometimes contains a little calcareous matter and magnesia. The oxide of iron may occur in so large a proportion that the ochre becomes an ore of that metal. In England, ochre is found in beds some feet thick, generally above the colite, and covered by sandstone and quartzose sands more or less ferruginous, and accompanied by grey plastic clays of a yellowish or reddish colour. All these substances enter into the composition of the ochres. The ochrey earths are ground and elutriated for use; the yellow ochres may be changed into red or reddish-brown by calcination, whereby the iron is raised to a higher degree of oxidation. Ochres are used in China as a dusting powder to burns, scalds, itchy and herpetic eruptions.—*Ure.*

OCHROCARPUS, a genus of plants of the order Guttiferæ and tribe Garcineæ. *O. longifolius, Benth.*, is a large tree of the W. Ghats, whose dried flowers are used as a dyeing drug. *O. nervosus, Arn.*, is an Travancore tree of the Anjikai Jungle, and *O. [illegible] Arn.*, of [illegible]

Travancore and Malabar [illegible]

OCIMOIDEÆ, a sub-order of [illegible] of the Natural order [illegible] American botanist who [illegible] and had his centres in the [illegible] came to India, and then [illegible] and was [illegible] of [illegible] against Jeswant Rao Holkar, [illegible] became, though [illegible] night of the 24th October [illegible] of Deig Lake, Holkar withdrew [illegible] the Mogul emperor of Delhi became [illegible] of the British. The Nepaul war [illegible] the 13th March 1816, was succeeded [illegible] by him, but these had fallen [illegible] who relieved Vellore when it was [illegible] in 1808, and who had distinguished [illegible] Java in August and September 1811. [illegible] Nepal war, several tracts in the mountainous [illegible] of the Himalaya were added to the Indian [illegible] ment. He was long employed in [illegible] negotiations with Runjeet Singh. He [illegible] Meerut, 15th July 18[illegible], aged 68 years. [illegible] monument raised at Calcutta to his memory [illegible] column 160 feet high, with a Turkish cupola [illegible] an Egyptian base: it cost £3500. He was [illegible] ical Agent at Delhi. He found the [illegible] plan by his own moonshi, without his knowledge, [illegible] a pensioner to the amount of £11,000 a year on [illegible] civil list of the poor old king of Delhi.—*Thorn's Travels*, p. 36.

OCIMUM, a genus of plants of the order Labiatæ, *Lindl.*, Labiatæ, *Juss.*, of which there are about 60 species. Many of them, furnishing useful products, are known to occur in the warm parts of the world.

Ocimum adscendens, *Wallich.*

O. cristatum, *Kon.*	Pactrunium Indicum, *Sha-*
O. Indicum, *Roth.*	*dan-mias.* Burm.

Grows in the Peninsula of India and in Bengal. It has small, pale, rose-coloured, scentless flowers.

Ocimum basilicum, *Linn.*, common basil, has many varieties, differing in their size, in the form and colour of their leaves, and in minor particulars: in their qualities they are nearly alike, useful for condiments and perfumery. The varieties, α, β, γ, δ, are—

Var. (α) O. pilosum, *Roth.*

O. basilicum, *Burm.*	O. hispidum, *Roxb.*
O. minimum, *Burm.* not *L.*	O. album, *Roxb.*
O. hispidum, *Lam.*	Basilicum Indicum, *Tabern.*
Habak, ... Arab.	Bilaiti, . . . Hind.
Babui-tulsi, . . Hind.	Nazbo, . . . Port.

It grows throughout India. It has small white flowers; the whole herb is aromatic and fragrant; the seeds abound with a mucilaginous, pleasant jelly, which is demulcent and nourishing, and is used by the natives in cases of catarrh, diarrhœa, and chronic dysentery. The green leaves have a delicious aroma, nearly like verbena. The dried [illegible] leaves [illegible] approaching [illegible] The seeds are used by women to [illegible] gums.

, with small white flowers, —*Roxb.* iii. p. 17.

glaberatum, *Benth.*

O. lanceolatum, *Schum.*
Tulsi-tulsi, . . BENG.

ces, Bengal and Penang. It flowers. The whole plant is l fragrant.—*Roxb.* iii. p. 15.

thyrsiflorum, *L., Roxb., Jacq.*

Peninsula of India, with small ers; the whole plant very aromatic There are other vernacular synoove varieties, but it is not possible the varieties indicated by them. ter considerably in their scent.

um, *Sims., Linn.*	
B., L.	O. Americanum, *Linn.*
	O. basilicoides, *Mart.*
ARAB.	Visva tulsi, . . SANSK.
DUKH.	Caudan sonay, . . TAM.
ESE.	Kakka tulsi, . . TEL.

e of the Brazils, Madagascar, E. Indies, in India, a shrub about a foot high, in native gardens. Flowers white, a most pleasant aromatic taste and The juice is given to children in colds, a wine-spoonful twice daily. The leaves are used as a substitute for tea.

ratum grandiflorum, *Linn.*

Jacq., Bhodd. O. Zeylanicum, *Benth.*

HIND. Ram tulsi, . . HIND.

Hindus cultivated near temples. It has white or pale yellow flowers, with a very strong fragrance.—*Roxb.* iii. p. 17; *Gen. Med. Top.*

Ocimum micranthum, *Willd.*

O. frutescens, *Roth.*	O. monsanum, *Hook.*
O. Americanum, *Anderson.*	O. pubescens, *Willd.*

A fragrant plant of N. America.—*Voigt.*

Ocimum sanctum, *Linn.* Holy basil.

O. brevicaule, *Benth.*	Laumiteera tamulorum, *Sp.*
O. monachorum, *Zeno.*	Basilicum agreste, *Rumph.*
O. pauciflorum, *Lour.*	Plectranthus mosacherina, *Sp.*
O. Loureiroi, *Benth.*	
ARAB.	Nalla tirtava, MAREAL., TEL.
BENG.	Parnasa, Soraia, SANSK.
BURM.	Arjaka, " "
DUKH.	Kull-nitan, . . TAM., TEL.
ESE.	Tulsi, . . " "
HIND.	Nalla gaggeru, . . TEL.

A plant slightly aromatic, prescribed by the Hindus in decoction in the bowel complaints of infants and children. This tulsi plant is sacred to Vishnu, held in the highest veneration by all his followers, is grown in the courtyard or parterre of almost every Vaishnava house, however small, and is worshipped morning and evening. Its roots are made into beads, and worn round the necks and wrists of the Vaishnava Brahmans. The root of the plant is given in decoction in fevers, half a wine-glassful twice daily. In the Dekhan it is grown in almost every native garden, and is used for various purposes by Europeans, for flavouring sauces, soups, or vinegar. It is seen about the temples of Hindu and burial places, where it

"waves
Its fragrant blossoms o'er their graves!"

[illegible] in their funeral ceremonies. [illegible] strew it over the graves of their [illegible] and drink

like sense: that of *O. Americanum* [illegible] seeds are mucilaginous and prescribed in gonorrhœa.

Ocimum villosum, *Roxb.* Woolly basil.

Pen-sche-shing, . . BURM. Lajwanti, . . SANSK.
Safaid tulsi, . . HIND.

Cultivated in gardens and near temples [illegible] aromatic herbs. Leaves used for [illegible] courts of justice the Hindus are sworn [illegible] leaves, which are placed on the palm [illegible] by a Brahman, who repeats the [illegible] and at the termination they are made to [illegible] swallowed. A good number of [illegible] this genus are used as condiments.—*Roxb. Med. Top.*; *Ainslie, Mat. Ind.*; *Rheede, Cat. M. Ex.*, 1697; *Tuscany.*

OCODOMA, a genus of [illegible] over all India, and comprising several [illegible] nearly alike. Almost all the species [illegible] kinds of nectere, one of them [illegible] compared with the ordinary worthless [illegible] are usually called varieties. The seeds [illegible] of Ocodoma trees [illegible] having some small [illegible] on them.

Dr. Jerdon mentions *O. Tyra*, a [illegible] Malabarica, *Arnot*, provisions, and [illegible] *O. providens*, *Sykes*, live under [illegible] for their size, a large series of [illegible] common food—animal matter, dead [illegible] —they take readily, but they also carry [illegible] quantities of seeds, especially small grass [illegible] and more especially cabbage, celery, [illegible] carrot, and tomato seeds, and are particularly partial to the light [illegible] seeds, and are [illegible] gardens, unless the pots in which they are [illegible] be suspended or otherwise protected. The [illegible] of the seeds sown will be removed in one night. Packets of seeds (especially lettuce) [illegible] will be completely emptied before many days [illegible] ants have discovered them. They bring [illegible] outside their holes, at the close of the [illegible] season, but in some cases merely the husks [illegible] in heaps. Their galleries and subterranean passages are often very extensive, [illegible] it is no easy matter to dig down to the [illegible] to see what becomes of the seeds.—*Jerdon.*

OCOTEA GLAUESCENS. *Nees.*

Laurus glaucescens, *Roxb.* | L. sylvestris, *Roxb. Ex.*

A tree of Sylhet and N. Circars, [illegible] Lauraceæ. Its timber is used by the [illegible] many useful purposes.—*Roxb.* ii. p. 267.

OCOTEA LANCEOLARIA. *Nees.*

O. lanceolata, *Nees.* | Laurus lanceolaria, *Roxb.*

A tree of Nepal and the Khasya [illegible] timber employed for many useful purposes. [illegible] *mollis*, *Wall.*, is a shrub of Burma. Species of Ocotea extend from Sylhet to Dehra Doon, and ascend to 7000 feet.

OCTOPODIDÆ, a family of Cephalous [illegible] molluscs, which may be thus shown:—

Class I.—Cephalopoda, cephalopods.
Order I.—Dibranchiata.
Section A. Octopoda.
Fam. 1. Argonautidæ.
Genus, Argonauta, argonaut or paper sailor, [illegible] 4 *sp.*; fossil, 1 *sp.*; syn. Ocythoe tuberculata.
Fam. 2. Octopodidæ.
Genus, Octopus, recent, 36 *sp.*, syn. Cirrhoteuthis; *Subgenus*, Tremoctopus, violaceus, 2 *sp.*
Philonexis, [illegible] recent, 1 *sp.*
Fam. 3. Cirroteuthidæ.
Fam. 4. Philonexidæ.
Fam. 5. Cirroteuthidæ.
Cirroteuthis, recent, 1 *sp.* C. Müllerii.
Psilonexis, [illegible] 1 *sp.*

[illegible] in the parts of each of the following [illegible]

[illegible] for [illegible] for the making [illegible] in woollen [illegible] of paints and varnishes, as articles of food, for medicinal purposes, etc. The [illegible] of varying [illegible] of the following oils is quoted [illegible]

[illegible]	[illegible]	Olive	[illegible]
[illegible]	[illegible]	Poppy seed	[illegible]
[illegible]	[illegible]	Tallow	[illegible]

In the seeds of Southern Asia from which [illegible] oil are extracted, the proportions of oil [illegible] in weight are—

[illegible] kernels	60	Linseed	38
[illegible] nut	50	Cocoanut kernels	36
[illegible]	31	Hemp seed	32
[illegible] seeds	28	Cotton seeds	24
[illegible]	14	Sunflower seeds	22
[illegible] seeds	14		

Some families of plants especially abound in oil. Thus among the Cruciferæ we have mustard-rape, and colza seed-oil, with other species cultivated in Europe, India, and Japan, several of which have been exported to Britain. Several of the family of Compositæ secrete oil in quantities large enough to render it desirable to cultivate them for that purpose alone, as some species of [illegible] or basard saffron, also the Guizotia [illegible] oil, known in commerce by the [illegible] name of ramtil oil. Most of the Cucurbitaceæ [illegible] the melon, gourd, cucumber, and their numerous varieties, cultivated especially in India, contain a large proportion of oil, which is expressed [illegible] also in India as it formerly was in Europe. The Rosaceæ also store up a large proportion of oil in the kernels of their fruit, as in the almond, which is particularly valued; so also that of the apricot, the Prunus armeniaca, and other species of prunus. In the Himalaya, oil is expressed from the apricot kernel, and has been made of a fine quality. From among the Cupuliferæ also, our oil is obtained from the hazel; beech-nut oil, from Fagus sylvatica; and walnut oil, from Juglans regia, one of the Juglandeæ.

Volatile oils are numerous in the vegetable kingdom. They are so called on account of the ready manner in which they may be volatilized under the influence of heat. The facility with which they are diffused in the atmosphere renders them easy of detection, and it is to this class of substances that plants owe their peculiar odours. Many of them are employed in perfumery, others are used as stimulants in medicine, and some are poisonous. Many natural orders of plants are characterized by yielding volatile oils. Thus the Laurineæ, Myrtaceæ, and others, embrace species all of which contain volatile oil in their leaves. Many of the Umbelliferæ yield a volatile oil in their fruits. The petals are often the seat of these secretions, and especially those most prized, as the rose, the jasmine, the heliotrope, and many others. Many of the essential or volatile oils employed in medical practice are stimulant and [illegible] stimulants and narcotics. They are [illegible]

[illegible] species of [illegible]
[illegible] anthemis nobilis, [illegible]
[illegible] Nevadensis, [illegible]
myristica, ocimum, [illegible]
[illegible] ruta, and [illegible]

The essential oils are obtained from [illegible] parts of the odoriferous plants chiefly [illegible] distillation, but also by the [illegible] process of enfleurage, as also by [illegible] best known in commerce are the oils of [illegible] aniseed, bergamot, cajaputi, camomile, [illegible] caraway, cassia, cinnamon, cloves, juniper, [illegible] lavender, lemon, mint, nutmeg, orange, [illegible] pimento, pimpinella, rhodium, rosemary, [illegible] sassafras.

Stearoptenes, or, as they are commonly termed, [illegible] obtained by the repeated distillation of [illegible] herbs, etc., over into a receiver containing [illegible] of any fixed oil to which the aromas [illegible] are prepared to some extent in the E. [illegible] chiefly for native use. Sandal-wood oil, [illegible] large varieties of attr, attar, or otto, which [illegible] form the principal part of native [illegible] included in this class. The [illegible] the essential oils of the plants [illegible] sufficient to produce a perfume which is [illegible] overpowering, even producing [illegible] natives of British India have the [illegible] language *ulmagh mu'attar hona* [illegible] with fragrance. These attrs are principally [illegible] in Hindustan. Sandal-wood, [illegible] indeed, every odoriferous plant is [illegible] (attars) made to yield an essential oil.

In the process of enfleurage, layers of [illegible] four inches thick and two inches square, [illegible] on the ground and covered over with [illegible] of sesamum or any other oil-yielding seed, [illegible] which a second layer of flowers like the [illegible] placed. The seed is wetted with water, [illegible] whole mass covered with a sheet laid [illegible] the ends and sides by weights, and [illegible] remain for eighteen hours in this form. [illegible] fit for the mill, unless the perfume [illegible] to be very strong, when the faded flowers [illegible] removed, and fresh ones put in their place. [illegible] seeds thus impregnated are ground in the [illegible] way in the Kolhoo or mill, and the oil [illegible] has the scent of the flower. At Ghazipur [illegible] jasmines are chiefly employed: the oil [illegible] in leathern bottles or dubbers, and sold [illegible] Rs. 2 a seer. The newest oils afford [illegible] perfumes. In Europe, a fixed oil, usually [illegible] the ben or moringa nut, is employed for [illegible] ing. Cotton is soaked in this and laid over [illegible] of flowers, the oil being squeezed out [illegible] impregnated with perfume.

Mineral oils are obtained in Turkish [illegible] Baku, N. Persia, Northern India, China, [illegible] From the oil pits of Burma the Burmese Government used to obtain 93,000 tons annually, [illegible] on the spot fetching about a shilling [illegible] Chemically treated, it supplies [illegible] products of the greatest beauty, [illegible] oils, one a hard wax of snowy whiteness, [illegible] a rich perfume. In several places in the [illegible] district along the Salt Range, in Kohat, [illegible] Jubba in the Shahpur district, and in very [illegible] quantities at Shahbaz Nyapur, in the Rawal [illegible] District. A petroleum similar [illegible] out of the rocks [illegible] but efforts to utilize it in a commercial [illegible]

OILS.

Kret-seed,	Britain	Mowra
Olive,	Dan	Cocoa
Nuts,		Cocoa
Oil,		Mowra
Elaion, Indian		Acorn
Tel,	Hin	Oil
Olive		Vonoon
Lango	Java	Nuts
Oleum,	Lat	Yew

Oils are found in the animal, vegetable, and mineral kingdoms. Their value as articles of commerce, and their numerous uses in cookery, soap making, wool dressing, food, medicine, as well as lubricating agents, are well known. Great Britain imports annually oil to the value of about £3,600,000, the value of lard alone being to the value of £1 million sterling. The oils which form the chief exports from the different parts of India to Britain, France, Germany, etc., are cocoanut, gingelly, ground nut, linseed, rape, sandal-wood, gurjun, castor, and croton. The value of the exports of oil from British India was in—

1874-75	Rs. 32,23,823	1880-81	Rs.
1875-76	,, 40,41,073	1881-82	
1876-77	,, 35,26,003	1882-83	

Linseed and rape are consigned mainly to the United Kingdom, while France takes about the entire quantity of til or gingelly. The value of Indian commerce in 1882-83 was only Rs. 9,66,390.

Oils are generally divided into two main groups, 'fixed' and 'volatile,' the former being again subdivided into drying, greasy, and solid oils. Above one hundred fixed oils are known in India and Burma, 105 used vegetable oils, including drying, greasy, and solid oils, 10 animal oils, 1 mineral oil, and 4 animal fats. Of these castor, ground nut, gingelly and cocoanut oils, rape, mustard, and linseed oils, form considerable articles of export trade, the first-named being exported in the shape of oil, the last two of the seed, and gingelly both as an oil and the seed. The prices of these products vary considerably in different parts of British India, the kernels ramtil, kurunj, punnacottay, illoopee, pinnay, doopadu, margosa or neem, physic nut, hemp, dundoo, saillower, and poppy are consumed to a large extent. Poppy seed is being exported in yearly increasing quantities, largely to France, in 1882-83, 571,542 cwt., value Rs. 56,26,103.

Fixed oils are composed of carbon, hydrogen, and oxygen. Most of them are composed of two compounds, a liquid called olein and a solid called margarin, or another called stearin. According as the solid substances abound in oils, they are liquid or solid at the ordinary temperatures of the atmosphere. Fixed oil is found in the fat or adipose tissue of animals, and amongst plants, principally in their seeds. In some seeds, as in the olive (olea), it is yielded by the fruit. The [illegible] oils shows the [illegible] proportions

OILS.

wing to the enormous cost of difficulty of retaining the any other vessels than those Price and Co., of London, upon it, and asked for some r experiments. Their appli- complied with to the extent ot more than eight maunds ole, and the yield of oil being than in the cold weather. mineral oil is effectually ravages of white ants. The ght flame, but the smoke is atives call it Gandak-ka-tel, urning in their lamps. The nost extensive.

n frequent use amongst the nedicinal substances, for ex- ch as that from the pea-fowls' foot, the crocodile, and the s from the sharks, the rays, l spermaceti and its oil.

d in Malabar and the western la of India, whence it is ex- large quantities; the demand asing. Fish-liver oil is pre- tern coast and at Madras. ite shark is that generally liver oil is prepared early in lvers are plump, firm, large, The livers are sometimes those specifically lighter than ected. Good livers should cut ; when cut, none of the sub- t in a half-liquid state. The duced by livers depends much year. In the beginning of were found by experiment to ons, and at the end of Feb- er only gave 23 gallons of g of January 1000 livers of 900 lbs., whilst in the last e number weighed only 575 different seasons was equally ually white, although much by in the latter season. To the liver very carefully, all-bladders which adhere to in rain or other water free m over the fire, and never ceed 120° or 130°. On this t be taken; a higher degree ling a larger product, com- shy taste and smell, and f the oil, thereby rendering patient.

vegetable oils of Southern rom the following plants:—

B. longifolia.
Bauhinia tomentosa.
Bergera Konigii.
Brassica Chinensis.
B. eruca.
B. juncea.
B. napus.
Buchanania latifolia.
Butea frondosa.
Calophyllum inophyllum.
Canarium commune.
Cannabis sativa.
thamus oxyacantha.
romaticus.
Cedrus deodara.
Celastrus paniculata.
Cinnamomum, *species*.
C. Zeylanicum.
Citrus aurantium.
C. bergamia.
C. decumana.
C. limonum.
C. medica.
Cocos nucifera.
Coriandrum sativum.
Corylus colurna.
Croton tiglium.
Cucumis melo.
C. sativus.
Cucurbita maxima.
Cuminum cyminum.
Cyperus, *species*.
Datura, *species*.
Didynamia gymnosperma.
Dipterocarpus, several *sp.*
Dolichos biflorus.
Dryobalanops camphora.
Elettaria cardamomum.
Embryopterus glutinifera.
Erysimum perfoliatum.
Euphorbia dracunculoides.
Fœniculum panmori.
Garcinia pictoria.
G. purpurea.
Gossypium, *species*.
Guilandina bonduc.
Guizotia oleifera.
Helianthus annuus.
Hydnocarpus inebrians.
Illicium anisatum.
Impatiens tingens, and *sp.*
Jasminum, *species*.
Jatropha curcas.
Juglans regia.
Kin, of China.
Lepidium sativum.
Linum usitatissimum.
Litsæa, *species*.
Melaleuca cajaputi.
Melia azedarach.
Mentha piperita.
Mimusops elengi.
Moringa pterygosperma.
Myristica moschata.
Nicotiana tabacum.
Nigella sativa.
Ocimum, *species*.
Olea Europea.
Pandanus odoratissimus.
Papaver somniferum.
Pimpinella anisum.
Pinus Gerardiana.
Piper nigrum.
Pogostemon patchouli.
Pongamia glabra.
Prinsepia utilis.
Prunus Armeniaca.
Ricinus communis.
Rosa, *species*.
Salvadora Persica.
Santalum album.
Sapindus emarginatus.
Sarcostigma Kleinii.
Sassafras officinarum.
Semecarpus anacardium.
Sesamum Indicum.
Sinapis, alba, Chinensis, glauca, nigra, toria.
Soja hispida.
Sterculia fœtida.
Stillingia sebifera.
Strychnos nux vomica.
Suchaw, of China.
Symplocos cratægoides.
Terminalia catappa.
Theobroma cacao.
Thespesia populnea.
Trichilia spinosa.
Trigonella fœnum-græcum.
Vateria Indica.
Vatica robusta.
Vernonia anthelmintica.
Vitex negundo.
Xylocarpus granatum.

A. *Chinese Oils.*

Almonds oil, Hang-jin-yu, manufactured in Persia, N. India, and China.

Anise (star) oil, Pah-koh-yu, is of a pale colour, with a warm or sweetish taste. It is made by distilling the fruit in small retorts, a pikul producing about seven catties of oil.

Apricot seed oil, Hang-jin-yu, prepared in the north of China from apricot kernels.

Bean oil, Tau-yu, in the south of China, is prepared in large quantities from the Soja hispida, and is used in food.

Benzoin oil, Ngan-sih-yu, is supposed to be the liquid storax or rose maloes (rasa-mala).

Cabbage or colza oil, Ts'ai-yu, is expressed from the seeds of the Brassica Sinensis, all through the valleys of the Yang-tsze and the Han. It is used in cookery, as a hair oil, a lamp oil, and as a purgative.

Camellia, from the Camellia oleifera, Ch'a-yu, is a thin yellow-coloured oil, used in lamps. It is made in the hilly district of Hunan and Kiang-si, where the camellia grows in abundance. The Chinese call the camellia by the same name as the tea plant, hence this oil is often called tea oil.

Camphor oil, Nau-yu, is obtained from Formosa, where it exudes from vats in which camphor is stored; it is oily or uncrystallizable camphor; is a strong-smelling liquid of a yellow colour; it is scarcely saleable.

Camphor oil, from the Dryobalanops camphora of the W. coast of Sumatra, where the oil drops from the split timber of the trees felled to procure the Barus camphor, and is there sold at the rate of a large quart bottleful for a Dutch guilder; it is a useful embrocation.

Chaulmoogra, Ta-fung-yu, CHIN., is obtained from the seeds of the Gynocardia odorata.

Cinnamon oil, Kwei-pi-yu, is a volatile oil, used as a

perfume and flavouring ingredient, and exported from Canton; it is made from the leaves and twigs of the Cassia or Cinnamomum iners, and resembles the genuine oil of cinnamon prepared in Ceylon.

Clove oil, Teng-hiang-yu, made at Canton, is a heavy oil of a pale reddish-brown oil colour.

Cotton seed oil, Mien-yu, expressed from cotton seeds, is used for lamps, in cookery, and externally as an unguent.

Croton oil, Pa-tau-yu, is a drastic purgative.

Fish oil, Yu-chi, is obtained from the porpoise, which ascends the Yang-tze river as far as Hankow; the oil is used for lamps and to make putty.

Fish oil, Hwang-ku-yu, is obtained from a small fish, the oil has a strong fishy smell, is used to destroy pedicular, parasitic, and other skin affections, and in veterinary practice.

Ground nut or pea nut oil, Hwa-sang-yu, is from the Arachis hypogæa.

Hemp seed oil, Ho-ma-jin-yu, CHIN.

Linseed oil, Hu-ma-yu, from a species of Linum; is used medicinally, internally and externally.

Myrrh oil, Muh-yoh-yu, is a reddish oil, having the smell of myrrh, and used in Cochin-China to dress ulcers.

Olive oil, Yang-kau-yu. The fruit of the canarium is sometimes mistaken for the olive.

Pine oil, Sung-i, a coarse turpentine obtained by heating pine woods; it is used in skin diseases.

Peppermint oil, Poh-ho-yu, is made in Canton from several kinds of mint; used in sweetmeats and as a perfume.

Persimmon oil, Po-tsze-yu, a glutinous oil from the Embryopteris glutinifera. The fruits are of the size of an apple, and are crushed to obtain the dark resinous thick juice. It makes an excellent varnish for the paper umbrellas. An extract from the fruit is an internal and external astringent.

Poppy seed oil, Ying-tsze-yu, is used for culinary purposes.

Roses, oil of, Mei-kwei-yu, an essential oil, used by Chinese women as a scent for the hair.

Sandal-wood oil, Tan-hiang-yu, a thick yellow fragrant oil extracted from sandal-wood, used to colour woods in imitation of sandal-wood.

Sesamum oil, Chi-ma-yu, also Hiang-yu, from the black and white sesamum seed.

Stone chesnut oil, Shih-li-yu, obtained by expression from the fruit of the Aleurites triloba; it is superior to linseed-oil as an economic substance, and is used medicinally, with properties like castor-oil.

Sunflower oil, Kwei-tsze-yu.

Sweet basil oil, Su-tsze-yu, is expressed from the seeds of a species of Ocimum. It is a fine drying oil, used in painting on porcelain and for varnishing.

Tallow tree seed oil, Ts'ing-yu, the Stillingia sebifera, is clear but of a dark colour; about fifteen or sixteen catties of it can be obtained from one pikul of berries. It is used to varnish umbrellas, to dress the hair, to fill lamps, and to mix with the tallow of candles; given internally, it is purgative and emetic.

Turpentine oil, Tuh-nau hiang-yu.

B. *Solid Oils.*

Vegetable butters is a name given to the concrete oils of certain vegetables, from the resemblance to the butter obtained from the milk of animals. The term is also occasionally, but improperly, applied to some vegetable products which are entirely of a waxy nature, such as the wax of Myrica cerifera. The name is likewise bestowed in Siberia on certain Algæ, species of the genus Nostoc, such as N. pruniforme. The most important vegetable butters are produced by species of Bassia, and by certain palms, such as the Cocos butyracea, and the Elais Guineensis; the former is of great utility to the inhabitants of Brazil, where it grows naturally, and to the Negroes of St. Domingo, where it is cultivated; while the latter is very serviceable to the natives of Guinea. The generally known solid oils or vegetable butters are as follow:—

Butter of the great Macaw tree, from Acrcomia fusiformis.

Almond butter.

African butter, also called Shea butter, from the Bassia Parkii or Pentadesmis butyracea of Sierra Leone.

Galam butter or ghi, from Bassia butyracea, P... Phulwara, HIND., a native of Nepal and Al... Northern India.

Bassia latifolia and B. longifolia oils separate i... portions, one on the surface, fluid, and of a ... green colour; the other of a brownish-gre... almost solid.

Kawan solid oil, of a pale-greenish colour, a g... resembling the oils of the Bassia in ch... though rather harder, and approaching ... properties to myrtle wax, was shown at t... Exhibition of 1851, from Singapore. It w... posed to be the produce of the tallow tree ... called locally Kawan, probably a species of ... It is very easily bleached; indeed, by exp... air and light, it becomes perfectly white.

Broonga malagum oil from Masulipatam, s... into three portions, the uppermost fluid res... brown sherry, the middle of the consistenc... and brownish-yellow, and the lowest almo... and of a hair-brown colour.

Camujay tree oil of Travancore is a dark ge... mass, of the consistence of blanc-mange.

Carap or carab vegetable butter, from Carap... ensis, a large tree in Trinidad and British ...

Butter of cinnamon, from Cinnamomum ... or C. Zeylanicum. By strong decoction, t... yields a concrete oil, called cinnamon w... for candles, and which exhales a fragra... while burning.

Butter of cocoanut, from Cocos nucifera, whi... a concrete oil, but perhaps expensive. ... oil, prepared by rasping the pulp of fi... cocoanut, adding a little hot water, squee... boiling the milky juice until the water l... orated, and filtering through paper, produ... which separates into two portions, the ... and limpid, the other a solid concrete sub... a pure white colour, which in the shade ... unliquidated at all temperatures.

Butter of palm oil, from Elais Guineensis, a ... Africa and America. The concrete pal... much esteemed in Europe for unguents, ... been lately recommended for culinary pur...

Solid palm oil is an export from the western ... Africa, of the consistence of hard butter.

Erysimum perfoliatum is cultivated in Japa... oil-seeds.

Fevillea scandens, the solid oil of the horse ... cacoons of Jamaica, is white and hard.

Gamboge butter, a product of the Garcinia ... *Roxb.*, is called Mukke tylum, TAM.; ... ghoorghy yennai, CAN. The tree grows ab... in Mysore and the western coast jungles. ... butter is from Garcinia purpurea? or G. ...

The Gamboge butters are solid and of a deep l... colour. The G. pictoria grows abundantly ... of Mysore and the western jungles. T... procured by pounding the seed in a ston... and boiling the mass until the butter or o... the surface. 2½ measures of seed yield ... of butter, and it is sold at the rate of ... per seer of rupees 24, in the Nuggur di... Mysore, and is there used as lamp-oil and ...

Hibavania oil of Canara, solid, of a clove-brow...

Hydnocarpus inebrians oil, the Thortay oil o... a very valuable vegetable solid oil, of th... ence of ordinary hard salt butter, used fo...

Mooragana butter, or solid oil of Canara, is u... cinally as an ointment for the wounds ... injured by tigers. It is said to be prod... a forest tree growing in the Canara jung... dark-brown, and is the most solid of the ...

Butter of nutmeg, from Myristica moschata, ... Moluccas, is obtained by bruising the nu... a paste, which is compressed in bags be... metallic plates. A solid oil is from ... (Virola) sebifera, of British Guiana.

Odul or Adul oil of Travancore, from Jatro... separates into two portions,—the uppe... the colour of golden sherry; the lowe... white, of the consistence of ordinary ... butter.

Solid oil is obtain... Saourar...

exposed to water. Opal generally contains a little oxide of iron, and a small quantity of the alkaline earths. *Precious opal* scratches glass, but is easily broken, on account of the numerous fissures by which it is traversed, and which probably give rise to the play of colours. Opals are cut with rounded faces. *Common opal, or semi-opal*, has not the hardness of opal, and is easily scratched by glass, which distinguishes it from silicious stones; it is called semi-opal. *Opal jasper* resembles jasper, but contains iron, and is not so hard. Hungarian opals are the more valuable and harder; they present a uniform milkiness of surface, more or less iridescent. The Mexican opals, when recent, present an unmixed globule of green fire, but they become colourless or of an opaque brown if wetted. The opal is only cut in cabuchon. The opal of Nonius, which Mark Antony proscribed, was valued at £20,000 of British money. According to Pliny, India was the source of opal. Common opal occurs in the volcanic rocks of the Dekhan.—*Jam. Ed. Jour.; King; Tavernier's Tr.; Eng. Cyc.; Tomlinson.*

PERCULUM is the plate which protects the tures or exposed parts of certain molluscs. nany of the testaceous gastropods it fits the ture of the shell more or less accurately n the animal has retired within it. Oper- are sometimes horny, as in trochus and ex; sometimes shelly, nay almost stony, as in oo.

PH, HEB., a serpent, was pronounced Ope, s. Opis, Ops; in the Egyptian, Ob or Aub; Cicero, Upis. The oph was an emblem of , also of time and eternity. The basilisk, l serpent, was named Oubaios. The idol- the serpent was alluded to in Leviticus . Deuteronomy xviii. 11. See Ophis.

HELIA ALATA. *Griseb.*

ustifolia, *Don.*	Swertia, *sp., Wallich.*
rata, *Griseb.*	
ul-zarita, AR., PERS.	Harun-tutiya, . HIND.
tta, Hatmul, HIND.	Bui . . . of KANGRA.

Ophelia genus of slender plants belongs to er Gentianaceæ. Dr. Wight gives Ophelia bosa, alata, angustifolia, chirata, elatior, ans, Grisebachiana, and minor. They grow at erate heights in the Panjab Himalaya, several them being exported to the plains for use in medicine under the name of chirata, which has undoubtedly tonic properties, and is largely used by natives and Europeans.—*Wight; Stewart.*

OPHELIA ANGUSTIFOLIA. *Don.*

Swertia angustifolia, *Wall.*

Kasb-ul-zarita, . ARAB.	Hatmul, . . . HIND.
Pahari chiretta, . HIND.	Harun-tutiya, . . ,,
Chiretta, . . . ,,	Bui . . . of KANGRA.

This species has long been used as a bitter tonic. It is called Pahari chiretta in the hills, and is substituted for the true kind.—*Ind. An.* No. 6; *O'Sh.* p. 460.

OPHELIA CHIRATA. *Griseb.* Chiretta.

Agathotes chirata, *D. Don.*

Hab-ul-mul, . . ARAB.	Kirata-tieta, . . SANSK.
Kasb-ul-zarireh, . ,,	Shayraat-koochie, TAM.
Dowa-i-pechish, . PERS.	Shilassuttoo coiello, TEL.

Chiretta or chiraeta is employed throughout Southern Asia as gentian is in Europe. It has long been known to the Hindus. This plant is an annual of from 2 to 3 feet high, with a single, straight, round, smooth stem. Grows in the Himalaya mountains, and is met with in a dried state, tied up in bundles, with its long slender stems of a brownish colour, having the roots attached, and which have been taken up when the plant was in flower. The whole plant is bitter. Mr. Brattley states that it contains a free acid, a very bitter extractive and resinous matter, and much gum, muriates and sulphates of lime and potash; also, that the spirituous extract is more aromatic than that of Gentiana lutea, but that the extractive and the gum are in larger proportion in the latter. Water and spirit take up its active properties. It is a bitter tonic; stomachic, used in dyspepsia or as a tonic in convalescence, either cold or hot infusion; the former is lighter, and well suited to dyspeptics, and not so apt to create nausea in a hot climate. Sometimes a little orange-peel or cardamom is added. A tincture is made like that of gentian with proof spirit; like other bitters, it is best taken half an hour before meals. It acts as a simple bitter tonic, not aromatic nor astringent, and is the best substitute for gentian and quassia. It is used in fever, debility, and dyspepsia. The root is the bitterest part of the plant, and the bitter principle is easily imparted to water or alcohol. It is found to be a very efficacious remedy in India against intermittents, particularly when associated with Guilandina bonduc or Caranga nuts.—*Royle's Ill. Bot.; Wall. Pl. As. Rar.; Powell; Indian Ann. of Med. Sc.*

OPHELIA ELEGANS. *Roxb.; Wight, Ic.* Salaras, Silajitu, TEL. Grows plentifully in several parts of the Madras Presidency, flowering August and September; and a very handsome species when in full flower, forming as it does a rich panicle of light blue flowers streaked with deeper coloured veins. Grows plentifully in the Pulney Hills, in the Jeypore zamindari of Vizagapatam, and is largely exported as salaras or silajit, the amount being valued at about Rs. 2500 a year. It is preferred by the hakims or native practitioners to the Himalayan chiretta, and is considered febrifuge. The samples of the drug, seen as exported in bundles, are about 16 inches long and 4 inches deep, and are always tied up with the tough bark and large leaves of Bauhinia Vahlii (*W. & A.*), which abounds in the Northern Circars. The drug is exceedingly cheap; the amount exported is considerable, and is confounded in the bazars with chiretta. Several plants closely allied to the chiretta are used for the same purposes. Ophelia angustifolia, *Don*, in Northern India is called Pahari (*i.e.* hill) chiretta, to distinguish it from the true or Dakhani (southern) chiretta, also O. multiflora, *Dalzell.* Justicia paniculata, likewise, is one of the chiretta plants. Exacum tetragonum is called Ooda (that is, purple) chiretta. The cold infusion of Exacum bicolor, although a pure bitter, is much milder than that of Ophelia elegans, which possesses a powerful bitterness, remaining for several minutes in the mouth. It exercises a tonic influence on the digestive organs, thereby improving the general health, while it appears also to have a febrifuge property. Ophelia alata and O. chirata seem to be used similarly; they grow in the Himalaya. O. paniculata, O. purpurascens, and O. speciosa are all known as chiretta or cheraeta; they are found in the Sutlej valley, between Rampur and Sungnam, at an elevation of 7000 to 9000 feet. These annual

plants supply the chief portion of the bitter root exported to the plains.—*Cleghorn's Panj. Rep.; Ind. Ann. of Med. Sc.; Cleghorn in M. E. J. R.*

OPHIDIA, in natural history, the order of snakes. It comprises seventeen families in two sub-orders, innocuous snakes and poisonous snakes. See Reptiles.

OPHIOCEPHALIDÆ, a family of fishes, comprising 25 species of Ophiocephalus and one of Chanua. The walking or snake-headed fishes, the Ophiocephalidæ of India, and other amphibious genera, are perhaps the best known of monogamous fishes; some of them reside in ponds, others prefer rivers, where they take up their residence in deserted crab holes, which they find in the banks. The pond species delight in lying at the grassy margins, where the water is not deep enough to cover them; and here they are able to respire atmospheric air direct. The striped walking fish constructs a nest with its tail among the vegetation, and bites off the ends of the water weeds; here the ova are deposited, the male keeping guard; but should he be killed or captured, the vacant post is filled by his partner. The hissar, Callichthys, of S. America, is likewise monogamous, constructing nests, which it also defends.

O. amphibeus occurs in the fresh waters of Burma, but the natives regard them with superstitious awe, and do not eat them. They have a legend that they were formerly men, changed into fish for their sins; and the Pwo Karen of Tavoy say that if people eat them they will be transformed into lions. Frogs do some mischief among the fry,—Hylorana Malabarica, Hylorana florescens, Rana cyanophlyctis (*Schn.*), and an unnamed species of Polypedates,—but they have themselves enough of enemies. In the water, the murrel, a species of Ophiocephalus, feeds almost entirely upon them, generally lying close under the banks for this purpose; and on land, mun- gooses, snakes, kites, crows, and paddy-bi- assist in suppressing them, while wa- birds follow them in both ele- ments. water-snakes some is the common brown frog, Rana cyanophlyctis.

Ophiocephalus striatus, *Bloch.*

Murrel, ... ENG. | Karupu veraul, . , TAM.

This, along with other species of murrel, is found on the Neilgherry Hills. Fish travel, not eels alone, which in all countries can move rapidly over moist land. Theophrastus (De Piscibus), the contemporary of Aristotle, mentions fishes found in the Euphrates, which in the dry seasons leave the vacant channels and crawl over the ground in search of water, moving along by fins and tail. The Ophiocephalus amphibeus of Burma travels over land. The O. striatus, which occurs in the Indian Peninsula, attains a length of upwards of 3 feet; O. gachua, to 1 foot long; and Dr. Day discovered that they breathe air direct from the atmosphere. Hartwig mentions that in several fish the gills communicate with a cellular labyrinth containing water, which keeps the gills moist; by this means the hissar of Guiana, the frog-fish of Ceylon, and the Anabas scandens, a climbing perch of India, are able to remain out of the water. The hissar throws itself forward by springs of its tail, and can move in that way nearly as fast as a man can leisurely walk. The pectoral fins of the frog-fish, supported by the bones of its carpus, perform the office of feet. The climbing perch moves itself up trees by means of its ventral fins.

Ophiocephalus vagus, as the waters retire, burrow into the soft mud. A species of Ophichthys, and Osphromenus olfax of Batavia, also travel.—*Hartwig.*

OPHIOGLOSSACEÆ. *Tindley.* A natural order of acrogenous plants, from two Greek words, Ophis, a snake, and Glossa, a tongue.

Ophioglossum reticulatum, *Linn.*, Bengal, Mauritius, Jamaica.
O. filoforum, *Roxb.*, Bengal, Peninsula of India.
O. pendulum, *Linn.*, Mauritius, Khassya, Moluccas.
Helminthostachys flacinita, Bengal, Peninsula of India, Moluccas.

They are of little or no use.

OPHIOPOGON JAPONICUS. *Smith.* Mehmen-tung, CHIN. A liliaceous plant growing in Hankow, Yu-hau-hien, and Hang-chu-fu, in the Che-kiang province. Its tubers, as seen in the market, are shrivelled, pale yellow, soft, and flexible, from 1 to 1½ inch long.—*Smith.*

OPHIORHIZA MUNGOS. *Linn.*

Kajo mar, . . . JAV. | Mendi, . . . SIN.
Naga suganda, . SANSK. | Nakuli, Sarpakshi, .

A native of Ceylon, Java, and Sumatra; parts are intensely bitter; it has high reputa- as a remedy for snake-bites. Roxburgh altoge- discredited its supposed virtues. The ichneu- plant is supposed to furnish the mungoose v- an antidote when bitten in a conflict with a sna- The Singhalese use it in cases of snake-bites; leaves and bark are made into decoction, given in doses of half an ounce. Dr. Wi- Icones gives Ophiorhiza eriantha, gran- Harrisonii, Roxburghiana, and Roxburgh villosa. The Arabs appear to be ignorant virtues of the Ophiorhiza, but they value the Aristolochia sempervire- sider not- -ents, which they- only as a remedy, but as a preserv- too, against the bite of serpents.—*Roxb.* i. p. *O'Sh.* p. 400; *Niebuhr's Tr.* ii. 348; *Ainslie.*

OPHIOXYLON, from ὄφις, a serpent, ξύλον, wood, because it has a twisted roo- stems; a genus of plants belonging to the order Apocynaceæ. Wight gives O. Belgaum- Ceylanicum, macrocarpum. O. majus, *Wall.*, shrub of Burma.

OPHIOXYLON DENSIFLORUM. *Thw.*

O. Ceylanicum, *W. Ic.* | Tabernæmontana densiflora, *Wall.*
O. Neilgherrense, *W. Ic.*

A native of the central province of Ceylon, up to an elevation of 6000 feet.—*Thw.*

OPHIOXYLON SERPENTINUM. *Linn.*

Chandra, . . . BENG. | Chandraka, . . SANSK.
Chota chand, . . HIND. | Aika-waireya, . . SINGH.
Jovana amelpodi, MALEAL. | Chivan melapodi, TAM.
Chivan amelpodi, ,, | Patala gandhi, . TEL.
Soovana-umel-podi, ,, | Patala garuda, . ,,

A climbing or twining plant of Ceylon and of British India. The E. Archipelago Ophioxylon serpentinum, O. mungus, Aristolochia Indica, and Mimosa octandra are popularly said to be the plants to which the mungoose resorts in its attacks with snakes. In rich soil it becomes a climbing plant, but in poor soil it is a small, erect shrub. The root is used as a bitter tonic and febrifuge, as an antidote to snake-poison, and to promote delivery in tedious cases. On the Malabar coast, the root in cases of snake-bites and scorpion stings is prescribed in decoction, to the

extent of a pint in the twenty-four hours, and the powder is applied externally to the injured part.

OPHIR. Gold is often mentioned in the Hebrew Scriptures as an article of commerce. In 1 Kings ix. 26, about 1000 B.C., Solomon king of all Israel 'made a navy of ships in Ezion-geber, which is beside Eloth, on the shore of the Red Sea, in the land of Edom.' And these ships brought gold, silver, and precious stones from Ophir and Tharshish in such quantities, that king Solomon 'exceeded all the kings of the earth for riches.' Silver was so plentiful at his court that it was 'accounted nothing of.' The king's drinking cups were made of pure gold, and his shields were covered with beaten gold. It has never, however, been settled where Ophir and Tharshish were situated; but we are distinctly told that the navy of Tharshish brought 'gold and silver, ivory, and apes, and peacocks,' and Ophir has been supposed to have been some district or port in the Red Sea, on the east coast of Africa, the Malabar coast, and the coast of Malacca. Some Portuguese historians have supposed that it was Sofala, or some other place near the mouths of the Zambezi, on the east coast of Africa. The Tharshish fleet is said to have arrived at Ezion-geber only once every three years, from which it may fairly be inferred that the voyage was a considerable one, or that the ships had to go with the S.W. monsoon and return with the N.E. winds, or that they made a trafficking voyage from one place to another until the cargo was sold and another shipped. Ships or vessels coasting from the Red Sea to the mouths of the Zambesi would not take three years for such a voyage. Solomon's navigators seem to have struck into the open seas and traded with India. Ezion-geber, on the shores of the Red Sea (1 Kings ix. 26), was a little port at the head of the Elamitic or Persian Gulf. This town more naturally belonged to the Midianites of Sinai, or rather to their friends the Egyptians. It was afterwards called Berenies by the Ptolemies; and its place is pointed out by the Egyptian name of the valley in which it stood as Wady Tabe, the valley of the city, and is no doubt the town known even centuries later under the name of the golden Berenice, and not many miles from the modern Souakin. Solomon's ships brought home gold from Ophir, and precious stones and ebony. There are at present in Further India two places called Mount Ophir,—one of them in Sumatra in Palimbangan district, 9770 feet above the sea, to which the name was given by the Portuguese; and they gave the same name to Gunong Ladang, a mountain 40 miles N. of the town of Malacca, 4000 feet high. In the vicinity of both of them gold has been obtained. Josephus expressly says that the Aurea Chersonesus was the Ophir of Solomon's time. Malacca, as is thought, is the eastern extremity of what was known as Ophir to the ancient Hebrews, or Sophir to the authors of the Septuagint version, whither the fleets of Hiram and Solomon voyaged on their trading expeditions. 'Once in three years came the navy of Tharshish, bringing gold and silver, ivory, and apes, and peacocks.'

Professor Max Müller believes Ophir to be India, and he supports his opinion by a reference to the ancient names for the articles imported by Solomon, which are Sanskrit. The nature and direction of the winds blowing in those quarters would allow of a voyage from the head of the Red Sea to India, stopping at several places on the way, being accomplished by the rude vessels and cautious sailing of those days in a period of from eighteen months to two years. (See 1 Kings ix. 28, x. 11, 22; 2 Chronicles ix. 10, 21.) In Bochart's Geog. Sacr. (Phaleg) lib. ii. c. 27, he affirms that every circumstance required to constitute the Ophir of Hebrew Scripture may be found in the classical Taprobane, the modern Ceylon: 'Quia Taprobanæ insulæ (quam Zeilan esse alibi probabo), omnia ad amussim quadrant quæ de Ophira legere est in libris Regum et Paralipomenon. Ibi enim aurum et ebur, gemmasque et margaritas magna copia nasci nemo est qui nesciat. Scatere etiam pavonibus, scribit steuckius in Arrianum. Et in Chersoneso proxima magni pretii cercopithecos memorat Ludovicus Vartamanus.' In the second part of his sacred geography or 'Chanaan' (lib. i. c. 46), he collects diagrammatically the proofs offered in support of his opinion by classical writers, and modern geographers, travellers, and others. Sir Emerson Tennant has suggested that the Port of Galle may be the Tharshish of the Bible, 'which lay in the track between the Arabian Gulf and Ophir,' and that Ophir itself is Malacca, or the Aurea Chersonesus. Sir Emerson has stated that the names of the articles brought by the fleet are 'identical with the Tamil names by which some of them are called in Ceylon to the present day:' Senhabin, or teeth of elephants, Kophim, or apes, and Tukum, or pea-fowls. But these are the pure Sanskrit words Ibha, Kapi, and Suka, with the mere addition of the Hebrew plural termination. Sanskrit names in the south of India have not displaced the original Tamil appellations, which still remain the terms in common use, namely, Yana for elephant, Kurangu for monkey, Myle for peacock, and Kilip-pullai for parrot. Sofir is the Coptic name of India at the present day; the name must have applied originally to but part or parts of the Indian coast frequented that [illegible] of the west. In the Septuagint by the merchants [illegible] Hebrew Ophir is translation of the Bible th[illegible] earliest mention always rendered by Sophir. The [illegible] where the of the name is in the book of Jo[illegible] the finest 'gold of Ophir' is referred to as of quality. At a later date, the ships of Hiram king of Tyre 'went with the servants of Solomon to Ophir, and took thence 450 talents of gold, and brought them to king Solomon.' The gold of Ophir is referred to by Isaiah, who says, 'I will make a man more precious than gold, even a man than the golden wedge of Ophir.' The word here translated 'wedge' means a tongue or ingot; and General Cunningham suggests that the wedge of gold of 50 shekels weight that was concealed by Achan was one of the ingots of Ophir. At the present day the Aravalli range is the only part of India in which silver is found in any quantity, while the beds of many rivers still produce gold. —*Sharpe's Egypt; Bikmore; Ouseley's Tr.; Cunningham's India; Tennant's Ceylon.*

OPIAN, called Hupian by Baber, is supposed by General Cunningham to be Alexandria apud Caucasum. According to Pliny, the city of Alexandria, in Opianum, was situated at 50 Roman miles, or 45·96 English miles, from Ortospona, and at 237 Roman miles, or 217·8 English miles, from Peucolaitis or Pukkalaoti, which was a few

miles to the north of Peshawur. Ortospana has been identified by General Cunningham with the ancient city of Kābul and its citadel the Bala Hissar. Pliny further describes Alexandria as being situated sub ipso Caucaso, at the very foot of Caucasus, which agrees exactly with the position of Opian, at the northern end of the plain of Koh-i-daman or hill-foot. The place was chosen by Alexander on account of its favourable site at the triodon, or parting of the 'three roads' leading to Bactria. These roads, which still remain unchanged, all separate at Opian, near Begram,—the N.E. road, by the Panjsher valley, and over the Khawak pass to Anderab; the west road, by the Kushan valley, and over the Hindu Kush pass to Ghori; the S.W. road, up the Ghorband valley, and over the Hajiyak pass to Bamian.

The first of these roads was followed by Alexander on his march into Bactriana from the territory of the Paropamisadæ. It was also taken by Timur on his invasion of India; and it was crossed by Lieutenant Wood on his return from the sources of the Oxus. The second road must have been followed by Alexander on his return from Bactriana, as Strabo specially mentions that he took 'over the same mountains another and shorter road' than that by which he had advanced. It is certain that his return could not have been by the Bamian route, as that is the longest route of all; besides which, it turns the Hindu Kush, and does not cross it, as Alexander is stated to have done. This route was attempted by Dr. Lord and Lieutenant Wood late in the year, but they were driven back by the snow. The third road is the easiest and most frequented. It was taken by Chengiz Khan after his capture of Bamian; it was followed by Moorcroft and Burnes on their journeys to Balkh and Bokhara; it was traversed by Lord and Wood after their failure at the Kushan pass; and it was surveyed by Sturt in A.D. 1840, after it had been successfully crossed by a troop of horse artillery. As, however, it is noted that there was a mountain named Aruna at a distance of [illegible] to the south, it is almost certain that this city must have been on the site of Begram, from which the north end of the Siah-Koh or Black Mountain, called Chardue south at a distance of 5 or 6 miles. Begram also answers the description which Pliny gives of Cartana, as Tetragonis, or the Square; for Masson, in his account of the ruins, especially notices some mounds of great magnitude, and accurately describes a square of considerable dimensions. General Cunningham says that if he is right in identifying Begram with the Kiulu-sa-pang of the Chinese Pilgrim, the true name of the place must have been Karsana, as written by Ptolemy, and not Cartana, as noted by Pliny. The same form of the name is also found on a rare coin of Eukratides, with the legend Karisiye nagara, or city of Karisi, which he has identified with the Kalasi of the Buddhist chronicles as the birthplace of raja Milindu. In another passage of the same chronicle, Milindu is said to have been born at Alasandra or Alexandria, the capital of the Yona or Greek country. Kalasi must therefore have been either Alexandria itself or some place close to it. The latter conclusion agrees exactly with the position of Begram, which is only a few miles to the east of Opian. The appellation of Begram means, he believes, nothing more than the city par excellence, as it is also applied to three other ancient sites in the immediate vicinity of great capitals, namely, Kābul, Jalalabad, and Peshawur. Masson derives its appellation from the Turki, be or bi, chief, and, the Hindi, gram or city, that is, the capital. But a more simple derivation would be from the Sanskrit vi, implying certainty, ascertainment, as in vijaya, victory, which is only an emphatic form of jaya, and with the prefix in Vigrama would therefore mean emphatically the city, that is, the capital; and Bigram would be the Hindi form of the name, just as Bijaya is the spoken form of Vijaya. The plain of Begram is bounded by the Panjsher and the Koh-i-daman rivers on the north and south, by the Mahighir canal on the west, and on the east by the lands of Julgha, in the fork of the two rivers. Its length, from Bayan on the Mahighir canal, to Julgha, is about 8 miles; and its breadth, from Kilah Baland to Yuz Bashi, is 4 miles.—*Cunningham's India*, pp. 21, 237.

OPIUM.

Afim, Afyun, . .	ARAB.	Caruppa, . .	MALEAL.
Hapium, ...	BALI.	Shir-i-kush-kush, .	PERS.
Bein, ...	BURM.	Opio, . . .	PORT., SP.
O'-fu-yung; O'pi-en,	CHIN.	Makovi sok, . . .	RUS.
Yang-yen; Ya-pi-en,	,,	Chasa; Apaynum,	SANSK.
Fu-yung, ...	,,	Abim, ...	SINGH.
Valmuesaft, . . .	DAN.	Vallmo-saft, . . .	SW.
Mohnsaft, ...	GER.	Apini, ...	TAM.
Opion; Aphionion,	GR.	Abhini, ...	TEL.
Oppio, ...	IT.		

Opium is the concrete inspissated juice of the poppy, Papaver somniferum, obtained by making incisions in the capsules, and collecting the exuding juice. The plant is a native of Western Asia, and probably also of the south of Europe. Opium as a medicine has been used from the earliest ages; but when it was first resorted to as a luxury, it is impossible to state. Such must have happened from very early times, as it [illegible] opens [illegible] at the present; but it certainly extended with the spread of Muhammadanism, when, the tenets of the reformer, wine and fermented [illegible] being discountenanced, opium came in their [illegible] along with the bhang or hasheesh (made [illegible] hemp), coffee, and tobacco. From the Arabs the inhabitants of the Eastern Archipelago probably acquired their predilection for opium, and although their particular manner of indulging in it has evidently been derived from the Chinese, China, where at present it is the most extensively used, cannot be said to have indulged long in the practice. The Pharmacographia, without quoting its authority, states that opium smoking only began in China in the latter half of the 17th century. In 1780, the E. I. Company stationed two receiving ships in Lark's Bay, south of Macao.

Hippocrates is supposed to have employed it; Diagoras condemned its use in affections of the eyes and in earache. It was noticed by Scribonius Largus about A.D. 40; by Dioscorides about A.D. 77; also by Pliny and Celsus (A.D. 23; A.D. 38); but it does not appear to have been much employed until the time of the Arabs, except in the form of the confections called Mithridatica, Theriaka, and Philonium. The Arabic name Afyun, the Hindi Afim, and the name O'-fu-yung, by which it is known in China, seem all to have proceeded from the original Greek name, which is itself derived from Opos, juice. The Sanskrit Apaynum may have a similar origin, or it may be the source

of the Grecian name. In more recent times, the opium of India was mentioned by Barbosa, who visited the Malabar coast about 1511. Pyres, in a letter from Cochin to king Manuel of Portugal, 1516, describes the opium of Egypt, of Cambay, and of Cous, the last place being supposed to be Cutch. Garcia d'Orta, writing in the middle of the 16th century, tells of the Malwa opium in Cambay, also of the opium of Aden, of that from Cairo and Upper Egypt; and the Opium Thebaicum is also described by Prosper Alpinus, who visited Egypt, 1580–83. Kaempfer, when in Persia in 1687, described the kinds of opium made there, and also the electuaries or Theriaka, which they made of opium, flavoured with ambergris, cardamom, cinnamon, mace, nutmeg, and saffron. The English East India Company, on becoming rulers in British India, found it one of the maskarat or intoxicating excise articles of the country. In 1773, the contract for the supply of opium was given to Mir Munkeer, to deliver Behar opium at Rs. 320, and that of Oudh at Rs. 350 per maund, say about Rs. 4 the lb.

The poppy is now grown for opium in Asia Minor, Northern Africa, Persia, China, and India, and the last two countries yield the principal supply. Eighteen kinds are, however, known to commerce. In India it is grown in Oudh, the Panjab, in Jammu and Kulu, in the Himalaya, Rajputana, Cutch, Gujerat, Kattyawar, Central India, Central Provinces, Berar, and Mysore; but the opium made for export from India is chiefly in Malwa, Behar, Patna, and Benares. The cultivation of the poppy for the Bengal opium is confined to the large central Gangetic tract, about 600 miles in length and 200 in breadth, which is bounded on the north by Gorakhpur, on the south by Hazaribagh, on the east by Dinapur, and on the west by Agra. This tract is divided into the two agencies of Behar and Benares, the former being presided over by an agent stationed at Bankipur, and the latter by an agent at Ghazipur; both agencies are under the control of the Board of Customs, Salt, and Opium, in Calcutta. There is no extensive poppy cultivation in the Madras and Bombay Presidencies, and the opium received at Bombay is brought under passes from the Native States in Malwa and Gujerat. In the Panjab, opium is not made a government monopoly as it is in Bengal; the people are free to cultivate if they choose, only it ranks as a 'zabti' or specially assessed crop, and has certain higher charges made upon it; the sale of opium, poppy heads (quite a separate thing), bhang, ganja, and charras, which are collectively termed 'maskarat,' is restricted, and these articles are subject to excise duty. Opium used in the Panjab comes principally from Kulu, in the Himalaya, but is grown also in the plains, especially in the district of Shahapur. In 1870–71, opium to the value of Rs. 44,400 was manufactured in the Nundidrug division of Mysore. In the eleven months from April 1871 to February 1872, 8688 lbs. were manufactured in the Bangalore and Kolar districts; and in 1875–76 the quantity exported to British territory was valued at Rs. 2212. In West Berar, the poppy is largely grown in the Buldanah district; between Maiker, Janiphal, and Bassim, the people are busily occupied, and exhibit an expertness betokening full experience. In 1870–71, 544 acres of land in the Buldanah district were under cultivation for opium.

Opium is largely manufactured in the fertile table-land of Malwa in Central India, which is mostly under the rule of native chiefs, of whom Sindia and Holkar take the first rank. Rs. 700 per chest is levied on that which passes through British territory for shipment to China.

In China, the poppy is largely cultivated in Sze-chuen and Yunnan. In Yunnan the poppy fields constitute a third of the whole cultivation, and are yearly augmenting. Mr. Medhurst, Her Majesty's consul at Shanghai, informed the Government of India that the cultivation of opium had increased enormously, but that the consumption had increased *pari passu*, and the market for the Indian drug had been but slightly affected. The province of Sze-chuen seemed to be the greatest producer. The ordinary price of the drug, as prepared in that province, was about Rs. 820 for 133⅓ lbs. avoirdupois. At Hankow it had risen to Rs. 930. Indian opium was an expensive luxury, indulged in by a few rich men and high officials. Mr. Man, writing in 1877, mentioned that the poppy is grown all over Shengkiang, which is another name for the province of Liao-tung, of which New-chang is a part. In Kirin Province, out of every ten acres of available soil, eight acres are devoted to the poppy. In Tse-tse-har the poppy has been so largely introduced as to cause quite a revolution. In 1873, the Rev. J. Edkins reported in the North China Herald that for 300 miles, between the Yellow River and the city of Tai-na-fee, poppy crops were seldom out of sight. This increase of poppy crops had occurred in the past few years, having spread from Yew-cheu; and Chinese officers were making raids on poppy grounds, but they were spasmodic and inefficient. In many other parts the poppy was also cultivated, and Mr. Edkins was of opinion that, wherever the soil is dry and light, the cultivation would extend, as it had proved to be much more profitable than other crops. By the year 1880, all over the west of China, in the provinces of Yunnan, Sze-chuen, Kwi-choo, and South Western Hou-pe, opium cultivation was everywhere tolerated, and in most places encouraged by the provincial officials. In Manchuria every farmer and every cottager had their little plot of poppy. To the north of the Yang-tze-kiang, the poppy in many districts was said to be superseding the growth of cereals. In 1875, Manchuria yielded 400,000 pikuls. In 1875, the lands of Yunnan were described as a sea of poppies. Messrs. Soltan and Stevenson, who travelled from Burma through Yunnan to Hankow, found three-fourths of all the land under tillage devoted to its growth. All the good land in Yunnan was taken up with its cultivation. The crop of Western China in 1881 was estimated at 97,000 pikuls, as under:—Western Hou-pe district, 2000 pikuls; Eastern Sze-chuen, 45,000; Yunnan, 40,000; Kwi-choo, 10,000. Price of North China opium, per Chinese ounce, 2·8 to 3·2 taels; Malwa opium, at New-chang, 5·8; Patna, 5·4; Chinese, 2·8. Persia has been trading with China since 1854. In Persia, in 1871, the crop of opium was estimated at 2500 chests, but in 1879–80 the quantity was 7100 chests, and the estimate for 1880–81 was 10,000 chests. The Persian opium imported into China was 684 chests in 1877, and 3446 in 1879. Surgeon-Major Sheppard examined some samples of it, and pronounced it excellent. But

that taken is chiefly from Smyrna, and is employed in adulterating Malwa opium and the better classes of China opium. In the ten years up to 1881, the crop in Asia Minor had averaged 6000 chests, of which about two-thirds finds its way to the Smyrna market, the remainder to Constantinople. This opium contains a high proportion of morphia, and is largely used for medical purposes in Europe.

Indian Manufacture.—The operations of cultivating the poppy and then manufacturing its juice into good opium, require patience and delicate treatment. It has been truly said that the success of an opium crop depends entirely on the care which is bestowed upon it. In 1878–79, the total outturn in British India was 91,200 chests, of which the export value amounted to £12,993,985, and the net profit to the British Indian Government was £7,700,671. Rather more than half this total was derived from the Bengal monopoly; the other moiety was from the transit cess levied on the Malwa product. About £1,000,000 worth of this opium was exported to Burma and the Malay settlements. The Chinese purchased the remainder for nearly £11,000,000.

Rajputana.—In none of the ancient heroic poems of Hindustan is opium ever alluded to; the guest is often mentioned in them as welcomed by the munwar piala, or 'cup of greeting,' but nowhere by the uml-pani, or 'infused opiate,' which in Rajputana has usurped the place of the phul-ra-arrac, or 'essence of flowers.' Rajputs used the opiate in its crudest form, by simply bruising the capsules, which they steeped a certain time in water, afterwards drinking the infusion, to which they gave the name of 'tejarro,' and not unfrequently 'post,' 'the poppy capsule;' and this practice still prevails in the remote parts of Rajputana, and in parts of the Panjab.

Malwa.—The culture of the poppy for opium seems to have been at first confined to the Doab tract between the Chambal and Sepra, from their sources to their junction; whence it spread throughout Malwa, and into various parts of Rajputana, especially Mewar and Harauti. Kunbi and Jat, and Banya and Brahman, try the culture, but the Kunbi extracts one-fifth more from the plant than any of his competitors. In Rajputana the cultivation of opium increased in the inverse ratio of general prosperity; as war, pestilence, and famine augmented their virulence and depopulated the country, so did the culture of the poppy appear to thrive. The predatory system which succeeded Moghul despotism gradually restricted the harvests of barley, wheat, and gram to a bare sustenance for the families of the cultivator, who then found a substitute in the poppy. From the small extent of its culture, he was able to watch it, or to pay for its protection from pillage; this he could not do for his corn, which a troop of horse might save him the trouble of cutting. The maximum of oppression in Mewar was the maximum of the culture of the poppy in Malwa. Emigration commenced in S. 1840 (A.D. 1784); it was at its height in S. 1856 (A.D. 1800), and went on gradually depopulating that country until S. 1874 (A.D. 1818). Its consumption, of course, kept pace with its production, it having found a vent in foreign markets. The districts to which the emigrants fled were those of Mundisore, Kachrode, Oneil, and others situated on the feeders of the Chambal, in its course through Lower Malwa. There they enjoyed comparative protection and kind treatment, under Appa Sahib and his father, who were long the farmers-general of these fertile lands. Appa advanced funds, and appointed them lands, all fertile though neglected, in which they excavated wells for themselves. They abandoned altogether wheat and barley, growing only makki or 'Indian corn' for food, which requires no irrigation, and to which the poppy succeeds in rotation; to these and the sugar-cane, all their industry was directed. From the year S. 1840 (A.D. 1784) to S. 1857 (A.D. 1801), the market price of the crude opium from the cultivator ran from sixteen to twenty-one salimshahi rupees per durri, a measure of five pucka seers, each seer being the weight of ninety salimshahi rupees. This was the price of the drug by the grower in the first stage, and a better criterion than that of the manufacturer in its prepared state. In the year S. 1857, it rose to twenty-five rupees; in S. 1860 to twenty-seven, gradually increasing till S. 1865 (A.D. 1809), when it attained its maximum of forty-two, or an advance of one hundred and seventy per cent. above the price of the year A.D. 1784; after which it gradually fell until S. 1870 (A.D. 1814), when it was so low as twenty-nine. In S. 1873 it had again risen to thirty-three, and in S. 1874–75, when its transit to the ports of Sind and Gujerat was unmolested (whence it was exported to China and the Archipelago), it had reached thirty-eight and thirty-nine, where in S. 1876 (or A.D. 1820) it stood. In Kanthul (which includes Partabgurh Deola), or the tracts upon the Myhie river, opium was, about A.D. 1820, cultivated to a great extent, and adulterated in an extraordinary manner.

Writing about 1842, Dr. Impey reported that for the successful cultivation of opium, a mild climate, plentiful irrigation, a rich soil, and diligent husbandry, are indispensable. In reference to the first of these, Malwa is placed most favourably. The country is in general from 1300 to 2000 feet above the level of the sea; the mean temperature is moderate, and range of the thermometer small. The poppy is always cultivated in ground near a tank or running stream, so as to be insured at all times of an abundant supply of water. The rich black loam, known by the name of cotton soil, is that preferred there for opium. Though fertile and rich enough to produce thirty successive crops of wheat without fallowing, it is not sufficiently rich for the growth of the poppy until largely supplied with manure. There is, in fact, no crop known to the agriculturist, unless sugar-cane, that requires so much care and labour as the poppy. The ground is first four times ploughed on four successive days, then carefully harrowed; when manure, at the rate of from eight to ten cartloads an acre, is applied to it. This is scarcely half what is allowed a turnip crop in Britain. The crop is after this watered once every eight or ten days, the total number of waterings never exceeding nine in all. One bigha takes two days to soak thoroughly in the cold weather, and four as the hot season approaches. Water applied after the petals drop from the flower, causes the whole to wither and decay. When the plants are six inches high, they are weeded and thinned, leaving about a foot and a half betwixt

each plant; in three months they reach maturity, and are then about four feet in height if well cultivated. The full-grown seed-pod measures three and a half inches vertically, and two and a half in horizontal diameter.

Early in February and March the bleeding process commences. Three small lancet-shaped pieces of iron are bound together with cotton, about one-twelfth of an inch of the blade alone protruding; and this is drawn sharply up from the base to the summit of the pod. The sets of the people are so arranged that each plant is bled all over once every three or four days, the bleedings being three or four times repeated on each plant. This operation always begins to be performed about three or four o'clock in the afternoon, the hottest part of the day. The juice appears almost immediately on the wound being inflicted, in the shape of a thick, gummy milk, which is quickly covered with a brownish pellicle. The exudation is greatest over-night, when the incisions are washed and kept open by the dew. The opium thus derived is scraped off next morning with a blunt iron tool resembling a cleaver in miniature. If the scraper be passed heavily over the seed-pod, so as to carry with it a considerable portion of the beard or pubescence, it contaminates the drug and increases its apparent quantity. The work of scraping begins at dawn, and must be continued till ten o'clock; during this time a workman will collect seven or eight ounces of what is called 'chick.' The drug is next thrown into an earthen vessel, and covered over or drowned in linseed oil, at the rate of two parts of oil to one of chick, so as to prevent evaporation. This is the second process of adulteration,—the ryot desiring to sell the drug as much drenched with oil as possible, the retailers at the same time refusing to purchase that which is thinner than half-dried glue. One acre of well-cultivated ground will yield from 70 to 100 pounds of chick. The price of chick varies from three to six rupees a pound, so that an acre will yield from 200 to 600 rupees' worth of opium at one crop. Three pounds of chick will produce about two pounds of opium, from the third to a fifth of the weight being lost in evaporation. It now passes into the hands of the Banya, who prepares it and brings it to market. From twenty-five to fifty pounds is tied up in parcels in double bags of sheeting cloth, which are suspended from the ceilings so as to avoid air and light, while the spare linseed oil is allowed to drop through. This operation is completed in a week or ten days, but the bags are allowed to remain for a month or six weeks, during which period the last of the oil that can be separated comes away; the rest probably absorbs oxygen and becomes thicker, as in paint. This process occupies from April to June or July, when the rain begins. The bags are next taken down, and their contents carefully emptied into large vats from ten to fifteen feet in diameter, and six or eight inches thick. Here it is mixed together and worked up with the hands five or six hours, until it has acquired a uniform colour and consistence throughout, become tough and capable of being formed into masses. This process is peculiar to Malwa. It is now made up into balls of from eight to ten ounces each, these being thrown, as formed, into a basket full of the chaff of the seed-pods. It is next spread out on ground previously covered with leaves and stalks of the poppy; here it remains for a week or so, when it is turned over and left further to consolidate, until hard enough to bear packing. It is ready for weighing in October or November, and is then sent to market. It is next packed in chests of 150 cakes, the total cost of the drug at the place of production being about fourteen rupees per chest, including all expenses. Manipulations so numerous, complex, and tedious as those described, give the most ample opportunities for the adulteration to which the nature of the drug tempts the fraudulent dealer.

British India Process.—In the British provinces the culture of the poppy is carried on solely for its opium product, and is more of a horticultural than an agricultural undertaking; and the goindor gauhani lands near villages are, as a rule, always chosen. It is grown for opium in Bengal, the N.W. Provinces, and Oudh, and has always been a Government monopoly. It can be traced back to the 16th century. Under the British Government, it was originally in the hands of contractors, who monopolized the manufacture, but in 1797 the management of it was entrusted to a covenanted civil servant. In that year the total area of cultivation amounted to 9460 bighas; but it has steadily increased, and in 1878–9 it reached 928,241 bighas. From August to the end of October, the Government enters into agreements with the cultivators, through the agency of one of their number, whom they themselves select, and he receives a licence and is responsible for balances and any shortcomings, and the cultivators receive advances ranging from Rs. 4 to Rs. 6 per bigha. On the completion of the agreements, the fields are roughly measured, and sowings commence about the middle of November, and are continued till the first or second week of December; and on completion, the fields are accurately measured, and the name and caste of every cultivator, and the area of his field, are entered in the licence. During the cold-weather inspection tours, opium officers and their establishments examine the crop and estimate the out-turn.

The poppy seed germinates in from 10 to 15 days, and when about 2 inches high the fields are carefully weeded, watered, and thinned, those to be retained kept 3 or 4 inches apart from each other. After two weeks, these field operations are repeated, all sickly plants and all foreign herbs are carefully removed, and vigorous plants only left standing, at distances of 7 or 8 inches from each other. Watering and weeding are carried on until the plants commence to flower, which they do about the beginning of February, the time varying according to the time of sowing; and a good cultivator will sow portions of his field at intervals of a week, so that the whole of the plants may not become ready to have the drug extracted at the same time.

A short while after the plants have commenced flowering, the petals are carefully watched and collected, in the following manner:—The forefinger and thumb encircle the stem just beneath the pod, and with the other fingers drawn inwards, a kind of tube is formed. This tube is then raised straight over the pod, and if the petals are matured, they come off; they are never plucked off, as that would injure the pod. The petals thus obtained are formed into platters (patti) for

wrapping round the opium cakes or balls. On the removal of the petals, the pods ripen rapidly, and when they become hard in February and March they are lanced with a three-pointed lancet; a milky juice immediately exudes, and oozing out slowly, the fluid portion evaporates; the outer portion of the tear hardens and assumes a rose-red appearance, the inner, semi-fluid part being of a pinkish hue. The incisions are made in the capsule wall in the afternoon, and if the night be still and dew fall, the yield of opium is full. The tears of opium are carefully scraped off in the morning with a small spoon-shaped iron or shell scraper, and the finger or thumb is run over the incisions to close them. The tears thus collected are placed in an earthen vessel, slightly tilted to drain off the dew. A single healthy plant, under favourable circumstances, yields about 75 grains of opium in from 5 to 8 scarifications. The number of scarifications needed for all the juice to exude ranges from 1 to 8 and even 10. The above operations are carried on every second or third day, according to the time of collection, whether late or early in the season, or condition of the plant, whether sickly or healthy, until all the opium has been extracted from the pods. When the whole of the drug has been collected and treated separately as above described, it is carefully manipulated and put into a new earthen pot (kora), and set aside in some well-ventilated and safe place. Should the opium be of low spissitude, it is exposed in some shady place, very carefully turned over, so as not to spoil the grain (dana), and is so treated till it reaches the required consistency (jharti), and remains in the custody of the cultivator until weighed by the opium officers.

The opium balls or cubes are wrapped up in platters made from the petals of the poppy plant. When the petals have been collected in the manner already mentioned, a circular-ridged earthen plate about twelve inches in diameter is placed over a slow fire, the required quantity of petals are placed flat over it, and these are pressed with a damp cloth till they have adhered together; the flower leaf is then removed and left to dry; these platters are, as a rule, from 6 to 12 inches in diameter, and vary in thickness from that of a sheet of thin paper to that of a sixpence, and are in appearance, when well made, like a pancake.

After the opium has been extracted, the pods are allowed to dry, and are, when in this state, broken up and the seeds collected for next year's sowing, and the surplus for sale.

The produce from one bigha of land sown with poppy varies from 1 to 10 and even 15 seers of opium, according to the nature of the soil and the amount of care bestowed on the land by the cultivator. The leaves of the plant are delivered into the opium factory at 12 annas the man (maund), to be used for packing the opium balls in the chests, to prevent them shifting about and becoming crushed. Opium is paid for at rates from Rs. 4 to 5 per seer (2 lbs.), according to its consistency.

Opium of two qualities is made by Government, —one is called *provision*, or that exported to foreign countries; the other is called *abkari*, and is supplied to the different revenue collectors for consumption in the country; the only difference between them being that the former is manufactured at $\frac{75}{100}$ consistency, and the latter at $\frac{70}{100}$ consistency. The two alkaloids, morphine and narcotine, are also prepared by Government, and supplied to their depôts of medical stores. The whole of the poppy plant and its products are of value to the grower; and in making up the opium into balls, in which form it is nearly all permanently kept, nothing remains in contact with it but the products of the poppy plant.

A prickly plant called 'Bhar-bhar,' as also a parasitic plant called 'tokra,' are most destructive to the poppy; several sorts of insects do immense injury to it, and the plant is liable to diseases. Of these, 'murkha' and 'khurka' are the two most fatal, and a blight, called 'ughia,' has latterly proved very fatal to the plant, and hail, frost, rain, and strong winds also occasion loss.—*Carnegy.*

The plants are occasionally destroyed by insects which attack the roots and leaves, and a second even or third sowing becomes necessary, but their produce is generally much smaller. In 1878 the poppies of Behar were attacked by innumerable hordes of Heliothis armigera.

Patna Process.—Dr. R. Lyell, writing regarding the Patna opium, says that the white variety alone is grown. He mentions his belief that the richness and quantity of the poppy juice are greatly influenced by the nature of the soil on which it is grown, by the modes of cultivation as regards the irrigation, and quantity of manure, kind of seed, etc. The lands in the immediate vicinity of a village are preferred, as facilitating attention to the crop and irrigation. With strong soil, it is grown as a second crop, generally after Indian corn; but in weaker soils, the land is allowed to be fallow when the poppies are off the ground, and is as well manured as the cultivators can afford. Towards the end of September and beginning of October, the land is carefully prepared by two or three ploughings, and the clods of earth are broken down by a hangah or clod crusher. About the middle of October, the sowing is generally begun, and the seed is thrown broadcast, from three to four seers being required for each bigha. To facilitate irrigation, the field is divided into compartments 6 feet by 4 feet; the ground is well watered two or three times before the plant springs, water containing a large quantity of saline matter being preferred; and during its progress to maturity the plant is watered when required. After the plants attain the height of 5 or 6 inches they are thinned at intervals. At first a distance of 3 or 4 inches is preserved between the roots, increased to 6 inches as the plants mature. When not sufficiently thinned, the plants are stunted and the capsules are small; great attention is at the same time bestowed on the weeding and loosening the soil. The young plants removed at the first thinning are sold and eaten as salad; those of the second and third thinnings possess narcotic properties, and are seldom used. The plant matures about the middle or end of January, and as soon as the petals of the flower begin to fall off they are carefully collected and used as a covering for the opium cakes. The three kinds of petals are sold by the cultivators at 6, 8, and 10 rupees the maund. When fresh, they contain a large quantity of gummy matter, which is dried up by spreading them over a hot girdle. About the third week in January, the capsules are sufficiently ripe to undergo scarification by a

four or five bladed lancet, with which are made oblique or longitudinal incisions through the epicarp and pericarp of the capsule. The scarification is made in the afternoon; the exudation of milky juice takes place immediately, and it is collected early on the following morning. Each set of incisions yields, on an average, a grain or two of opium, and they are repeated four or five times, or as long as any juice continues to flow. The most favourable state of the weather is a still atmosphere and a moderate dew, which allow the juice to thicken and collect in irregular tears, these grains being of a higher consistence and of a rose-red colour towards the surface, while towards the centre they are semi-fluid and of a reddish-white colour. Opium in this state is said to be 'raw.' Strong winds, or a cloudy sky preventing the formation of dew, greatly reduce the quantity of the produce, it being found that the scarifications made in the capsules become closed up by the slight oozing of the juice, and a smaller quantity of opium is obtained. On the other hand, an excessive dew opens the incisions, and the juice drops off the capsules on to the ground, and is lost, or it becomes mixed with a large quantity of dew, which retards the evaporation of the general mass, and separates the soluble from the insoluble parts.

In the manufacture of opium, it is an object of the first importance that when first collected it should contain as little moisture as possible, so that it may be raised to the highest degree of spissitude in the shortest time without exposing to the air. The action of the sun's rays is most detrimental to the physical properties of opium, causing it to assume a black ductile appearance. The average consistence of the juice when first collected is from $\frac{61}{100}$ to $\frac{64}{100}$ consistence. The average quantity produced in a bigha is from five to seven seers, according to the quality of the soil.

The easterly winds of Patna are always damp, and their prevalence while the fresh collected opium remains under a consistence of $\frac{80}{100}$ produces a partial solution of it, especially when it contains moisture, and an exudation of drops of a black shining liquid, termed 'pussawa,' occurs on the surface of the opium. This pussawa contains many of the active principles of the drug, particularly the resin of it. The proportion of pussawa is sometimes increased by the fraudulent admixture of water by the growers, done in the hope that their opium will be purchased by the gross weight, but it is paid for at half the price of standard opium, viz. Rs. 1.10 per seer. The growers keep their opium in shallow earthen vessels, placed at an angle of about 45° to facilitate the draining off of the pussawa, and the direct rays of the sun, dust, and impurities are carefully guarded against. It is turned over in the dishes every week or two. Poppy seeds yield by expression 56 per cent. of a bland oil, of a pale-gold colour, fluid within ten degrees of the freezing point. It sells in the bazar at from 8 to 10 rupees per maund; is used for cooking and burning. The oil-cake remaining from it is highly nutritious for cattle.

Poppy leaves are used to pack the opium cakes or balls. Each chest of opium contains 40 balls, at 1 seer 7 chittak and 2 kutcha of opium per cake. Dr. Lyell says, 'In Smyrna the seed used is obtained from capsules that have not been punctured for opium. Also, by reducing the number of capsules on a plant, the remainder attain a greatly larger size, and yield a greater quantity of opium of the first quality.'

In Asia Minor and Egypt the poppy growers do not pierce the capsules from below upwards, as is done in India, but make a cut round the capsule with a knife. In Egypt the knife is carried twice round.

China.—Opium has been known in China at least ever since the Mongol dynasty. During the Ming dynasty it came into more general use as an astringent and sedative medicine, in diarrhœa, dysentery, rheumatism, but generally in combination with other medicines. Li-shi-chin in his Pen Ts'au (about A.D. 1550) describes its collection in a very clear manner, and mentions the fact of its regular sale as a drug. All the early writers are silent as to its use, except in medicine; its nature is very clearly explained in the work of Li-shi-chin. He calls this herb the internal support. That was about the middle of the 16th century. By the 18th century it must have become a luxury, and the mode of using it by smoking is purely Chinese. During the reign of the emperor Kien Lung, who reigned from 1733 to 1796, a tariff was regularly established, and the duty fixed at three taels for 100 catties, and 2 taels 4 mace and 5 candarines for fees. Mr. Hobson of Hankow has shown that opium was a recognised product of the prefecture of Yung-chan in the west of Yunnan in the year 1736. It is said to have been introduced into Sze-chuen from India and Tibet in the middle of the 18th century. Fully one-half the best arable land in Sze-chuen is believed to be now given up in spring to the bearing of an annual crop of poppy; probably seven-tenths of the dwellers in towns in Sze-chuen are habitual opium smokers, and more than one-half of the country people have adopted this seductive habit. Indian opium, Kung-kau or Kwang-t'u, is being competed with by the native drug, although the price of the former, and its name for better flavour, are still kept up by the native preference for it. Sze-chuen opium, called Chuen-t'u, in good years, can be produced at half the price of the Indian drug. The best Sze-chuen drug comes from Kwi-choo and Pi-hien; and of the extract used for smoking, called Yen-kau and Shuh-yen, the Sze-chuen opium yields more than the Indian product. Yunnan opium and that from Kwi-choo are called Nan-t'u, and by the Chinese are all derisively spoken of as dirt, or as Yoh-t'u, medicinal earth. The opium from Kan-su, Shen-si, and Shan-si is called Si-t'u, and yields a good extract. Since 1839, a large quantity of opium, some of it of a very inferior kind, is produced in Ho-nan province, and largely consumed on the spot. Hing-ching-hien, and places in Hwang-chau-fu, all in Hu-peh, produce the drug. Manchuria, and in fact all parts of the Chinese empire, produce more or less of this crop, which is sown in the tenth month, and is secured by the third month of the next year.

The Portuguese took it as an article of commerce to China, but up to 1767 the average landed was 200 chests. After 1767 it suddenly increased to 1000 chests, and the English East India Company in 1773 made their first venture. They repeated it in 1776; and the drug, which cost in Calcutta Rs. 500 the chest, was sold in China for

500 dollars. In 1794, Indian opium was imported to the extent of 1500 chests.

At this time the Chinese Government began their efforts of repression. In 1796, it was declared a crime to smoke opium. Up till 1842, it was contraband. British adventurers continued to disregard the Chinese prohibition, and in the year 1839 the Chinese authorities seized and destroyed 20,000 chests of opium, the property of British subjects then in Chinese waters. This led to war between Great Britain and China, and the Chinese paid an indemnity for the opium destroyed, and paid also several millions sterling as compensation for the expenses of the war. In 1842, the treaty of Nankin released the trade. In 1844, however, the emperor was still objecting to the national weakness for opium being made a source of revenue. He said, 'It is true that I cannot prevent the introduction of the flowing poison,—gainseeking and corrupt men will, for profit and sensuality, defeat my wishes; but nothing will induce me to derive a revenue from the vice and misery of my people.' In 1800, the emperor Hea King issued a proclamation forbidding its importation, and prohibiting its cultivation in Yunnan. Nevertheless, in 1827 the foreign imports had increased to nearly 10,000 chests per annum; ten years later to 40,000 chests; in 1856-57 the import was 70,000; and in 1881 it was 90,000. From this rapid increase it is but fair to conjecture that the use of the drug was, previous to the 18th century, limited in China to medical purposes, and that, however long it may have been cultivated in the Chinese province of Yunnan, its use as a luxury was limited, and even in that province the cultivation must have been small. On the coast, however, Dampier states that the use of opium in his time was great and widely extended, and could not therefore have been recently acquired. He states that in 1688 he took in at Acheen from 300 to 400 pounds of opium to trade with at Malacca, where he disposed of it privately, as it was prohibited. From Malacca, he says, ships were accustomed to take it to the different Malay states, and exchange it for pepper and other articles of produce.

After the treaties of Tien-tsing and Pekin, opium was declared a legal import at the duty of 30 taels per pikul, *i.e.* about £10 per chest, and transit dues were also arranged. But the treaty of 1876, known as the Chefoo convention, which was negotiated between Sir Thomas Wade and the Chinese Government, has remained unaccepted by the British Government.

In 1880, the export coastwise to Hankow of Szechuen opium was 927 pikuls. At Hankow it pays an ad valorem export and coasting duty of 7½ per cent. It is known in the trade as Chuen-t'u, and sells at 14 taels, against 15·60 taels for Palung and 17 taels for Yunnan opium,—the quantity in each case being 100 Chinese ounces = $\frac{1}{16}$ of 133⅓ lbs. avoirdupois. Yunnan opium is also exported.

Mr. Edkins says that China grown opium is not palatable even to the Chinese. Mr. Caine, British consul at Hankow, writing in 1871, said that no considerations of an inconsiderable temporary excellence will ever induce the rich to purchase so inferior an article as the native drug.

Opium is at present largely consumed in the Archipelago, in China, in the Indo-Chinese countries, and in many parts of India, much in the same way in which wine, ardent spirits, malt liquor, and cider are consumed in Europe. Stupor, reverie, and voluptuous listlessness are the immediate effects produced. In this state the individual can be at once and easily aroused to exertion or business. No sickness, constipation, or any other functional disturbance supervenes on each indulgence. When the habit is but moderately followed, it appears to occasion no greater effect than the proportionate indulgence in wine or other spirituous liquors. Its deleterious character has been much insisted on, but generally by parties who have had no experience of its effects. Like any other narcotic or stimulant, the habitual use of it is amenable to abuse, and, being more seductive than other stimulants, perhaps more so; but this is certainly the utmost that can be safely charged to it. Millions consume it without any pernicious result, as millions do wine and spirits without any evil consequence. There is not known any person of long experience and competent judgment who has not come to this common-sense conclusion. Dr. Oxley, a physician and naturalist of eminence, and who had had a longer experience than any other man of Singapore, where there was a high rate of consumption of the drug, gave the following opinion:—'The inordinate use, or rather abuse, of the drug most decidedly does bring on early decrepitude, loss of appetite, and a morbid state of all the secretions; but I have seen a man who had used the drug for fifty years in moderation without any evil effects; and one man I recollected in Malacca, who had so used it, was upwards of eighty. Several in the habit of smoking it have assured me that, in moderation, it neither impaired the functions nor shortened life, at the same time fully admitting the deleterious effects of too much.' There is not a word of this that would not be equally true of the use and abuse of ardent spirits, wine, and perhaps even of tobacco. The historian of Sumatra, whose experience and good sense cannot be questioned, came early to the very same conclusion; and the question of its superiority over ardent spirits appears to have been for ever set at rest by the high authority of Sir Benjamin Brodie. 'The effect of opium, when taken into the stomach,' he says, 'is not to stimulate, but to soothe the nervous system. It may be otherwise in some instances, but these are rare exceptions to the general rule. The opium-eater,' he adds, 'is in a passive state, satisfied with his own dreamy condition, while under the influence of the drug. He is useless, but not mischievous. It is quite otherwise with alcoholic liquors.' The editor has seen many smokers of the extract; has purposely sat amongst them, for prolonged occasions, in an opium saloon of Madras, and has seen in India numerous children and grown-up people under the influence of opium, without any evils resulting from it.

Opium, as a luxury, is consumed in different ways. In Great Britain it is either used in a solid state, made into pills, or a tincture in the shape of laudanum. Insidiously it is given to children under a variety of quack forms, such as 'Godfrey's cordial,' etc. In India, the pure opium is either dissolved in water and so used, or rolled into pills. It is there a common native practice to give it to children when very young, by mothers

who require to work and cannot at the same time attend to their offspring. In Rajputana, it is dissolved in water, and the solution, called kusumba, is sipped. There, and in the Panjab, a decoction or infusion, called post, is made by steeping the unripe poppy head in water. In China, usually an extract of it is smoked, or is, in some form or other, swallowed. In Bali, it is first mixed with China paper, and when to be used it is rolled up with the fibres of a particular kind of plantain, and inserted into a hole made at the end of a small bamboo, and smoked. In Java and Sumatra, it is often mixed with sugar and the ripe fruit of the plantain. In Turkey, it is usually taken in the form of pills, and those who do so avoid drinking any water after swallowing them, as this is said to produce violent colic; but to make it more palatable, it is sometimes mixed with syrups or thickened juices; in this form, however, it is less intoxicating, and resembles mead. It is then taken with a spoon, or is dried in small cakes, with the words Mā-shā-allāh imprinted on them. When the dose of two or three drachms a day no longer produces the beatific intoxication so eagerly sought by the opiophagi, they mix the opium with other drugs. It then acts as a stimulant. Besides being used in the shape of pills, it is frequently mixed with hellebore and hemp, and forms an electuary known by the name of majun, whose properties are different from that of opium or its extract, and may account for the want of similitude in the effect of the drug on the Turk and the Chinese. The majun electuary in use in India is variously compounded. In the Panjab, Rajputana, Sind, Cutch, Gujerat, Hindustan, the Mahratta country, in Telingana, by some of the various races, also in Assam, in Burma, as also among the Chinese and the Malays, it is being more and more used in various forms as a nervous sedative, and in Rajputana, Assam, Burma, and China to such an extent as to occasion anxiety in the minds of many regarding the future of the races using it. The Tamil, a Dravidian people of the south of India, and the Aryans of India, do not, however, use it in any form. It is a matter of race proclivities, and the Indo-Germanic tribes of Europe have never taken to it.

In China, since the early part of the 19th century, the emperors and the literati have been striving to restrain the people from its use, and the rude efforts to effect their object have twice brought on them unfortunate wars with Great Britain. But the action taken by the Chinese towards foreign importers has neither evinced a knowledge of man's wants, nor has it been in keeping with their treatment of their own peasantry, who are cultivating the poppy all over China, and two-thirds of the opium used in that country is of native manufacture.

The craving for a nervous stimulant to remove fatigue, to allay irritability, to lighten care, and to dispel gloom, is universal, and seeks satisfaction in many ways, as in the use of alcohol, hemp, opium, tobacco, tea, coffee, chloral hydrate, eau-de-Cologne. The mind often seeks a lull,—there is a natural craving for some soothing stuff. The Chinese authorities strove to prevent its importation, but a great national appetite for any article of consumption has its foundation in the real wants of the people, who manifest a predilection for it. So long as man demands temporary confusion of mind and oblivion of his woes and cares, so long will he find means of obtaining these ends, and smugglers in armed opium-clippers landed it along the coast. It would have been possible for them to prevent the poppy being grown in China, seeing that three months are required for its ripening; and the Indian Government adopted this plan with regard to many of its provinces by Act 1 of 1878, which provides that, except in districts specially exempted, no one shall cultivate the poppy, manufacture, possess, or transport opium, under pain of imprisonment and fine.

In excess, as with other excesses, the effect can only be injurious. But, as Consul Lay says, 'in China the spendthrift, the man of lewd habits, the drunkard, and a large assortment of bad characters, slide into the opium-smoker, hence the drug seems to be chargeable with all the vices of the country.' The moderate use of opium is not only not injurious, but has a beneficial effect on the constitution, improving the health, and warding off sickness. And Consul Gardner, who visited many opium saloons, tells us of the Protestant Christians, who are prohibited opium, and are dissuaded from early marriage, that many die from consumption. Chinese told him that they took to opium-smoking to check blood-spitting.

Dr. Frederick Porter Smith, M.B., a medical missionary in China, tells us that the moderate use of the opium pipe is not incompatible with the health of those who practise it. He adds, however, that the positive necessity of improving or increasing the extract used leads to the loss of the volitional, digestive, and sexual powers, or, in other words, to the gradual degradation of the man. Consul Gardner himself smoked opium for a time, but suddenly stopped it, and suffered inconvenience. But a moderate opium pipe soothes the system, lessens coughs and consumptive tendencies, and is a prophylactic against marsh fever and malaria generally. Mr. Storrs Turner characterized it as 'a pacific and polite vice.' Similar to the smoking of tobacco, cigars, or cavendish, opium-smoking entices away from the use of ardent spirits. Before its introduction into China, there was a great deal more of intemperance from alcoholic intoxicants than is now to be seen in the land. Excess of ardent spirits is, in any country, more injurious than excess in tobacco or opium-smoking. On the average European who is accustomed to smoke tobacco, the smoking of opium in the Chinese fashion will not have any perceptible effect.

Maharaja Narendra Krishna says that many of the elderly and old Hindus of Bengal take opium, and that not a few young men wean themselves from drinking habits by betaking themselves to opium. When taken by the camel-feeders in the sandy deserts of Western Rajputana, it enables the men to subsist on scanty food, and to bear without injury the excessive cold of the desert winter night, and the scorching rays of the sun. Opium in Rajputana acts as a preventive of malarious fever. In the fens of England, a whole population use opium as a prophylactic against ague.

Extract of Opium is the form in which, in China, Further India, and the Archipelago, the drug is employed in opium-smoking. This is known in the Straits Settlements as Chandoo. It is called by the Chinese Yen-kau, also Shuh-yen. More of

the extract is said to be got from the Sze-chuen opium than from the Indian product. Chandoo is usually made by the keepers of the opium saloons, who are heavily taxed and squeezed. Rich people and Buddhist priests make their own chandoo.

The opium, as received at Singapore from Calcutta, is in boxes containing forty balls, each of the size of a 32 lb. cannon shot. These balls are enclosed in a husk of compressed poppy leaves, and contain a certain quantity of moist opium inside, but which in this state is unfit for consumption, for which it is prepared by four processes, in the following manner:—About three or four o'clock in the morning, fires are lighted, and, as the *first* process, a ball is divided into two equal halves by one man, who scoops out with his fingers the soft part inside, and throws it into an earthen dish; frequently during the operation moistening and washing his hands in another vessel, the water of which is carefully preserved, into which also is thrown the hardened poppy leaf husks, when all the removeable opium is obtained. In the *second* operation, the husks are boiled until all their adhering opium is dissolved, and then strained through a double filter of cloth and China paper. The strained fluids are then mixed with the opium that was scooped out in the first operation, and boiled down in a large iron pot to the consistence of treacle. The refuse is dried and sold to Chinese, who adulterate good opium with it; and the filter paper is used by the Chinese as an external application in affections of the lower bowels. In the *third* operation, the dissolved treacle-like mass is seethed over a charcoal fire, strong and steady but not fierce temperature, during which it is worked, spread out, and again and again worked up to expel the water, but prevent it burning. When brought to the proper consistence, it is divided into half-a-dozen lots, each of which is spread like a plaster on a nearly flat iron pot, to the depth of from half to three-quarters of an inch, and then scored in all directions to allow the equal application of heat. One pot after another is then placed over the fire, turned rapidly round, then reversed, so as to expose the opium itself to the full heat of the red fire. This is repeated three times, the time and proper heat being judged by the workman from the aroma and colour. In this part of the process the greatest delicacy is demanded, for a little more or less fire would destroy the morning's work, or 300 or more dollars' worth of opium. The head workmen in Singapore are men who have learned their trade in China, and from their great experience are paid very high wages. The *fourth* operation consists in re-dissolving this fired opium in a large quantity of water, and boiling it in copper vessels till it be reduced to the consistence of the chandoo of the shops, the degree of tenacity being the index of its complete preparation, which is judged of by drawing it out by slips of bamboo. The quantity of chandoo obtained by the soft opium is about 75 per cent. But from the gross opium, that is, including the opium and the husk, the proportion is not more than from 50 to 54 per cent. In this lengthened seething process, the chandoo or extract becomes less irritating and more soporific, the vegetable matter, the resin and oil, the extractive matter and a little opium, being all thrown out *in the refuse matter. The quantity of the extract* or chandoo obtained from opium depends much on the skill of the workman. But the produce from new opium is almost 10 per cent. higher than from old. Malwa and Persian opium yield almost equally; and the opiums of the Chinese districts all vary. In 1881, Surgeon-Major Sheppard analyzed samples of Shan-si and Amoy opium, and found them yielding a better extract than Patna or Behar, but deficient in aroma. The burning of this extract, in an incomplete manner, as is carefully practised by the Chinese, yields a smoke, containing sundry incomprehensible empyreumatic compounds unknown to the chemist, but producing by absorption into the pulmonary vessels a soothing torpor. The person about to use the pipe lies down and lights the drug at the flame of a candle; the shrivelled skin of the emaciated, confirmed opium-smoker fills out with a soft warmth, the breathing becomes full, the pulse slow and full, and in a few minutes there is a seeming loss of consciousness. The habit can be and is frequently broken off. The use of ammoniated valerian tincture, the employment of nux vomica and other tonics, the temporary smoking of the powdered root of the Aucklandia costus, and above all, the regular provision of wholesome food for both body and mind, are among the plans which may be adopted, along with occasional disciplinary measures, for the cure of the habit.

An adulterated chandoo is prepared on a large scale by mixing the ashes of the opium pipe with the raw opium, which facilitate the making of the watery infusion, and this is further filtered and evaporated to the consistence of a thin extract, which is combustible in the opium pipe held in the flame of a small lamp. This extract, when consumed, leaves a refuse, consisting of charcoal, empyreumatic oil, some of the salts of opium, and a part of the chandoo not consumed. One ounce of chandoo gives nearly half an ounce of this refuse, called tye or tinco. This is smoked and swallowed by the poorer classes, who only pay half the price of chandoo for it. When smoked, it yields a further refuse, called sam-shing, and this even is used by the still poorer, although it contains a very small quantity of the narcotic principle. Sam-shing, however, is never smoked, as it cannot furnish any smoke, but is swallowed, and that not unfrequently mixed with arrack. Nothing is lost by the Chinese practised manipulator. From the ash about 50 per cent. of a smokeable extract is obtained. It is this adulterated article that enables the opium saloon to sell opium at apparently cost price, the ash paying for the light, attendance, house rent, and profit. Chandoo has never been analyzed; it is often adulterated; 75 per cent. is obtained from soft opium, 50 to 54 per cent. from the gross opium, *i.e.* including the husk. In the lost portion, what has disappeared of the opium alkaloids—morphia, narcotine, codeia, etc.—has never been shown, nor what is the composition of the resulting chandoo. Sir George Birdwood says that none of the active principles of opium are volatilizable, *i.e.* smokeable; and what chandoo smoke is remains unknown. Chandoo is largely exported from China.

Adulteration.—The value of opium increases for a short time by age; but this soon ceases to be the case, and Turkey opium in particular deteriorates unless carefully preserved from the air. To be enabled to judge of good opium, one must be

well acquainted with the different varieties of it, their respective colours, tastes, and textures, as well as the natural degree of moisture, and see that no mechanical admixtures are apparent, nor left on a filter. The modes of adulterating opium are various: Pounded leaves, catechu, cow-dung, coarse sugar, and many other ingredients, are used for this purpose.

Dr. Royle says the most injurious fraud is that of washing out the soluble and most valuable parts of opium, and bringing the residual mass for sale. In this case the opium loses its translucency and redness of colour, also its adhesiveness. Sand, clayey mud, sugar, molasses, cow-dung, datura leaves, the glutinous juice of Ægle marmelos, and even pounded poppy seed, are employed to adulterate opium. Malwa opium often contains oil and other matters obtained by the expression of the poppy heads. Some kinds of opium from which morphia has been extracted have been occasionally met with in European commerce. Adulteration, in China, is by adding mud, sesamum, and hemp seeds, and an extract from the fruit of the Sophora Japonica; but the Rev. Dr. F. P. Smith, M.B., says it is less tampered with than foreign opium.

In the Indian drying room, the balls of opium are liable to be attacked by weevils during moist winds.

Opium greatly varies as to its alkaloids. Sir W. O'Shaughnessy found that the morphia and narcotine in the Behar opium ranged from 1¾ to 10¾ per cent. The Pharmacographia notices sixteen natural alkaloids.

It may be said that a percentage of the population of the Panjab, of Rajputana, of Telingana, the Central Provinces, and the Mahrattas use opium,—the infants most largely. Deputy Surgeon-General Moore, during 1870, found 6·73 per cent. of the out-patients at Rajputana dispensaries using opium in the form of a solution or cold infusion, called amal-pani. In another inquiry, however, he found the percentage 11·32 out of 36,636 persons to be —males, 63·32; females, 10·74; children, 25·94. He found that all children get amal-pani. Other forms than amal-pani are only ·31. Those using opium in Rajputana do not, as a very general rule, indulge in alcohol.

In Burma it is smoked, and the quantity imported has greatly increased, even more rapidly than the population. The consumption there of 1869 was doubled in 1879, while the population of 1868-69 was 2,395,985, and in 1878-79 it was 3,088,902. There is a continuous flow of immigrants from China (the Chinese in 1881 numbered 11,314), and their use of the opium pipe is without any bad results. Amongst the Burmese, however, the demoralization, misery, and ruin produced by opium-smoking presents a painful picture. The Chinese in Burma are diligently engaged in all the avocations of life. The Burmese, at all times indolent and averse to regular labour, can support themselves by working one day in three, and they have been unable to resist the temptation.

In the British settlement of Singapore, owing to the high rate of wages, and the prevalence of a Chinese population, the consumption is at the rate of about 330 grains a year for each person. In Java, where the Chinese do not compose above one in a hundred of the population, and where wages are comparatively low, it does not exceed 40 grains. In China, Mr. Brereton estimated that, in 1881, out of a population of 400,000,000 the opium-smokers were 3,000,000. Of these, the smokers of foreign opium are estimated at 1,000,000. The total estimated value of the opium smoked is £25,000,000 sterling, viz. Indian, £16,800,000; Chinese, £8,400,000. At these estimates, the smokers of foreign opium spend 11d. per man daily, and the smokers of Chinese opium 2¾d. daily.

Sir Robert Hart's introductory note to the reports and statistics on opium and opium-smoking says:—'In round numbers, the annual importation of foreign opium may be said to amount to 100,000 chests, or, allowing 100 catties to each chest, 10,000,000 catties (the catty is the Chinese pound; one catty is equal to one pound and a third avoirdupois). When boiled down and converted into what is known as "prepared opium," the raw drug loses about 30 per cent. in weight; accordingly, 10,000,000 catties of the unprepared drug imported reach the hands of retailers as, say, 7,000,000 catties of prepared opium. The catty is divided into 16 liang (ounces), and the liang into tenths called mace; in 7,000,000 catties there are, therefore, 1,120,000,000 mace of prepared opium for smokers. Before reaching the smoker, opium pays the Chinese Government import duty and likin taxes amounting to, say, 100 taels, and is then sold at, say, 800 taels of Chinese sycee or silver (£3 = 10 taels) per 100 catties; thus the total quantity retailed—*i.e.* imported—may be said to be paid for with 56,000,000 taels, or £16,800,000, and one mace of prepared opium is consequently worth, say, about 3½d. (English). Divided by the number of days in the year, the quantity of prepared opium smoked daily may be said to be 3,068,413 mace, and the value 11,046,573d. or £46,027. Average smokers consume three mace of prepared opium, and spend about 10¾d. daily. This quantity is the same as 6-15ths of an ounce avoirdupois, and suffices for from 30 to 40 pipes —*i.e.* whiffs, draws, or inhalations. If we divide the total number of mace consumed daily by the total quantity each average smoker consumes daily, we find that there are in round numbers above 1,000,000 smokers of foreign opium. The population of China is spoken of as amounting to more than 400,000,000, and may fairly be pronounced to be something above 300,000,000. Estimating the population at 300,000,000, and opium-smokers at 1,000,000, and proceeding with the calculation, the result is that 3⅓ in every 1000 smoke, —that is, that opium-smoking is practised by one-third of one per cent. of the population. In addition to the foreign drug, there is also the native product. Reliable statistics cannot be obtained respecting the total quantity produced. Ichang, the port nearest Sze-chuen, the province which is generally believed to be the chief producer and chief consumer of native opium, estimates the total production of native opium at 25,000 chests annually; while another port, Ningpo, far away on the coast, estimates it at 265,000 chests. Treating all such replies as merely so many guesses, there are, it is to be remarked, two statements which may be taken as facts in this connection: the one is that, so far as we know to-day, the native opium produced does not exceed the foreign import in quantity; and the other, that native opium was known, produced,

and used long before any Europeans began the sale of the foreign drug along the coast. Granting, then, that the native product equals the foreign import, and that 100,000 chests are produced annually, and granting also that this quantity, when prepared, provides 1,120,000,000 mace of prepared opium for the annual consumption of 1,000,000 additional smokers, the number of opium-smokers in China may be said to be in all 2,000,000, or two-thirds of one per cent. of the population. The native product sells for one-half the price obtained for the foreign drug, and may be estimated to be paid for with, say, £8,400,000 by 1,000,000 smokers, who spend about 5¼d. a-piece daily. The total amount spent by China on this luxury produced at home and imported from abroad is thus, say, £25,000,000 annually.

'Examined in this way, the results arrived at are that 200,000 chests, or almost 13,000 tons (1680 catties=1 ton), of unprepared opium are consumed annually by 2,000,000 opium-smokers; that these smokers expend £25,000,000 on opium; that this is an expenditure of, say, from 5d. to 11d. daily by individual smokers; and that all the smokers amount to only two-thirds of one per cent. of the population. If more than three mace a-piece is consumed daily by smokers, then smokers are less numerous; if less than three mace, then smokers are more numerous, and smoking individually less harmful. The truth is that many smoke more than three mace and many less, but from the statistical point of view it is safe to say that opium-smokers in China constitute simply two-thirds of one per cent. of the population. On the supposition even that the quantity of native opium produced is ten times that of the foreign opium imported, the total will not yet suffice for the consumption of even four per cent. of the population. Four per cent. is a small percentage, but in China it means 12 millions of people. It is hardly credible, however, that native opium is produced in such quantity; but whatever the number of opium-smokers may really be,—and allowing that many people smoke without injury,—there must in any case be a percentage of smokers for whom the habit works nothing but evil.

'Chinese who have studied the opium question are opposed to a traffic which more or less harms smokers, now numbering, say, over two millions, and annually increasing; at the same time, they admit that opium provides a large revenue, that expenditure for opium and liability to the incidence of opium taxation touch an infinitesimally small percentage of the population, and that neither the finances of the State, nor the wealth of its people, nor the growth of its population, can be specially damaged by a luxury which only draws from 5d. to 11d. a-piece a day from the pockets of those who indulge in it, and which is indulged in by only two-thirds of one per cent. of the population. They admit all this, but they do not find in either the revenue produced or the statistical demonstration of its percentage innocuousness, any sufficient reason for welcoming the growth of the trade or for desisting from the attempt to check the consumption of opium.'

The opium sold by public auction in Calcutta is termed 'provision' opium. This is mostly exported to China. But in addition to the quantity exported, about 4000 chests of Bengal opium are consumed in India. This is termed 'abkari.'

During the twenty years up to 1881, the annual average production of 'provision' opium was 50,154 chests, and in that period the price of crude opium varied from Rs. 4.8 to Rs. 5 a seer. The actual cost of a chest of Bengal opium, including interest on the capital and all indirect charges, is as follows:—

	Behar.	Benares. At 70°.
68 seers 2 chittak at 75° consistence, equals 73 seers at 70° consistence, at Rs. 5 per seer, ...	Rs. 365	Rs. 341
Cost of manufacture and packing, interest on capital, charges for pensions, and leave allowances of officers, .	71	66
	Rs. 436	Rs. 407

Being an average of Rs. 421.

The weight of a chest is 140 lbs. avoirdupois. The average price realized on a chest of Bengal opium for the ten years ending 1880–81 may be taken at Rs. 1280; the average profit, therefore, may be taken at Rs. 1280 − 421 = Rs. 859. Malwa opium is a product of that native state, and as it passes through a British Indian port for shipment, the British Indian Government levies a duty on it of Rs. 700 a chest. The average number of chests of Bengal opium sold in the ten years up to 1880–81 was 49,337. But in 1881 the quantity being offered for sale was 56,400 chests. To secure a continuous supply of 56,000 chests of Bengal opium yearly, the Government of India maintain a reserve. The quantity so stored was in 1881 only 21,752 chests, while in 1878 it had been 48,482 chests.

The *British Indian* income from the opium monopoly is obtained by two principal means, namely, by a system of allowing the cultivation of the poppy by the natives of British India on account of Government, and by the impost of a heavy duty on opium grown and manufactured in foreign states, but brought in transit to a British port for exportation. The former system obtains in Bengal, the latter in Bombay. According to the statements published, Bengal opium yields a profit of 7s. 6d. per lb., whilst the duty levied in Bombay Presidency is only equal to a surplus of 5s. 8d. per lb.

The gross revenue, the expenditure charges, and the net revenue on account of opium in the Bengal and Bombay Presidencies from 1870–71 to 1880–81 are as under. The receipts from provision opium and the cost price of opium sold to the excise department are included. The receipts realized by the provincial governments on the sale of opium are not included.

	Gross Revenue.	Expenditure.	Net Revenue.
1871–72, .	£9,253,859	£1,596,646	£7,657,213
1872–73, .	8,684,691	1,814,268	6,870,423
1873–74, .	8,324,879	2,001,280	6,323,599
1874–75, .	8,556,328	2,341,282	6,215,046
1875–76, .	8,470,591	2,217,851	6,252,740
1876–77, .	9,122,428	2,841,644	6,280,784
1877–78, .	9,182,603	2,659,504	6,523,099
1878–79, .	9,397,762	1,697,792	7,699,970
1879–80, .	10,317,300	2,067,492	8,249,808
1880–81, .	10,479,942	2,028,757	8,451,185

The receipts by the Government of India, under the head of opium, include three items, viz. (1) the money realized at the Calcutta auction sales; (2) the receipts from the Malwa pass duty; (3) the cost price money credited by the excise department to the opium department. For the ten years up to 1881, the re-sale under the excise

regulations, on account of the sale of Bengal opium, amounted to £381,000.

The revenue of British India from this source is doubtless a very serious amount to risk, but the following will show that it had risen with a bound since 1840, after the first war, and also possibly since steam-ships replaced the sailing clippers:—

	Gross Revenue.	Expenditure.	Net Revenue.
1800–01, . .	£372,502	£105,381	£267,121
1810–11, . .	935,996	96,188	839,808
1820–21, . .	1,436,432	135,726	1,300,706
1830–31, . .	1,341,988	319,964	1,022,024
1840–41, . .	1,430,499	556,222	874,277
1850–51, . .	3,795,300	1,044,952	2,750,348
1860–61, . .	6,676,759	918,467	5,758,292

The prices obtained for the opium have, as with other products, varied with the demand. Between 1850–51 and 1880–81, the average price per chest of Bengal opium realized in each year at the Government sales has ranged from between £74, 8s. and £184, 13s. 11d.; and as the chest contains 140 lbs., these prices rule from about 10s. 6d. to £1, 7s. the lb. avoirdupois.

The opium monopoly of the British Indian Government is deemed essentially necessary as a source of revenue, but in its present form is a protection of the most intense description. Licensed cultivators are permitted to cultivate the poppy, but the juice must be sold to Government at a certain fixed price. It is manufactured into opium in the Government factories at Patna and Benares, and then sent to Calcutta, and sold by auction to merchants, who export it to China.

This action of the British Indian Government in manufacturing and selling opium knowingly for the Chinese market has been stigmatized as forcing opium upon China against the action of its Government; and the opinion has been advanced that the importation of opium into China by Christian people throws obloquy on the Christian religion, and discourages the efforts of Christian missionaries; also that it is unworthy of a great Government to interfere in commercial matters by exercising the Bengal monopoly, and that it is to its discredit to make profit in this direct manner out of a traffic which is open to grave moral objections.

The monopoly of cultivation is undoubtedly intense, but it is replied that it is limited to certain districts in Bengal; and in the 575,263 square miles of territories of native princes, it is, so far as regards the British Indian Government, wholly free, the fiscal right of taxing it in transit being alone imposed. And it is now known that since many hundred years the poppy has been grown in China for its opium, which is being produced there in quantities in at least double the quantity exported from British India. It has been suggested that the British Indian Government should substitute an excise duty for its monopoly. But the British Indian opium keeps its place in China for its excellence, and under any excise system its position would undoubtedly be lost amongst the Chinese, its greatest consumers.—*Simmonds; Jour. Ind. Archip.* January 1848; *Les Anglais et l'Inde*, p. 251; *Powell's Handbook; Cameron; Tod's Rajasthan*, ii. p. 630; *M'Culloch's Dict.; O'Sh.; Smith's Mat. Med.; Bonynge, America; Annals of Indian Administration; Williams' Middle Kingdom*, ii. pp. 286, 383; *Hooker's Him. Journal*, i. p. 83; *Malcolm's Central India*, iii. p. 45; *Crawfurd's Dict.; Mason's Tenasserim; Morrison's Compendious Description; Royle's Mat. Med.; Dr. Impey on the Cultivation of Opium in Malwa; Dr. Little on the Opium Manufacture at Singapore, in Journal of the Indian Archipelago; Dr. Butter, in Journal Ben. As. Soc.* p. 136; *Mr. Caine; Mr. Edkins; Consul Gardner; Mr. Carnegy; Dr. Lyell; F. A. Fluckiger and Daniel Hanbury, Pharmacographia*, London 1874; *Sir Robert Hart, Inspector-General of Customs at Pekin; Mr. J. Aicheson's Report; Jameson's Edinburgh Journal*, 1819; *Medhurst's Far Cathay; Lockhart's Medical Missionary; Doolittle's Social Life; Muirhead's China; A. E. Moule's Essay on Opium; Experimental Culture*, 1874–76; *Behar Agency Report*, 1867; *Attacks of Heliothis armigera*, 1878; *Records, Finance Depart.* 1871; *Records of Government*, 1873; *Persia Consular Report*, 1882; *Parliamentary Papers*, 1882.

OPIUM-CLIPPER, a quick-sailing vessel, formerly employed in smuggling opium from India into China. The opium from India was stored in receiving ships, to be trans-shipped into opium-clippers equipped for fighting their way, and partly into Chinese craft; and it was by the latter that the smuggling was conducted, the proceedings of the opium-clippers being more in the way of a traffic at various points on the Chinese coast, carried on openly, and, where necessary, in open defiance of the Chinese authorities.—*Simmonds.*

OPLISMENUS, a genus of plants of the order Panicaceæ. O. Burmanni, *Rom. and Sch.*, grows in Bengal, as also does O. colonus, *Kth.*, called in Bengali, Shama; cattle are very fond of it. Enormous islets of living water-grasses, as Oplismenus stagninus and other plants, float on the Megna river. O. lanceolatus, *Kth.*, and O. strictus, *Sch.*, are also Bengal plants. Oplismenus stagninus is cultivated in gardens at Kotah.

Oplismenus frumentaceus, *Roxb.*

Panicum frumentaceum, *Roxb.*

Damra-shama, . . BENG.	Samaka, ... HIND.
Shama, ... ,,	Sanwak, ... ,,

Several varieties of this grass are cultivated in British India; cattle are fond of it, and the seeds are wholesome and nourishing, and constitute an article of diet amongst the poorer people; in a good soil, it yields about fifty fold. In the Panjab it is a cultivated cereal, uncommon out in the plains except Cis-Sutlej, and common in places in the eastern part only of the Panjab Himalaya, but its grain is considered heating, and it is one of the poorer of the millets.—*Hooker; Genl. Med. Top.; Roxb.; Voigt; Stewart.*

OPOBALSAM, Balsamum Egyptiacum.

Akuyila-semun-i-rumi, AR.	Opobalsamo, ... IT.
Balisan, ... EGYPT.	Bals. verum album, LAT.
Balm of Gilead, . . ENG.	Judaicum de Mecca, ,,
Balm of Mecca, . . ,,	Roughan-i-Balsan, PERS.
Balsamier de la Meque, FR.	

Balm of Mecca is procured from the Balsamodendron Gileadense, a middle-sized tree growing in Arabia, also from the Balsamum Berryanum. There is but little of the true balm of Gilead which reaches Britain. The same may be said of another of the terebinthine resins, B'dellium, which is obtained from India and from Africa. The best Opobalsamum is obtained from the greenish liquor found in the kernel of the Balsamum Berryanum. An inferior quality of Opobalsum is obtained by expression from the fruit of Amyris Gileadensis when the fruit is at maturity. The carpobalsamum

of the ancients was from the fruit of the Amyris Gileadense. It is a liquid gum-resin, obtained from the Amyris Gileadensis, a tree found in Arabia, Abyssinia, and Syria. It is first turbid and white; of a pungent smell resembling turpentine, but sweeter; and of a bitter, acrid, astringent taste. When old, it becomes thin, limpid, of a greenish hue, then of a golden yellow, and at length of the colour of honey. It is chiefly used as a cosmetic by the Turkish ladies.—*M'Culloch.*

OPOIDIA GALBANIFERA, of the tribe Symrneæ; its gum occurs in commerce in agglutinated plastic masses. It is hot, acrid, and bitter, and in properties resembles asafœtida, but weaker. —*M'C.; Royle, Ill.; O'Sh.*

OPONE of Ptolemy, Cape Guardafui, the Jurd-Hafun or Gurd-Hafun of the Arabs.

OPOPONAX.

Jawashir, AR., H., PERS.	Opoponace, ... IT.
Peh-chi-hiang, . . CHIN.	Gawsher, ... PERS.
Panax gummi, . . GER.	Opoponaca, ... SP.

A gum-resin obtained from the stalks of Opoponax chironium, a tall plant. According to Pelletier's analysis, 100 parts contain—resin 42, gum 33, starch 4, extractive and malic acid 4, volatile oil 5, with traces of caoutchouc and wax, and 9 of woody fibre. The sp. gr. 1·622; with water it forms a milky fluid. Opoponax is derived from ὁπος, juice; παν, all; and ἀκος, a remedy,—meaning that it is a remedy for all diseases. In action it resembles asafœtida, but is much feebler. The plant occurs in dry fields in the south of Europe and Asia Minor. The milky juice which exudes from the root when wounded, hardens into a fœtid gum-resin. Jawashir is imported into India from Arabia, and into England from Asia Minor. The resin is found in all the bazars of Bengal, and is even exported from British India to Europe. Jawashir in the bazars of Baghdad sells for 10½d. per lb., and is imported from Persia.—*O'Sh.; M'Cull. Com. Dict.; Powell.*

OPOSSUM of Australia is the Phalangister vulpina. The long-tailed flying opossum of Australia is the Belidens flaviventris. It is also called the flying squirrel, also the yellow-bellied flying phalanger. The opossum is the only marsupial which seems to hold its ground in the presence of animals of the old world. It is found throughout Australia, New Guinea, and the Moluccas, and has become more numerous in the settled districts of New South Wales than when the continent was first settled. This is probably owing to their taking up their abode in the forest trees, whence they also derive their food, so that they are not liable to the attacks of beasts of prey.

OPUNTIA, a genus of plants of the order Cactaceæ, several species of which have been introduced into British India, from the West Indies, Peru, and Brazil.

O. Braziliensis, *D.C.*, from Brazil, with large greenish-yellow flowers.
O. cochinellifera, *Haw.*, syn. of Cactus cochinellifer of S. America, with the petals bright rose-coloured at several seasons of the year. It is one of the plants employed in the W. Indies for rearing the cochineal.
O. curassavica, *Haw.*, syn. of C. curassavicus, *L.*, from Curaçoa, with large yellow flowers, 1½ inch across.
O. cylindrica? *D.C.*, syn. of *C.* cylindrica, *Lam.*, from Peru, with largish scarlet flowers.
O. Dillenii, *Haw.*, syn. of C. Dillenii, *Ker*, and C. Indicus, *Roxb.*, from S. America, is the Nagphana of Bengal, and the prickly pear of Europeans in India; wild cochineal insect thrives on this plant.
O. elatior, *Haw.*, from S. America, with large purplish-yellow flowers.
O. ficus Indica, *Haw.*, from S. America, syn. of C. ficus Indica, with large sulphur-yellow flowers.
O. leucantha, *Hort., Berol.*
O. nigricans, *Haw., D.C.*, C. tuna, β nigricans, *B.M.*, from S. America.
O. Roxburghiana, syn: of C. Chinensis, *Roxb.*
O. rubescens, *Salm.*, from Brazil.
O. triacantha, *D.C.*, from S. America.
O. tuna, *Haw.*, syn. of C. tuna major, *Roxb.*, from S. America, with large reddish flowers. It is the favourite food of the cochineal in Mexico and Brazil, and is the only species employed in the Canaries.
O. vulgaris, *Haw.*, syn. of Cactus opuntia, *L.*, Southern States of N. America, cultivated in Europe, where its fruit is called the Indian fig.

Dr. Fontana, in the Asiatic Annual Register for 1799 (reprinted in Pennant's Indian Recreations), mentions both the Manilla and Chinese opuntias, and states that the cochineal insect cultivation was extended in Bengal; but in 1795 only 5 rupees a seer, and in 1797, 7 rupees a seer, were given for Bengal cochineal, when Mexican was selling at about 16 to 20 rupees. Dr. Fontana states the Bengal Cocus sylvestris contained only from 9—16 to 10—16 parts of the colouring matter contained in the Mexican, and the cultivation was given up.—*Roxb.; Royle, Ill.; Muller; Voigt; Eng. Cyc.*

ORA, a large tree of the Society Islands; from the bark a brown cloth is made.

ORACHE, or Mountain Spinage, one of the Chenopodiaceæ. Of these there are several varieties, commonly known as red and green sage; the leaves are slightly acid; both sorts are boiled as spinage, but the red is most esteemed. Propagated by seed; no particular soil required.—*Riddell.*

ORAKZAI, a Pathan tribe, residing in Tirah, intermingled with the Afridi, and some of them are found in the hills south of Peshawur. They are to be met with to the north-west of Kohat, near the Hungoo valley. It was a malik or chief of this tribe who conducted Nadir Shah and a force of cavalry by the route of Chura and Tirah to Peshawur, when the principal road through the hills was defended against him.

ORANG, a Malay word meaning a people, a race.

Orang Baju, or Baju Laut, seafaring people.

Orang Binua, the people of the country, the aborigines. The Malay of the Peninsula often designate, by the term Orang Binua, the Udai, Jakun, Mintira, Sakai, and Besisi, the five tribes occupying the lands around the lofty Gunong Bernum, or Bernum Hill.

The Orang Binua of Johore occupy all the interior of Johore over which the Tamungong rules. They also possess the interior of the most southerly portion of Pahang. They occupy the upper branches of the rivers Johore (the Lingiu and the Sayong), Binut, Pontian, Batu Pahat or Rio Formosa (the Simpang Kiri, Pau, and Simrong, with their numerous affluents), and Indau (the Anak Indau, Simrong, and Made), with the country watered by them. By means of these rivers a constant communication is maintained between the families of the Binua on the two sides of the Peninsula. No Binua were found on the river Johore below the junction of the Sayong

and Lingiu. There are none on the Pulai; and the aboriginal families on the Tamrao and Sakodâi, which fall into the old Straits of Singapore (Orang Sabimba) were, about A.D. 1840, imported by the Tamungong from the islands of Battam to the south of Singapore, for the purpose of collecting taban (gutta-percha). The river nomades (Biduanda Kallang or Orang Sletar) and the sea nomades (Orang Tambusa), termed also Orang Laut and Ryot Laut, people of the sea, etc., who lurk about the estuaries and creeks of the Johore, Libbam, and other rivers along the southern coast of the Peninsula, are distinct from the Orang Binua, and cut off from all communication with them. Binua have never been known on the upper part of the Sidili, although it has its source in the same mountains where the Johore and the Made rise. On the north-west they do not extend beyond the Simpang Kiri and Pau.

About half a day's walk from the source of the former rises an affluent of the river Muar, called Sungei Pago, which gives its name to a tribe found on its banks and amongst the adjacent hills. The Binua describe the Orang Pago as a wild race, naked, without houses, shunning all intercourse with the Malays, and having very little intercourse even with them. They are probably a secluded and rude branch of the Udai, or of the Jakun.

Orang Gunong, people of the mountains, hillmen of Malay Peninsula and Banca.

Orang Gugu and Orang Kubu are two uncivilised races in the interior of Sumatra.

Orang Laut or sea-people, also called Ryot Laut, are similar in their habits to the Baju Laut, and are found upon the coasts of Borneo and Celebes; but, though belonging to it, they can scarcely be said to inhabit the island, for they live entirely in their little prahus, and sail about the coasts. They subsist principally by fishing, and it is said that they were always ready to give information to the piratical rovers. The arms of the Orang Laut are the limbing, or lance; the tampuling, a large hook; the kujore, a sort of spear with a very broad head, used in fishing; and the serampong, a sort of prong. In Borneo, three distinct tribes live in prahus, and wander about the shores of the island,—the Lanun from Magindanao, and the Orang Baju and Orang Tidong, source unknown. The Dyak are the Orang Binua, or aboriginal inhabitants of Borneo. They are scattered in small tribes over the face of the island, those inhabiting the banks of the large rivers being generally under the dominion of one more powerful than the rest; but the tribes which reside in the depths of the forests, where the communication between them is more difficult, are generally perfectly distinct from each other.

Orang Malayu is the Malay race.

Orang Menangkabau, the people of Menangkabau.

Orang Selat, the Cellates of Valentyn, men of the Straits of Malacca; Selat, MALAY, a strait. These seem the same with the Orang Sletar, originally, with the Biduanda Kallang, joint occupants of Singapore. They speak a Malay dialect with a guttural accent.

Orang Rawa, a people of Rawa, Raw or Ara in Sumatra, immediately to the north of Menangkabau, and penetrated by the large but scarcely navigable river Rakan.

Orang Selong, a maritime people of the Malay Archipelago.

ORANG UTAN, MALAY, lit. wild man, is the name by which the species of Pithecus (Simia of Linnæus) are known to the people of Borneo and Sumatra, and also to Europeans. They live on the low flat plains of those great islands where the forests are densest and most sombre. The Bengal Asiatic Society's museum received from Sir James Brooke of Sarawak, seven skeletons of large adult orang-outangs; and Mr. Blyth distinguished from them the species Pithecus Brookei or Mias rambi, P. satyrus or Mias pappan, P. curtus or Mias chapin?, P. morio or Mias kassar, P. Owenii. The different species of these animals do not appear to inhabit the same district; and seemingly P. Owenii represents, in the southern part of the great island, the P. morio of the northern part. Jerdon names only Simia satyrus and Simia morio as from Borneo and Sumatra.

P. satyrus of Geoffroy (Simia satyrus of Linnæus) is the red orang. The muzzle is large, elongated, somewhat rounded anteriorly; forehead sloping backwards, slight supraciliary ridges, but strong sagittal and lambdoidal crests. Facial angle, 30°. Auricles small; twelve pairs of ribs; bones of the sternum in a double alternate row. Arms reaching to the ankle-joint. No ligamentum teres in the hip-joint. Feet long and narrow; hallux not extending to the end of the metacarpal bone of the adjoining toe; often wanting the ungual phalanx and nail. Canines very large, their apices extending beyond the intervals of the opposite teeth. Intermaxillary bones anchylosed to the maxillaries during the second or permanent dentition. Height under five feet. It is an inhabitant of the islands of Borneo and Sumatra.

The orang-outang occupies the third place from the highest in the animal kingdom, the gorilla being first, and the chimpanzee second. The most striking feature of the orang is its great size and general resemblance to man. The chest, arms, and hands are especially human-like in their size and general outline. Each individual differs as widely from his fellows, and has as many facial peculiarities belonging to himself, as can be found in the individuals of any unmixed race of human beings. The faces of the more *intelligent* orangs are capable of a great variety of expression, and in some the exhibition of the various passions which are popularly supposed to belong to human beings alone is truly remarkable.

The nest of the orang-outang consists of a quantity of leafy branches broken off and piled loosely into the fork of a tree. He usually selects a small tree, and builds his nest in the top; or he builds his nest low down, often within 25 feet of the ground, and seldom higher than 40 feet. It is usually 2 feet in diameter, and quite flat on the top. The branches are merely piled crosswise, precisely as a man would build one for himself were he obliged to pass a night in a tree top, and had neither axe nor knife to cut branches. Upon this leafy platform the orang lies prone upon his back, with his long arms and short thick legs thrust outward and upward, firmly grasping while he sleeps the nearest large branches within his reach. An orang probably uses his nest several nights in succession, but never after the leaves become withered and dry, no doubt

for the reason that the bare branches afford an uncomfortable resting-place.

The orangs of Borneo fight a great deal. All the old ones are covered with scars inflicted by the formidable canine teeth, which these animals use wholly for defence and offence, since they are fruit-eating, and hence do not employ them in chewing. Their effort is always to seize the arm or head of an enemy, and draw the fingers or lips into their mouth, instead of advancing their own heads to bite.—*Mr. Blyth in Ben. As. Soc. Journal; Jerdon's Mammalia; Mr. W. T. Hornaday in Proceedings Amer. Association.*

ORANGE, Citrus aurantium.

Naranj, ... ARAB.	Madra narranji, MALEAL.
Ch'ang, Kan, . . CHIN.	Laranja, ... PORT.
Apelsin, Pomerands, DA.	Pomeranezu, . . RUS.
Orangen, Oranje, . DUT.	Naga-ranga, . . SANSK.
Pomeranzen, . . GER.	Swadoo naringa, . ,,
Narangi, . HIND., PERS.	Panneh dodang, . SINGH.
Arancia, Melaranee, IT.	Naranja, ... SP.
Jeruklegi, . . MALAY.	Apelsin, Orange, . . SW.
Limau manis, . . ,,	Kichli, Collungi, TAM., TEL.
Jeruk manis, . . ,,	Portakal, . . . TURK.
Jeruk japun, . . ,,	

This is a native of India, being found in the forests on the borders of Sylhet, and also on the Neilgherries and in Orissa, perhaps also in China. The Asiatic names for the orange and lemon also indicate the south and east of Asia as their native country.

The Sanskrit Naga-ranga and the Arabic Naranj are no doubt the Naranja (Spanish), Arancia (Italian), whence we have aurantium and orange; and those for the lemon are Sanskrit Nimbuka, Bengali Nibu, Hindi Nimu and Limbu. Also Persian and Arabian authors do not, as is their wont, give any Greek synonym of either; but of the citron, which is supposed to have been known to the Romans, they say that marseeska is the Yunani, and atrogha the Syrian name, neither of which terms have been traced.

The orange has been largely cultivated, and now includes as varieties, the common sweet orange, the Seville or bitter orange (*var.* Bigaradia), the Mandarine orange of China (*var.* Nobilis, *sub-var.* Mandarinum), the Tangerine (*var.* Nobilis, *sub-var.* Tangerina), Citrus Bergamium, *Risso;* C. dulcis, *Volkmaer.* The Shaddock (C. decumana) and Forbidden Fruit (C. Paradisi) are also sub-varieties. The rind and flowers of C. Bergamium yield the bergamote oil of commerce; and C. Bigaradia, *Duhamel,* yields the neroli oil, so delicious and costly as a perfume.

The orange tree attains a height of 16 or 20 feet, and, like others of the genus, bears the fruit at all ages at the same time with the flowers. Though a native of India, it does not ripen its fruit there until the winter, and hence has been able to travel so much farther north than others of its compatriots. The Coolee orange of China, the Ch'ang of the Chinese, is a large thorny tree, but there is also a small variety. Its fruit has a thin, yellow, closely adhering skin, and fine but rather sharp flavour; marmalade is made of the fruit. The kan or chii or sha-kan of the Chinese is the red-skinned variety, the Citrus nobilis of authors; its rind is connected with the endocarp by many loose threads. It grows in Central China, and its fruit is smaller and sweeter than that of the Cōolee orange; it is used as dessert, and its peel is exported to Japan. In the Dekhan the finest sorts are the cintra, cowlah, and a small sweet orange which grows on a tree more like a creeper. The principal method of culture is by budding, the stocks generally being either seedlings or cuttings from the sweet lime. The best cintra, with a thin close rind, is produced upon the seedling stock, and it is said that the fruit grown upon the sweet lime stock is generally loose and soft; this is very perceptible with some of the oranges. The best time for budding is in the cold season. In Tenasserim, the trees are often exceedingly prolific. A seedling planted produced in the ninth year more than two thousand oranges. In the island of St. Michael, in the Azores, a single tree has been said to produce 20,000 oranges fit for exportation.

The leaves are rather bitter, and contain essential oil. The fragrant oil of neroli is afforded by the flowers. The berries while unripe are gathered, dried, and turned in the lathe to the size of peas, and are used in issues on account of their fragrant odour. The rind or peel is bitter and aromatic, and affords a very useful stomachic tincture and syrup. The juice of the ripe fruit contains sugar, malic and citric acids, citrate of lime, mucilage, albumen, and gum. Like the lemon juice, it makes an excellent cooling drink, and is an invaluable specific in the treatment of scorbutic diseases. The fruit is eaten as a dessert, is candied, and is made into marmalade. When of a small size, the fruit which falls off is dried, and forms the Curaçoa oranges, employed in flavouring curaçoa. One variety of the orange fruit is in high estimation amongst the Tamil medical practitioners, who suppose that it purifies the blood, improves the appetite, and cures catarrh. The wood is only met with as an object of curiosity; it is of a yellow colour, but devoid of smell.

Orange Peel, Chin-pi, Hung-pi, CHIN.; Post-i-Turanj, PERS. This is the peel of the various kinds of orange fruit. It is used as a stomachic, stimulant, antispasmodic.

Orange Zest, or orange threads, the Kiuh-peh or Kiuh-lo of the Chinese, are the dried threads of the fruit that cover the pulp of the sweet orange, prolongations of the endocarp.—*Riddell; Mason; O'Sh.; Ainslie; M. E. J. R.; Tredgold; Royle, Ill.*

ORAON, a tribe in the northern and western parts of Chutia Nagpur proper, in the eastern parts of Sirguja and Jashpur, and scattered in Singbhum, Zangpur, Bonai, and Hazaribagh, all in the Chutia Nagpur province, also in Sumbulpore of the Central Provinces. In the Lohardagga district, which includes the whole of Chutia Nagpur proper, they number 362,480; in Sirguja, about 20,000; in Jashpur, 25,000; and diffused through the other districts mentioned above, employed in the tea districts, and in British colonies, about as many more. They were for many generations settled on the Rhotas and adjoining hills, and in the Patna district, and they have a tradition that when driven from the Rhotas hills, they separated into two great divisions; one of these moving to the S.E. formed a settlement in the Rajmahal Hills, and are now known as the Male or Rajmahali; the other sought refuge to the south in the Palamow Hills, and wandered from valley to valley in those ranges, till they found themselves in Burwai, a hill-locked estate in Chutia Nagpur proper. From there they occu-

pied the highlands of Jashpur, and formed the settlements in the vicinity of Lohardagga, on the Chutia Nagpur plateau, where they still constitute the bulk of the population. This tradition is borne out by the evident affinity in language and similarity in customs of the Oraon and Rajmahali; and though the latter do not acknowledge the relationship, their common origin may be considered as established.

The Oraon are now a good deal interposed between the Kharawa and the Mundah; but though the Kharawa and Oraon are in contact, they are very unlike in language, appearance, manners, and customs. Oraon settlements predominate in the western parts of Chutia Nagpur plateau, and each village group has its peculiar flag. The Oraon are known to the people of the plains as the Dhangar, but Khurnkh is the name by which they designate themselves.

The Oraon are a very small race, but well proportioned. The young men have light graceful figures, and are as active as monkeys. Those residing in isolated positions are generally black or dark and ill-favoured. They have wide mouths, thick lips, projecting maxillary processes, nostrils wide apart, no marked elevation of the nose, and low foreheads, though not in general very receding. The Oraon who dwell in mixed communities have more varied features, and colours softer, fairer, and pleasing when young, and improve in appearance with civilisation. The Oraon, according to Colonel Dalton, have more of the African type of feature, he has seen woolly heads amongst them; and the wild Oraon have almost an ape-like physiognomy, the Jashpur Oraon being the ugliest of the race, with very low foreheads, flat noses, and projecting cheek-bones, and approach the Negro in physiognomy; and in manner the Oraon are more like bright-hearted Negroes, are fond of gaiety, decorating rather than clothing their person; whether working or playing, always cheerful; and young Oraon boys and girls are intensely fond of decorating their persons with beads and brass ornaments, which they discard on becoming Christians. Oraon youths and maidens speedily acquire the songs and the dancing steps of the Mundah. The Oraon are more lively than the Mundah, quite as industrious, and the most active and nimble-footed of dancers. The Oraon have small, ill-built, untidy huts, in which the family reside. But they have in each village of old standing, a Dhumkuria, or bachelor's hall, in which all boys and unmarried men of the tribe are obliged to sleep. Any absentee is fined. In the Dhumkuria, also, is placed all the flags, instruments used in their dancing and other festivals, and in front of it is a clear circular space for the dancing ground. In some Oraon villages, also, the unmarried girls have a house to themselves, with an elderly woman to look after them; she has always a stick in hand.

There is no similarity between the language of the Oraon and that of the Mundah and their cognates. The Mundah is soft and sonorous, while the Oraon is guttural and harsh, and the Oraon language of the Rajmahal Hills and the Tamil have a near connection. The Male and Oraon languages are mainly Dravidian; and although the Male are now confined to the N.E. extremity of the Vindhya, where the Ganges washes and bends round the chain, and are separated from the South Dravidian nations by the Kol, their language is more Dravidian than the Kol itself. The explanation is probably to be found in the circumstance of the Oraon and Male having originally formed an uninterrupted extension of the Gond tribes and dialects that extended from the Godavery to the N. extremity of the Vindhya. In villages east of Ranchee, wholly inhabited by the Oraon, the Mundah, not the Oraon, is the language spoken.

The present customs of the Oraon have been derived from the Mundah, and differ therefore from those of the Rajmahali people, whose isolated position has preserved their ancient ceremonies. The Oraon, when driven from the Rhotas Hills, brought with them to the plateau large herds of cattle, and implements of husbandry previously unknown to the Mundah. The Oraon have no gardens or orchards belonging to individual houses, but they have some fine trees, common property, within the village, and outside their groves of fruit-trees form a beautiful feature of Chutia Nagpur scenery.

The Oraon and the Mundah are in tribes, and both are exogamic, not marrying in their own tribe. Also the tribal or family names are usually those of animals or plants, and when such is the case, the flesh of some part of the animal or the fruit of the tree is tabooed to the tribe called after it. Thus the Tirki must not eat Tirki (young mice); nor the Ekhar, the tortoise head; nor the Kirpotas, the stomach of the pie; nor the Lakrar, tiger's flesh; nor the Kujrar, the oil from that tree, neither sit under its shade; and so with the kite, the crow, the eel, etc.

The young people form attachments, but the elders go through the form of selecting the bride already fixed on by the youth. The marriage ceremony represents their former custom of capture. The bridegroom's party comes to the bride's village in arms, real or imitation. The young men of the bride's village turn out, also armed, to repel the invasion, and, after a little show, a dance forms, during which the couple are each carried astride on the hips of a friend. A bower is constructed in front of the residence of the bride's father, into which the bride and bridegroom are carried by women, and made to stand on a curry-stone, under which is placed a sheaf of corn, resting on a plough yoke. Here the Sindurdan is performed, but carefully screened from view, first by cloths thrown over the young couple, secondly by a circle of their male friends, some of whom hold up a screen cloth, while others keep guard with weapons upraised, and look very fierce, as if they had been told off to cut down intruders, and were quite prepared to do so. The bridegroom stands on the curry-stone behind the bride, but in order that this may not be deemed a concession to the female, his toes are so placed as to tread on her heels. In the marriages of the Oraon, a public recognition that the couple have slept together is a part of the ceremony. Mundah and Oraon marriages as a rule are not contracted until both bride and bridegroom are of mature age, the young people often making love and suiting themselves.

Girls form sisterly attachments with each other; interchanging a flower, each becomes gui to the other. They speak of each other as my gui or my flower. Oraon girls in childhood are

tattooed with three marks on the brow and two on each temple. When about to grow up, they further tattoo themselves on the arms and back. Young men in the Dhumkuria burn marks on their forearms.

Immediately in front of the Dhumkuria is the dancing arena, called Akhra, an open circus about forty feet in diameter, with a stone or a post marking its centre. It is surrounded by seats for tired dancers or non-dancing spectators, and shaded by fine old tamarind trees, that give a picturesque effect to the animated scene, and afford in their gigantic stems convenient screens for moonlight or starlight flirtations. During the festive seasons of the year, dancing at the Akhra commences shortly after dark every night, and if the supply of the home-brew hold out, is often kept up till sunrise.

The Oraon worship the sun under the name of Dharmi, as the creator and preserver, and offer white animals to him in sacrifice. Dara, worshipped by the Oraon and Mundah of Chutia Nagpur, is a carved stick, stuck up where the great jatras are held, or in the village dancing-place, and is worshipped with much revel and wassail, with much drunkenness amongst the old, and dancing and love-making amongst the young.—*Dalton*, pp. 134, 198; *Campbell*, pp. 22, 39.

ORAZIO. Fra Orazio, a friar who travelled in Central Asia.

ORCHHA, also written Oorcha and Urchha, is also known as Tehri or Tikamgarh. It is a native state in Bundelkhand, between lat. 24° 26′ and 25° 34′ N., and long. 78° 28′ 30″ and 79° 23′ E. There are some magnificent tanks in the country, many of them constructed by the ancestors of the ruling family. It is the oldest and highest in rank of all the Bundela principalities, and was the only one of them not held in subjection by the Peshwa. Orcha, its chief town, in lat. 25° 21′ N., and long. 78° 42′ E., is built on the banks of the Betwa. Dacoits obtain shelter in its dense forests.—*Imp. Gaz.* vii.

ORCHIACEÆ, the Orchidaceæ of *Lindl.*, the Orchis tribe of plants, comprising 7 genera and about 2000 species. Of these, there are about 1700 species in British India in the several divisions, viz.:

Arethusieæ, genera anthogonium, pogonia, and vanilla; 218 species.
Cypripedeæ, genus cypripedium; 23 species.
Epidendreæ, genera arundina, bletia, cattleya, epidendrum, phaius, spathoglottis; 153 species.
Malaxieæ, genera aporum, bolbophyllum, cœlogyne, cirrhopetalum, dendrobium, eria, liparis, oberonia, octomeria, otochilus, pholidota, pleurophallis, stelis, trias, and Wallichiana; about 390 species.
Neottieæ, genera anoectochilus, goodyera, and zeuxina; total, 270 species.
Ophryeæ, genera habenaria, peristylus, platanthera, and satyrium; total, 449 species.
Vandeæ, genera acanthophippium, acropera, aerides, bifrenaria, batemamia, brassia, camarotis, catasetum, cryptochilus, culanthe, cymbidium, cyrtopera, cyrtopodium, dicrypta, eulophia, geodorum, gongora, grammatophyllum, maxillaria, micropera, œceoclades, phalænopsis, renanthera, saccolabium, sarcanthus, Stanhopea, vanda; total, 487 species.

Many of the Orchiaceæ have very beautiful flowers, and salep, which consists of bassorin, is obtained from a species of Eulophia. Orchidaceous plants are rare throughout the plains of Northern India, and in the Panjab. Only the ubiquitous Zeuxina sulcata occurs generally, while Eulophia is found locally, and only one other was found in the Trans-Indus hills to 8000 feet. Bolbophyllum, species B. auricomum, Careyanum, flexuosum, fuscescens, Jenkinsonii, serpens, and sunipia, occur in Nepal, the Khassya Hills, Burma, and Tenasserim. The most highly valued of the orchid order among the Burmese and Karens, is the sweet-scented bolbophyllum, which Karen youths wear in the lobes of the ear, and maidens in their hair. It abounds in almost every part of the jungles, throwing down delicate straw-coloured racemes over the rough grey bark of old lagerstrœmia. Bolbophyllum Careyanum is a common orchid in the vicinity of Moulmein, easily recognised by a long leaf at the apex of a false bulb, and by its small purplish flower. Many species of dendrobium occur in South-Eastern Asia and Australia. Dr. Wight in his Icones gives thirteen, Dr. Voigt names twenty-five, species of Bolpophyllum, and on the Tenasserim coast there are fifteen or more, viz.:—

album.	Cambridgeanum.	macrostachyum.
alpestre.	candidum.	Paxtonii.
aureum.	calceolus.	pendulum.
barbatulum.	cœrulescens.	pierardi.
denudans.	clavatum.	pulchellum.
filiforme.	crumenatum.	pumilum.
graminifolium.	chrysanthum.	purpureum.
heterocarpum.	densiflorum.	ramosissimum.
Heyneanum.	flavum.	secundum.
humilis.	formosum.	stuposum.
Jerdonianum.	Gibsonii.	sulcatum.
aggregatum.	Jenkinsii.	teretifolium.
bicameratum.	longicornu.	

On the Tenasserim coast is a dendrobium, the flowers of which are white, with a yellow lip, three or four inches in diameter, and exquisitely fragrant. The plant blossoms in March, and its flowers may be seen whitening under the emerald foliage of the groves for nearly six months of the year to the close of October. The Burmese call it the silver flower. Wight gives figures of Epipactis carinata and Dalhousiæ macrostachya. Eria obesa is one of the most abundant of Tenasserim epiphytes, but the flowers are small, and have little to recommend them. Wight gives figures of Eria epiphytes, pauciflora, polystachya, pubescens, and reticosa.

The genera Eulophia, Orchis, Satyrium are believed to produce the salep of commerce, a substance largely used as a restorative and as a dietetic. Orchis mascula, called early orchis, male orchis, and male fool's stones, grows plentifully throughout Europe, Northern Africa, Persia, and the temperate region of High Asia. In Persia the roots are washed and thrown into boiling water to remove the outer skin; they are then dried, strung on cords, and hung in the sun or in ovens until perfectly free from moisture. The dried bulbs, of the size of a cherry stone to that of an olive, are slightly transparent and of a horny colour; they are pounded, being soaked in cold water until they become soft, and then rapidly dried, and the powder is dissolved like other fecula, in water, milk, or broth, requiring sixty parts of liquid to one of fecula. It may be used for the same purposes as sago, tapioca, and arrow-root, and when good is an excellent diet article for convalescents, two drachms being sufficient for a meal for an invalid. O. morio of Great Britain, the meadow orchis, or female fool's

stones, and the O. militaris, or man orchis, also of Britain, all furnish the salep tubers. Orchis biflora, O. commelinæfolia, O. latifolia, and O. papilionacea are also named. Dr. Royle was of opinion that the genus Eulophia furnished the salep of High Asia, Kashmir, and Afghanistan, the Himalaya, the Neilgherries, and Ceylon; and Dr. Bellew found an orchis at Hazara, four marches west of Kurram fort, at a height of 1000 feet, some of the tubers being almost as large as a walnut. Dr. Royle names Eulophia vera of the Himalaya, near the Jhelum, and E. campestris near the Kheree pass, as yielding salep. There are three kinds of salep known in the bazars of N.W. India, viz. Salep misri or Egyptian salep, the genuine salep of Kashmir; salep Kohi or salep Kabuli, the mountain or Kābul salep and Simla salep, and salep Hindustani, which is the worst kind.—*Mason; Eng. Cyc.; W. Icones; Voigt; Roxb.; Hooker*, ii. p. 281.

ORCHILLA WEED, Orchella, Archil.

Purpermos, . . . DUT.	Orsella, ... POR.
Orseille, . . . FR., GER.	Orchilla, ... SP.
Oricello, Orcella, . . IT.	Orselj, Orsilja, . . . SW.
Rocella tinctoria, . LAT.	

A lichen of a grey colour; grows in the Cape de Verde Islands and Canary Islands, Madeira, Azores, Porto Santo, from which is obtained the dye called Orchil or Archil, by maceration in urine or other ammoniacal liquid.—*Bennett*, p. 27.

ORDEAL. Divya, SANSK. The earliest mention of the trial by ordeal is contained in the 5th chapter of the book of Numbers, from the eleventh verse, in which the priest gave holy water to a woman to drink, imprecating her with a curse, that if guilty, her thigh should rot and her belly should swell. Trial by ordeal, though forbidden by the Koran, is to be found in some form or other throughout the Muhammadan world. In Sind it is called Toro, and there are several forms in which it is practised. In Hinduism ten ordeals were recognised:—

1. Tola, the balance.
2. Agni, fire.
3. Jala, water.
4. Visha, poison.
5. Kosha, drinking water in which an idol has been washed.
6. Tandula, chewing grains of rice.
7. Tapta masha, taking a masha weight of gold out of heated oil.
8. Phala, holding a hot ploughshare.
9. Dharma, drawing concealed images of virtue and vice out of a vessel filled with earth.
10. Tulasi, holding the leaves of the holy basil, sacred to Vishnu.

Even now, in trivial cases, a few grains of rice that have been weighed with the saligrami are put into the mouth of the suspected or accused person, who is to chew them and spit them out on a pipal leaf. If the person be innocent, the grain appears as if stained with blood, or simply moistened with the natural saliva; if guilty, the rice is dry. In the trial by Kosha, or image water, the accused person drinks some of the water with which an idol has been washed, and if the accused survive free from calamity through the next fortnight, he is innocent. Also in an idol ordeal, two images, one called Dharma or Justice, the other Adharma or Injustice, are placed in a jar, and the accused is allowed to draw. If Dharma image be withdrawn, he is innocent. The ordeal of the balance is applied to women, children, the aged, blind, lame, and sick men, and to Brahmans. After a fast of twenty-four hours, both of the accused and the priest, the accused bathes in holy water, prayers are offered up, and oblations are presented to fire. The beam of the balance is then adjusted, the cord fixed, and the accuracy of the scales ascertained. The accused then sits in the scale, and, while being weighed, the priests prostrate themselves, repeat certain incantations, and, after an interval of six minutes, the paper with the writer's accusation is bound around the head of the accused, who invokes the balance thus: 'Thou, O balance, art the mansion of truth; thou wast anciently contrived by the deities: declare the truth, therefore, O giver of success, and clear me from all suspicion. If I am guilty, O venerable as my own mother, then sink me down; but if innocent, then raise me aloft.' The accused is then re-weighed; if he then weigh heavier, he is found guilty, but if lighter, he goes free.

In the trial by fire, the accused, in India, walks barefoot into a heap of burning pipal leaves (Ficus religiosa); in Siam, over a pit filled with burning charcoal.

In the ordeal by boiling oil, the accused has to thrust his hand into the scalding fluid.

The hot iron ordeal is practised among Hindus, and the Buddhists of Pegu and Siam. Nine circles are drawn, each sixteen fingers in diameter, and each the same distance of sixteen fingers apart. The hands of the accused are rubbed with unhusked rice (paddy), and all marks on them carefully noted; seven pipal leaves are then bound with seven threads on each hand, and saying these words: 'Thou, O fire, pervadest all beings; O cause of purity, who givest evidence of virtue and of sin, declare the truth in this my hand.' The priest gives him a red-hot ball to carry as he steps from circle to circle, keeping his feet within each, until he reach the eighth, when he throws the ball on a heap of dry grass inside the ninth. If his hands, which are then examined, be not burned, he is pronounced innocent.

In Japan, a reputed thief bears on his hand a piece of thin paper having the figures of three deities. On this a piece of red-hot iron is placed, and if his hand escape, he is pronounced free.

Hot oil was a test in the Kandy country by claimant and defendant, and the one whose fingers are burnt loses.

The water ordeal is in vogue in India, in Burma, and in Borneo. In India, the accused stands in water nearly up to his waist, attended by a Brahman, staff in hand. A person near shoots three arrows from a bamboo bow, and a man hurries to pick up the furthermost shaft. As he takes it from the ground, another person runs towards him from the water's edge; at the same moment the accused grasps the Brahman's staff and dives beneath the water. If he remain there till the two arrow-fetchers return, he is innocent, but if any part of his body appear, he is guilty. In Burma, a stake is driven into the water; the accuser and accused take hold, and together plunge beneath the water, and he who remains longer submerged is declared to have truth on his side.

In the poison ordeal, white arsenic and butter in a mixture is administered.

In the snake ordeal, a cobra and a ring are placed in an earthen pot, and the accused has to withdraw the ring.

The Borneo Dyaks place two pieces of salt in the water, to represent the accuser and accused, and the owner of the piece dissolving the first loses the cause. Also, two shells are placed on a plate, and lime-juice squeezed over them, and he whose shell moves first is pronounced guilty or innocent, as may have been resolved on. But the more common mode amongst the Dyaks is for the accuser and accused to plunge their heads beneath the water, and he who remains the longer is free.

The Brinjari people use the branch of a nim tree, the Azadirachta Indica. A husband throws it on the ground, and, turning to his wife, says, 'If thou be a true woman, lift that nim branch.'

In land disputes amongst the Hindus, in the gola or ball test, one of the parties, or a third person, carried a red-hot cannon ball along the alleged boundary, his palms being protected by a layer of pipal leaves. If he remain unscorched, the alleged boundary is determined to be correct.

In the ch'haur ordeal the referee walked the boundary with raw cowskin on his head; this was often strengthened by the imposition of a term twenty-one days, thirty days, etc., and was contingent on the referee's survival for that time.

In other cases, an oath, Kasm sat'h lasi, was administered, and the taker walked twenty-one paces with Ganges water, tulsi leaves, the saligram, and the book of Durga in his hands; if he survived twenty-one days, the truth of his statement was deemed established.

The truth of a man's assertion is still often tested by his being asked to repeat it standing in the waters of some tank of peculiar sanctity, as that of the Lachman Kund in Ajodhya.

Eating paddy, praying imprecations on themselves, is another form in Kandy; also eating a cocoanut in the same manner; drawing white olas is a third. Striking the earth, the reepolle or red-hot iron, and the cobra put into an earthen pot with money, when the parties withdraw the money; if either be bitten, he is esteemed guilty.

Arrows are sometimes used in North-Western India as tests of innocence. The opposite ends of two arrows are held by a rattan laid upon the hands by two persons placed opposite to each other; they are parallel to and just sufficiently apart to allow of the suspected person's hand being held between them. The ends of the arrows merely rest upon the fingers. The arrows are supposed to move towards and close upon the guilty hand.

On the coast of Africa, all criminal charges are tried by the Pynin or judges, who hear and weigh the evidence produced. But if there be no evidence, the cause is decided by a form of ordeal called doom, which consists in administering to the person accused a certain quantity of the bark of a tree deemed poisonous. If he retain it on his stomach, he is pronounced guilty, if otherwise, innocent. The refusal to submit to this ordeal is considered as a decisive proof of guilt, and the judges proceed accordingly.

In Bastar, the leaf-ordeal is followed by sewing up the accused in a sack, and letting him down into water waist deep; if he manage in his struggles for life to raise his head above water, he is finally adjudged to be guilty. Then comes the punishment. The extraction of the teeth, which is said in Bastar to be effected with the idea of preventing the witch from muttering charms; but in Kamaon the object of the operation is rather to prevent her from doing mischief under the form of a tigress, which is the Indian equivalent of the loup-garou.

The ordeal beans of Old Calabar, West Africa, are the seeds of Physostigma venenatum.—*Capt. Burton's Scinde; Wilk's Mysore; Hindu Infanticide; Williams' Story of Nala; Fourth Report of the African Institution; Letter from Mr. Meredith on the Gold Coast*, December 1809; *Asiatic Researches; Ward's Hindoos.*

ORDINARY WORKS, a revenue term in British India applied to public works executed out of ordinary revenue.

OREODOXA OLERACEA. *Endlich.*

Areca oleracea, *Jacq.* | Euterpe caribæa, *Spreng.*

Edible cabbage tree, . . ENG.

A palm of the W. Indies, one of the Cocoaceæ. The green top of the trunk is eaten in the W. Indies both raw and cooked. It has been introduced into India. Oreodoxa regia, *Humb. and Bonpland*, Oenocarpus regius, *Spr.*, is a palm of Cuba, in the vicinity of Havana. It has been introduced into India.

OREOSERIS LANUGINOSA. *D.C.*

Chaptalia gossypina, *Royle.*

Kafi, ... BEAS.	Poorjloo, ... RAVI.
Bur, Buzh, Kapfi, CHENAB.	Bujlo, Kapfi, . . „
Pat-patoola, . JHELUM.	Kufra, . . . SUTLEJ.
Kho, ... KANGRA.	Khare-booti, TR.-INDUS.

Common in the Himalaya up to the Indus, and found in the hills beyond it, from 3200 to 7000 feet. Wherever it grows in any quantity, tinder and occasionally moxas appear to be made from it, sometimes by beating up the body of the leaf with the tomentum on its under-surface, as is done with some other plants, but generally by breaking through the former, and tearing off the latter, to be used alone. Cloth is said to have been made from this, but Dr. Stewart nowhere found such to be the case in the Panjab Himalaya. The plant is quite small, and does not grow closely, so that a wide area would need to be searched to get any considerable quantity of the tomentum; and the process of removing the latter is a tedious one, and would probably be costly.—*Dr. J. L. Stewart.*

ORFA, lat. 37° 10′ N., the capital of a province in Asiatic Turkey of the same name, on the banks of the Kara Koyi, 90 miles S.W. from Diarbakr. The inhabitants, 30,000 in number, are Turks, Arabs, Armenians, Jews, and Nestorians. On a mountain which overlooks the citadel is a ruin which the Arabs call the palace of Nimrud, with several extraordinary subterranean apartments of great antiquity. It is that part of Mesopotamia which contained the Haran of Abraham, is the Osrhoene of the Romans, and the Edessa of the crusades. It subsisted for 843 years as an independent kingdom, when Caracella led Abgarus, its last king, in chains to Rome. It was taken from the emperor Heraclius by Yezd, was retaken in the first crusade by Baldwin, brother to Godfrey of Bovillon, and erected into a Christian principality under one of the branches of the house of Courtney, who were expelled by Zingi, the Atabeg A.D. 1145. It was included in the empire of Salah-ud-Din (Saladin), and subsequently conquered by the Turks. The capital was called

Edessa by Alexander's successors, and subsequently known as Rhoa.—*MacGregor.*

ORGANJ, Urghanj, or Jarjaniah, formerly the chief city of Khwarazm, the country now known as Khiva. It stood on both banks of the Oxus, with a bridge connecting them. It was the scene of awful devastation and massacre by the Mongols under Chengiz in 1221, and a hundred thousand of the only class spared, the artisans, are said to have been transported to Mongolia.—*Yule, Cathay.*

ORIENTAL, a term in use, in philology, to indicate a class of languages; in geography, it is applied broadly to Asiatic countries east of Europe, but in a more restricted sense to the East Indies or the countries now known as British India. In mineralogy, it is applied to precious stones, the violet oriental amethyst, the green oriental emerald, the red oriental ruby, the blue oriental sapphire, the yellow oriental topaz, all variously coloured varieties of corundum. The oriental amethyst is of a purple colour, and is an extremely rare gem. Its colour can be destroyed by heat, and its purity then resembles that of the diamond. These stones are all found abundantly in the Peninsula of India, but not of great beauty; the ruby of the N.E. of Burma, however, is the true oriental ruby. They are all distinguishable from the other gems of the same names which have not the prefix oriental, by their greatly superior hardness and greater specific gravity. Oriental sapphires are found in gravel and sand in the island of Ceylon and in Pegu, but oriental emerald is the rarest of all the green varieties of corundum.

Oriental languages is a term applied to all the languages of Asia, whether of the Aryan, Semitic, or other class. Formerly, the term meant little more than Hebrew, Arabic, and Persian; it now includes almost every language that is spoken east of Europe.—1. The Semitic, including old Semitic, new Semitic, and cuneiform writings; 2. The Indo-European (or Indo-Germanic, as it it called in Germany), including all Aryan languages, and comparative philology; 3. The African, including Egyptian; 4. The East Asiatic, or Ural-Altaic. With all the oriental languages those who would acquire them encounter their first difficulty in the variety of writing characters in use; and a second difficulty in the discordant manner in which, when a foreign character is used, or indicated by foreigners, the powers of the letters are employed. One mode put forward by Sir William Jones, about the year 1788, was an analogous classification of the letters; another proposed by Dr. John Borthwick Gilchrist, in the early part of the nineteenth century, was the representation of the sounds of the vernacular letters by equivalents of similar enunciation according to the powers of the letters as given by the English people; in other words, the one principle is analogy, the other pronunciation. The latter principle is well adapted for expressing the oriental characters in English letters in such a manner that English readers unacquainted with the oriental characters would be enabled to articulate the words with a very near approach to their correct pronunciation, but it is for the most part unsuitable for all others of the European nations who use the Roman letters. The principle of analogy adopted by Sir William Jones retains the original letters with certain distinguishing marks, and permits the learned men of all Europe to follow the word to its source, and it has been generally followed by the learned. The most recent writer on the subject was Professor Horace Hayman Wilson in his Glossary, and he considered that the characters in the English alphabet had enabled him to represent letters in nine alphabets of thirteen different languages of British India. But to do this he had, by diacritic points and marks, and by compound letters, increased the English alphabet from 26 to 70 characters, 19 of the English letters having two to six forms, b, c, e, i, j, o, p, and u, each two; g, h, and l, each three; d and k, each four; a, r, s, t, and z, each five; and n has six forms; and he has even recommended other additions.

ORIGANUM NORMALE. *Don.*

Mirzan-josh, ARAB., HIND. | Marjoram, ... ENG.

This herb grows commonly in the Panjab Himalaya from 2500 to 10,500 feet. Aitchison states that in Lahoul it is eaten as a pot herb.

Origanum vulgare, *L.*, common marjoram.

O. decipiens, *Wall.*	O. stoloniferum, *Bess.*
O. orientale, *Mill.*	
Baklat-ul-jezal, Sutur? AR.	Agroriganos, GR. of Diosc.
Origanon melan, . GR. of Theoph.	Oushneh? . . . PERS.
	Mridu-marurvamu, TEL.

An ornamental and aromatic plant, a native of Great Britain in dry uncultivated places, and of Europe, north of Africa, and of Middle Asia and America. It yields what is sold as oil of thyme in the shops, a common remedy for toothache, and frequently mixed with olive oil as a stimulating liniment against baldness, in rheumatic complaints, and against strains and bruises. The dried leaves used instead of tea are very pleasant; they are likewise employed in fomentations. The essential oil is so acrid that it has been used by farmers as a caustic.—*Eng. Cyc.; Dr. J. L. Stewart, M.D.*

ORIOLE is the popular name of several birds having their plumage of a golden-yellow mixed with black. In British India, the orioles are called the mango birds, from their yellow colour resembling that of the mango fruit. There are several species in the E. Indies. Oriolus kundoo, *Sykes*, extends over the whole of British India up to the base of the Himalayas. It lives in large groves of trees, gardens, and avenues, and feeds chiefly on fruits. Its call is a loud mellow whistle resembling pee-ho, and its French name of Loriot answers to its call. O. Indicus, *Brisson*, the black-naped Indian oriole, is rare, though spread throughout India, Arakan, Pegu, Tenasserim, and Malacca, and is more confined to the forest regions. O. melanocephalus, *Linn.*, the black-headed oriole, inhabits the forests, gardens, and groves of Central India, Bengal, Assam, Burma, and the Malay Peninsula; it is a lively and noisy bird, constantly flying from tree to tree, and uttering a loud mellow whistle. This oriole, famous in Indian poesy, is one of the most numerous of Tenasserim songsters. It comes to the garden at early dawn, when its rich mellow notes are heard pealing far through the mango bowers. It is a large yellow bird, with a black head, easily recognised. In Burmese it is called Hgnet-wa, or yellow bird. O. Ceylonensis, *Bonaparte*, occurs in Ceylon and the southern part of the Peninsula of India.—*E. L. Layard in Tennant's Ceylon*, p. 241; *Mason; Jerdon.*

ORISSA, a province of British India, which was occupied in September and October 1803, with Behar, Chutia Nagpur, Bengal proper, and Chittagong, and is under the administration of the Lieutenant-Governor of Bengal. It is at the head of the Bay of Bengal, at its western side, and lies between lat. 19° 28′ and 22° 34′ 15″ N., and long. 83° 36′ 30″ and 87° 31′ 30″ E., with an area of 23,901 square miles, and, in 1872, a population of 4,317,999, partly in the deltas of the river Mahanadi on the south, the Brahmany in the centre, and the Baitarani on the north, and in part in 17 mahals or states which are tributary to the British, and cover an area of 16,218 square miles, and a population of 1,283,309. Orissa table-land rises on the southern side of the Mahanadi, in some places to 1700 feet, backed by the chain of E. Ghats, Amarkantak, jungle table-land, lat. 22° 40′ N., long. 81° 5′ E., 3500 feet. Its delta is fertile; its rivers discharge 2,760,000 cubic feet per second in time of floods, and it has a rainfall of 62½ inches; but it has suffered from floods and from droughts. There was a great famine in 1770, aggravated by the ravages of mutinous Mahratta soldiers. In 1823, a cyclone and storm-wave swept the coast; in 1834–35 and 1837–38, a famine was caused by inundations, and it suffered severely in 1866–67 from deficient rains.

A special inquiry into the mortality caused by the famine in Orissa in 1865-66 was made by deputy collectors, with the aid of corrected returns made by the zamindars. The total population in 1865 was 3,015,826; of these, 814,469 perished, and 115,028 either emigrated or disappeared, making a total loss of 929,497, and leaving 2,086,329 surviving. The percentage of deaths to population was 27, which, added to 3·81, the percentage of emigrants or missing, gives a general percentage of 30·81 as loss of population during the famine. In 1866 a great flood inundated 1052 square miles of the delta. In October 1831 the sea made a breach in the road which passes through the province from north to south, where it is nine miles from high-water mark. All having life—human beings, cattle, wild beasts, etc.—were drowned, and left in heaps eight and ten feet high against the road. This was north of Balasor. South of Balasor, late in the evening, said the sole survivor of a village, the wind was very strong on shore, and the tide rising. Several of the inhabitants went down to the beach. Those who had witnessed the storm of 1823 proposed to go inland; the younger ones would not believe that the sea could harm them, and voted for remaining. All were drowned except one, who was up in the tree under which we were standing, and twice the sea went over him. When he came down, all was dry, but, as he expressed it, not a cat left. In this hurricane 22,500 were drowned in half an hour, and several thousands more died of starvation and exposure. There was another hurricane in 1832, but the wind was off shore when most violent, and no lives were lost. These calamities induced the British India Government to endeavour to prevent their recurrence. The seven rivers—Mahanadi, Brahmany, Byturni, Lahundi, Borabahiny, Subunreka, and the Cossya—are all more or less deltaic in character, and in the case of four rivers almost form one delta during the floods. The point before the engineer was to husband the water that came down at the south-west monsoon, and distribute it so as to save the districts from droughts, from which Orissa has suffered so terribly. At the same time protection against the floods was to be secured. The area of land to be taken up for the scheme comprised the five alluvial districts contained between the frontier in the district of Ganjam and the Hoogly near Calcutta,—in all about 6000 square miles. The operations began in 1862, and much has been effected.

Bhuiya, Bhumij, Bathudi, Gond, Kandh, Khaira, Kol, Pan, Santhal, Savara, and others, form about a fourth part of the population, mostly in the mountainous jungle tract of Morbhanj, Keunjhar, and Bod, and 75,531 are in the tributary states. A record in the Uriya language, preserved in the temple of Jaganath, called the Vansavali and Raja Charita, and supposed to have been commenced in the twelfth century, after the usual detail of the mythology, and of the early kings of India down to Vikramaditya, gives as the first sovereign of this kingdom, in A.D. 142, Bato Kesari, who commenced the Kesari Vansa or Kesari dynasty. After an interregnum of 146 years, during which the Yavana reigned, the Kesari Vansa dynasty was restored in A.D. 473 by Jajati (Yayati) Kesari, capital Jajpur. He was a warlike and energetic prince, but it is not known who he was or whence he came. He was the founder of the Kesari or Lion line, which ruled Orissa until A.D. 1131. The Ganga Vansa dynasty commenced with the invasion of Churang, Saranga Deva, or Chor-ganga, and ended with Raja Narsinh-deo, who in 1277 built Kanarak, the Black Pagoda. The Surja Vansa rajas then reigned from 1451 to 1550. After them came the Zamindari races, Khurda rajas or Bhui Vansa, from 1580 to 1804, when Mukund-deo was deposed by the British.

Buddhism for ten centuries prevailed in Orissa, but its only traces are to be found in the cave dwellings and rock habitations of the priests and hermits, and in recently deciphered inscriptions. Their principal settlement was at Khandgiri, about half-way between Puri and Cuttack. The Snake, Elephant, and Tiger caves here (see Udayagiri), and a two-storeyed monastry, known as the Queen's Palace (Rani-Nur), are the most interesting excavations. They form relics of the three distinct phases through which Buddhism passed. The first, or ascetic age, is represented by the single sandstone cells, scarcely bigger than the lair of a wild beast, and almost as inaccessible; the second, or ceremonial age, is shown in the pillared temples for meetings of the brotherhood, with commodious chambers for the spiritual heads attached to them; the third, or fashionable age of Buddhism, reached its climax in the Queen's Palace, adorned with a sculptured biography of its founder. General Cunningham believes that the kingdom of U-cha, or Oda, spoken of by Hiwen Thsang, corresponds exactly with the modern province of Odra or Orissa. In the time of that Buddhist pilgrim, the province was 7000 li or 1167 miles in circuit, and was bounded by the great sea on the south-east, where there was a famous seaport town named Che-li-ta-lo-ching, or Charitrapura, that is, the 'town of embarkation' or 'departure.' This General Cunningham supposes to have been the present town of Puri, or 'the city,' near which stands the famous temple

of Jaganath. Outside the town there were five contiguous stupa with towers and pavilions of great height, and he supposes one of these to be that which is now dedicated to Jaganath. The three shapeless figures of this god and his brother and sister Baladeva and Subhadra, are simple copies of the symbolical figures of the Buddhist triad, Buddha, Dharma, and Sangha, of which the second is always represented as a female. The Buddhist origin of the Jaganath figures is proved beyond all doubt by their adoption as the representative of the Brahmanical avatar of Buddha in the annual almanacs of Mathura and Benares. The political limits of Orissa under its most powerful kings, are said to have extended to the Hoogly and Damuda rivers on the north, and to the Godavery on the south. But the ancient province of Odra-desa, or Or-desa, was limited to the valley of the Mahanadi and to the lower course of the Suvarna-riksha river. It comprised the whole of the present districts of Khatak (Cuttack) and Sumbulpore, and a portion of Midnapur. It was bounded on the west by Gondwana, on the north by the wild hill states of Jashpur and Singbhum, on the east by the sea, and on the south by Ganjam. These also must have been the limits in the time of Hiwen Thsang, as the measured circuit agrees with his estimate. Pliny mentions the Oretes as a people of India in whose country stood Mount Maleus; but in another passage he locates this mountain amongst the Monedes and Suari, and in a third passage he places Mount Mallus amongst the Malli. As the last people were to the north of the Kalinga, and as the Monedes and Suari were to the south of the Palibothri, the Monedes and Suari must be the Munda and Suar, and the Oretes must be the people of Orissa. Malle is one of the Dravidian terms for a mountain; and as the Oraon, or people of West Orissa, still speak a Dravidian dialect, he thinks it probable that Mallus was not the actual name of the mountains, but may have been the famous Sri-Parvat of Telingana, which gave its name to the Sri-Parvativa Andhras?

The Uriya are Brahmanists, and inhabit the plains and valleys in the western tracts towards Cuttack; the Kol to the northward, also called Ho; the Kandh in the central part, and the Saura in the south. These three last-named races believe themselves to be the aborigines of the districts they now inhabit, and of others more extensive of which they have been dispossessed by the encroachments of other tribes. The Kol are faithful, honest, and of happy, ingenuous dispositions, as strikingly contrasted with the trickery and falsehood of the Hindu; they are hospitable, but very irascible, and so prone to feel injuries acutely, that they frequently vent their resentment or grief in suicide, to which this untutored people are terribly addicted. The Kandh inhabit the central part of Orissa, and until the middle of the 19th century they practised the barbarous Meriah sacrifices, to propitiate the deity of the earth by the slaughter of human victims, generally children stolen from neighbouring districts, and purchased by the Kandh race for sacrifice, as no Kandh can be sacrificed, and no victim was held acceptable unless purchased. The ceremonial differed somewhat. But at the period appointed by their priests a solemn feast was held, lasting two days and nights, which time was passed in the most revolting drunken obscenity. On the third day the hapless victim was brought out, and bound to a stake. The victim's limbs were first broken, and, the priest having given the coup de grace with an axe, the whole set upon it and hewed the quivering body piece-meal, each striving to carry away a bloody fragment to throw upon his own field. The British Government exerted itself successfully to suppress this sanguinary rite, to which the Kandh adhered with obstinate pertinacity.

The Saura, who inhabit the southern part of the province, have the same superstitions as the Kandh. They are even more savage and barbarous; so much so, indeed, that a Saura is said to have no hesitation in depriving a human being of life for a very trifling consideration, or at the command of his chieftain.

Amongst the Uriya race high cheek-bones seem to prevail, with good features and straight hair. Amongst the customs peculiar to this province, Dr. Hunter says, is one that, if a man die childless, his brother, if he have one, must marry the widow. The Brahmans of Orissa differ from all other Brahmans, in some respects as regards their food, and a great many obtain their livelihood as cultivators; they also trade, and follow the occupations of brickmakers, bricklayers, etc.

The Pana of the frontier and south of Orissa are a wild predatory tribe.

The Juanga are a forest race, and until 1871 the sole dress of their women consisted of bunches of leafy twigs. They are also called Pattooah.

Hindol, one of the tributary states, of 312 square miles, and 28,025 inhabitants, mostly aborigines semi-Hinduized. Of these the Taala number 1622; the Kandh, 1611; and Pan, 3680; 18,854 Khasa, Brahmans, and Khandaits, following Hinduism.

Uriya or Ooriah is the language of Orissa, and the country takes its name from the Or or Ordu tribe, who seem to have come from the N.W. In the Orissa district they appear to have had very narrow limits, viz. along the coast line from the Rasikulia river near Ganjam northwards to the Kans river, near Soro, in lat. 21° 10'; but in the process of migration and conquest under the Ganga Vansa dynasty, the limits of Orissa (Ordesa) were extended to Midnapore and Hoogly on the north, and Rajamundry, on the Godavery, on the south. The Uriya tongue is a tolerably pure dialect of Bengali. About Ganjam, the first traces of Telugu or Teling occur, though the Uriya still prevails forty-five miles south of Ganjam, on the lowlands of the sea-shore, beyond which Telugu begins to predominate. At Chicacole, Telugu is the prevailing language; in Vizianagram, Telugu is only spoken in the open country, and Uriya in the mountains runs farther down to the south. Telugu is spoken to within 45 miles south of Ganjam, and at Ganjam Telugu ceases. On the coast line Uriya continues in the direction of Bengal as far as the Hijli and Tumluk divisions on the Hoogly. On the western side of the Midnapore district, it intermingles with Bengali near the river Subunreka. To the westward, the Gond and Uriya languages pass into each other, and at Sonepur, half the people speak the one and half the other language.

The temples at Orissa are more numerous than those of all Hindustan. They were erected between the years A.D. 500 and 1200. That at

Bhuvaneswara was A.D. 637; that at Puri was A.D. 1174; and, with the exception of that of Jaganath at Puri, the ancient Dantapura, all were erected under the great Kesari dynasty, or Lion line of kings, who reigned A.D. 473 till 1131, when they were succeeded by the Ganga Vansa, the third of whom built Jaganath. That called Parasuram Eswara is 20 feet square and 38 feet high, and its sculptures are cut with a delicacy seldom surpassed, and of the most elaborate character. It is supposed to have been built A.D. 450 or 500. Those of the Mukt Eswara shrine are even richer and more varied in detail. Bhuvaneswara temple is supposed by Mr. Fergusson (p. 420) to have been built by Lelal Indra Kesari, who reigned A.D. 617 to 657. It is the finest example of a purely Hindu temple in India. 300 feet long and 60 to 75 feet in breadth, every inch of the surface is covered with carving in the most elaborate manner, and the effect is marvellously beautiful. Its Nat Mandir, or dancing-hall, was erected by the wife of Salini, between A.D. 1099 and 1104. Besides this, there are the Raj Rani temple, and many others.

The Canarac temple is known to the British as the Black Pagoda.

The Jaganath temple at Puri externally measures 640 to 670 feet, and is surrounded by a wall 20 to 30 feet high, with four gates. An inner enclosure measures 420 by 315 feet, and is enclosed by a double wall with four openings. Within this last stands the Bāra Dewul, and the great tower rises to 192 feet.

Jajpur, in Cuttack, on the Byturni river, was once the capital of the province. It has a pillar which was erected in the 12th or 13th century.

The last five hundred years anterior to the Christian era were those in which Buddhism effected its settlements in Orissa. The Ceylon texts place the advent of the Sacred Tooth in Puri at 543 B.C. The Buddhists honeycombed mountains, and excavated the rock monasteries of Orissa. The people now are, even more than the Bengali race, conservative, bigoted, and priest-ridden. The whole territory is sacred ground, to which Hindus perform tirt'h or pilgrimage; but about July is the great period of assembly at Jaganath (yoga-natha). The sun was formerly the object of worship there.—*Colburn's Journal*, 1861; *Thomas' Prinsep's Indian Antiquities*, p. 241; *Wilson's Glossary; Cunningham's India*, p. 507; *Elph. India*, p. 223; *Stirling in As. Res.* xv. p. 254; *Imp. Gaz.; Fergusson's Cave Temples.*

ORITÆ or Horitæ, among the ancient Greeks, a barbarous people to the west of Indus, called Nesteritæ by Diodorus. Curtius notices the Horitæ in India, and Diodorus states that generally they resemble the Indians. According to Arrian, they were an Indian nation who extended west of the Indus for 150 miles parallel to the sea.

They wore the dress and arms of the other Indians, but differed from them in language and manners. General Cunningham supposes them to be the people on the Aghor river. In the bed of this river there are several jets of liquid mud, which from time immemorial have been known as Ram Chandar ki kup, or 'Ram Chandar's wells.' There are also two natural caves,—one dedicated to Kali, and the other to Hingulaj or Hingula Devi, that is, the 'red goddess,' who is now regarded as a form of Kali. But the principal objects of pilgrimage in the Aghor valley are connected with the history of Rama. The pilgrims assemble at the Rambagh, because Rama and Sita are said to have started from this point, and proceed to the Gorakh tank, where Rama halted; and thence to Tonga-bhera, and on to the point where Rama was obliged to turn back in his attempt to reach Hingulaj with an army. General Cunningham identifies Rambagh with the Rambakia of Arrian, Tonga-bhera with the river Tonberos of Pliny, and the Tomerus of Arrian. At Rambakia, therefore, he thinks we must look for the site of the city founded by Alexander, which Leonatus was left behind to complete. He thinks it probable that this is the city which is described by Stephanus of Byzantium as the 'sixteenth Alexandria near the Bay of Melane.' Nearchus places the western boundary of the Oritæ at a place called Malana, which he takes to be the Bay of Malan, to the east of Ras Malan or Cape Malan of the present day, about twenty miles to the west of the Aghor river. The occurrence of the name of Rambagh at so great a distance to the west of the Indus, and at so early a period as the time of Alexander, shows not only the wide extension of Hindu influence in ancient times, but also the great antiquity of the story of Rama. He deems it highly improbable that such a name, with its attendant pilgrimages, could have been imposed on the place after the decay of Hindu influence. During the flourishing period of Buddhism, many of the provinces to the west of the Indus adopted that Indian religion, which must have had a powerful influence on the manners and language of the people. But the expedition of Alexander preceded the extension of Buddhism; and General Cunningham therefore only attributes the old name of Rambakia to a period anterior to Darius Hystaspes. Hingulaj (Khingalatchi) is mentioned by the Tibetan Taranath (see Vassilief, French translation, p. 45) as a Rakshasa in the west of India, beyond Barukacha or Baroch.—*Cunningham's India*, p. 304; *Elphin.* p. 232.

ORLEBAR, A. B., wrote an Account of a Visit to the Town of Sehwan, in Bom. Geog. Trans. vi. p. 95; Account of the Lake Loonar, ibid. i. p. 9; Note on the Ram Ghaut, Bom. As. Trans. i. p. 119; On Muhammadan Architecture in Cairo, ibid. ii. p. 119; On the Geology of the Egyptian Desert, ibid. p. 229; Hygrometric Tables, ibid. p. 309; Report on the Bom. As. Society's Museum, ibid. p. 440; On the Meteorology of Bombay; Observatory Reports, 1845, 1846, Bombay, 4to; in British Association, 1847, and London Athenæum, and Reports of the Association.—*Dr. Buist.*

ORMARA or Hormarah, in lat. 25° 11' N., and long. 64° 38' 30" E., a fishing village on the Makran coast. It is in a desolate region. It is famed for its mud volcanoes. Captain Hart, who saw them in 1840, says that there are eighteen; Colonel Goldsmith saw seven. Probably they vary in number.

ORME, ROBERT, the historian of India, was born at Anjengo. He was educated at Harrow School, and returned to Madras, where he rose to become a member of Council, and returned to England, where he died at the age of 73. He was the first Englishman who wrote on the history of India, and was author of Historical Fragments of the Moghul Empire, of the Mahrattas, and of the English Concerns in Hindustan from 1659,

London 1782 and 1805; also History of the Military Transactions of the British Nation in Indostan from 1745, London 1775.

ORMESBY, LIEUT., I.N., wrote Narrative of a Journey across the Syrian Desert in Bom. Geo. Trans. vi. p. 18; Memoir on the Rivers of Mesopotamia.

ORMOCARPUM SENNOIDES. *Beauv.*

Hedysarum sennoides.	H. Nalla-kashina, *R.*
Jungli Munghi, . DUKH.	Katu murunga, . . TAM.
Kanana, Shiguru, SANSK.	Adivi munaga, . . TEL.

The root possesses a considerable degree of warmth, and is prescribed as a tonic and stimulant in certain cases of fever; also, in docoction, it is supposed to be a valuable remedy in rheumatic affections of long standing. With the bark of the root, ground small, and mixed with gingelly oil, a liniment is prepared which the Vyteans recommend as an external application in paralytic complaints and in lumbago.—*Ain.; Roxb.*

ORMOSIA, a genus of plants of the order Fabaceæ. O. glauca, *Wallich*, is a tree of Dehra Doon, and O. robusta, *Wight*, of Assam.

Ormosia Travancoria, *Bedd.*, is a middling-sized tree of Travancore and South Tinnevelly Hills up to 3500 feet, S. Canara Ghats, and probably elsewhere on the Western Ghats of the Madras Presidency. The timber appears to be remarkably good, but at present is almost unknown.—*Beddome, Fl. Sylv.* p. 45.

ORMUZ, Ormaz, or Hormuz, in lat. 27° 5′ 55″ N., and long. 56° 29′ 5″ E., a barren, rocky, volcanic island in the Persian Gulf, about 12 miles off the coast of Kirman, 15 miles N.E. of Kishm. It is the eastern extremity of the chain of volcanic mountains which runs parallel to the coast of Kirman, and at Ormuz it consists of a number of isolated hills of rock-salt and sulphur, which compose a mass of about 15 miles in circumference, destitute of springs and vegetation, but abounding in copper and iron-ore. The island gave shelter to the Parsees when Muhammadanism was preached in Persia. In an ancient history of Persia it is recorded that Ormuz was once on fire; and indeed this island, as well as that of Angar, has every appearance indicative of a former volcanic eruption, and it is thought to be an extinct volcano. Ormuz takes its name from a place on the neighbouring continent in Karmania,—the Harmozia and Armuza or Harmozusa of Greek writers, where Nearchus landed and found one of his countrymen wandering from Alexander's camp, in which, some days after, the admiral was received with well-merited honours by his sovereign. But in Alexander's time, the insulated Ormuz is generally supposed to have been the Organa of Arrian and Ptolemy, and Tyrina or Gyrena of Strabo. It is said that the prior city of this name was taken by the Mongols, A.D. 1290, and the inhabitants fled to this barren volcanic island, which was named Ormuz, in memory of the ancient city. The king of this new Ormuz considered it prudent to send tribute to Timur. The city is described by Abdu Razak, the ambassador sent by Shah Rukh to India in 1442, as a place which had not its equal on the surface of the globe. The merchants of Syria, Egypt, Roum, Fars, Khorasan, Irak, and Mawur-u-Nahar, as well as the inhabitants of Java, Bengal, Socotra, Tenasserim, Malabar, Gujerat, and Arabia, all made their way to this port with rare and precious articles, which the sun and the moon and the rains have combined to bring to perfection. The companions of Alfonzo de Albuquerque in 1507 took Ormuz, after a combat described with much animation by one of his countrymen,—a few hundred Portuguese having contended, as he assures us, for eight hours against 30,000 Persians and Arabians, valiantly defending a place naturally strong and well fortified by art.

> 'High on a throne of royal state, which far
> Outshone the wealth of Ormuz and of Ind;
> Or where the gorgeous East with richest hand
> Showers on her kings barbaric pearl and gold.'

Under the Portuguese it was a place of great trade, but in 1662 (1622?) it was taken by Shah Abbas the Great, with the assistance of the English, and the trade was destroyed. On a plain near the northern extremity of the island are the cisterns and other remains of the once commercial Ormuz, which, in the time of its prosperity under the Portuguese (A.D. 1515), when it was a great entrepot of Indian trade, had 4000 houses and 40,000 inhabitants. The port and anchorage, which gave such importance to the spot, are within two miles of the town. The present inhabitants number about 3000, and are employed in preparing rock-salt, from which the sultan or imam of Muscat as proprietor derives a considerable revenue. The island gives its name to the Straits of Ormuz. The islands of Larrack (or Larek) and Ormuz are 12 miles apart, and Ormuz is about 26 miles north of Ras Mussundum. Larrack is 400, and Ormuz 700 feet high. From Larrack we have specular iron-ore as its characteristic, and from Ormuz, rock-salt, sulphur, gypsum, iron-ore, and pyrites. The people on the neighbouring coast seem to be identical with the races who are known to have dwelt there 2000 years ago, and known to the ancients as Ichthyophagi. It was visited by Ralph Fitch. At present a few ruins, scattered amidst wild deserts of salt, on a dreary islet, alone remain of the former wealth of Ormuz.—*Markham's Embassy*, p. 44; *India in the 15th Century; Clavijo*, p. 94; *Kinneir's Memoir*, p. 12; *Palgrave; MacGregor*, p. 354.

ORMUZD, a name amongst the fire-worshipping Zoroastrians for the Omniscient. It is from Ahura mazda,—Ahura, living, and Mazda, wise,—the all-knowing Lord. The ancient inscriptions almost all begin with the words Baga vazarka, Ahura mazda, Deus magnus (est) Oro mazda.—*Bunsen, God in History.* See Ahriman.

ORNITHOLOGY, the science which teaches the natural history and arrangement of birds, from the Greek words ὄρνις, a bird, and λόγος, a discourse, signifying literally 'a discourse upon birds.'

ORNITHOPTERA BROOKEANA, of Borneo, is one of the most elegant of the butterflies. O. Croesus, *Wallace*, the bird-winged butterfly, occurs at Batchian. It is 7 inches across the wings, which are velvety-black and fiery orange. O. remus, the largest and most beautiful of all the butterflies, is found in Celebes.—*Wallace*, i. pp. 37, 284.

ORNUS FLORIBUNDA. *G. Don.* Fraxinus floribunda, *Wall.*, is the Nepal ash tree. O. Urophylla, *G. Don.*, is the ash tree of the Khassya mountains.

ORONCHON, a small tribe of the Tunguz, in the Lower and Upper Amur. They use the reindeer.

OROPHEA CORIACEA, a middle-sized tree, grows at Dimboola and Raxawa, in the Ceylon central province, at an elevation of about 3000 feet; O. obliqua, *Hook. f. et T.*, in the Galle and Ratnapura districts, at no great elevation; and O. Zeylanica, *Blume*, in the central province, at an elevation of 2000 to 3000 feet; woods unknown. —*Thw. Zeyl.* p. 8.

OROSIUS, a writer about A.D. 400. In what he says of India he vaguely follows Ptolemy.

OROTALT, the ancient Grecian term for the Arabic Allah Ta' ala.—*Sale's Koran.*

OROTSKO occupy the interior of Saghalin and its eastern coast. They are few in number, their language differs from that of the Aino, and, according to Schrenck, they are Tunguzians. They do not shave the head, but allow the hair to fall over the shoulders, or tie it up in a veil, which hangs down behind. Their women plait or curl the hair. They wear large ear-rings, and, according to Mamia Rinso, a Japanese traveller, are very good looking. The Orotsko have no permanent habitations, but dwell in yurts like the Oronchon of the Upper Amur. Their storehouses are also similar, and are left standing when the owner migrates. The only domestic animal of this tribe is the rein-deer, and a man owning twelve of them is considered well off. Rein-deer carry burdens or draw the sledge.—*Ravenstein's Amur*, p. 398.

ORPIMENT. Ter-sulphuret of arsenic, yellow sulphuret of arsenic, and tri-sulphide of arsenic.

Arsanikoon, . .	Arab. ?	Zernej-gard, . .	Pers.
Shih-hwang, . .	Chin.	Harit[illegible]	
Hartal, ...	Hind.	alaka, . .	Sansk.
[illegible]		Arid[illegible]rum, . . .	Tam.
[illegible]	Lat.	Yelliekood-pashanam, ,,	

This is of a heavy liver-yellow colour. It is obtainable in all the bazars of India, and is found in the Chinese provinces of Ho-nan, Yunnan, and Kan-su, also in Cambodia. It is used as a paint, also in medicine.

ORR, CHARLES ADAM, a general officer of the Madras Engineers, who built the great anicuts across the river Godavery and Kistna. On quitting India, the following order was issued in the Public Works Department, April 25, 1871:—'The Right Honourable the Governor in Council desires to place on record an expression of the high value attached by Government to the services rendered to the State by Colonel Orr during an honourable career of about 40 years' duration, and especially in the Public Works Department, as a talented projector and able and energetic executive officer, and for the last seven years as the confidential adviser and organ of Government in the important branch of the public service to which he has been attached. As a principal executive officer on the irrigation works in the Godavery delta, and as the designer and constructor of the similar works in the Kistna delta, Colonel Orr has perpetuated the memory of his professional ability.'

ORRIS ROOT, Florentine iris.

Ussul-us-sosun, Isra,	Arab.	Violen wurzel, . .	Ger.
Ussul-ul-manjunie,	,,	Kewra-ki-jar, . .	Hind.
Peh-chi, ...	Chin.	Beg-banafsha, . .	,,
Iris de Florence, .	Fr.	Ireos, ...	It.

In Europe, this is the root or rhizome of the Iris Florentina, and of the German and pale Turkey iris obtained from the south of Europe and Asia Minor. It is tuberous, oblong, about an inch thick, white, odour like that of violets; taste when dry, bitter. In India, an excellent kind of orris root is sold in the bazars under the name of Beg-banafsha, literally violet root. An inferior description of orris root is imported into Bombay from the Persian Gulf, which is procurable in most bazars. An iris is cultivated in India, the roots of which are used as the orris root. Orris root is used by perfumers, and in medicine.—*O'Sh.* p. 655.

ORSEDUE, Dutch gold.

Khater goud, . . .	Dut.	Oliquant, ...	Fr.
Orsidue, ...	Eng.	Fittergold, ...	Ger.
Manheim gold, . .	,,	Orpello, ...	It.
Oripeau, ...	Fr.	Oropel, ...	Sp.

An article resembling gold-leaf, made of copper and zinc, and largely used in tinselling dolls, toys, images, etc. It is made up into books, and in this state is packed in casks and cases for exportation from Manheim in Germany, where it is chiefly manufactured.

ORTHANTHERA VIMINEA. *Wight.*
Apocyne viminea, *Wall.*

Matti, ...	Beas.	Mowa, Lanebar,	Tr.-Ind.
Khip, Kip, . . .	Sind.		

A twiggy, leafless plant, one of the Asclepiadæ, not uncommon about Dehli and some other parts of Cis-Indus, occasionally in the Siwalik tract and Trans-Indus. It grows luxuriantly along the foot of the mountains. It attains a height of ten feet, and is remarkable for the length and tenacity of its fibres; and its long, straight, leafless, slender, and wand-like stems point it out as seemingly well suited for rope-making. Near Dehli, after four or five days' steeping, its fibre is extracted for making rope. In Sind, also, it appears to be this plant of which unsteeped stalks are made into ropes for Persian wheels, which are said to be very durable, as they do not readily rot from moisture.—*Royle, Him. Bot.* p. 274; *Royle's Fib. Pl.; Stewart, Panjab Plants.*

ORTHOTOMUS LONGICAUDA. *Gmel.* The tailor-bird; its curiously fashioned nest displays marvellous skill and care; it is plentiful in the groves and gardens of India. The male is larger and has a longer tail than the female, but both are yellowish-white below and olive-green above. The call of the male is a frequent repetition of Whee-u, and the male birds in a garden vie with each other.

ORTOLAN, green-headed bunting.

Emberiza hortulana, *Linn.*		Hortulanus, *Gesner.*	
E. Buchanani, *Blyth.*		Miliaria pinguescens, *Fr.*	
Garten-ammer, . .	Ger.	Ortolano, ...	It.
Fell-ammer, . . .	,,	Gerste-kneu,	Netherlds.
Jam-johara, . . .	Hind.	Tordino berluccio,	Venice.

The ortolan of Europe is occasionally seen in the west of India. It was in Colonel Sykes' catalogue of Dekhan birds. In Europe they are caught in great numbers, are fattened for the table, and are considered a great delicacy. In India, the social lark, Calandrella brachydactyla, and the Pyrrhulauda grisea, are popularly called ortolans. A kind of lark called an ortolan is mentioned by Dr. Hooker as abundant in the Parwa district; this is a migratory bird. The flocks are large, and the birds so fat, that they make excellent table game; they return from the north in September. —*Hooker's Him. Jour.* i. p. 998.

ORUKZAI, an independent Pathan tribe beyond the N.W. frontier of British India. Their country extends from the Sipah tract (which adjoins the Afridi hills) round the north-western corner of the Kohat district, and then nearly onward to the top

of the Miranzai valley (which belongs to Kohat) till it joins the country of the Zymukht Afghans. The tribe is one of the largest on the N.W. frontier, and numbers 20,000 fighting men, most of whom are good hill soldiers. The Orukzai hills stretch a long distance to the west. In the interior of these hills there is the cool table-land of Tirah, where the clansmen resort in the summer with their cattle, and in the winter return to the pasturage grounds of the lower ranges near the British frontier. The sections of the tribe that have come in contact with the British are the Shekhan, the Mishti, and the Raabeah Khel. The portions of the Kohat district adjoining the Orukzai hills are the subdivisions of Samilzai, Hungu, and Miranzai.

ORYZA SATIVA. *L.* In husk or growing.

Ruz, ... ARAB.	Gabah, in husk, . MALAY.
Dhan, . . BENG., HIND.	Paiera, . . . MALEAL.
Sa-ba, ... BURM.	Nellu, Arisi, . . TAM.
Tau, ... CHIN.	Bium, Uri, . . . TEL.
Rice plant, . . . ENG.	Nivari dhanyamu, ,,
Paddy, in straw, MALAY.	

The grain husked.

Pusnee, ... BENG.	Tai, ... JHELUM.
Bhatta, ... CAN.	Dein, Tani, . . KASH.
Kang-mi, Mi, . . CHIN.	Bras, ... MALAY.
Chawal, . DUK., HIND.	Ari, Arisi, Payera, MALEAL.
Rice, ... ENG.	Birinj, Shali, . . PERS.

The Oryza genus of plants belongs to the natural order Panicaceæ. Oryza is the term by which rice was known to the Greeks and Romans, and which has been adopted by botanists as the generic name of the plant yielding that valuable grain. The Greek term would appear to be derived from the Arabic Aruz, and this is allied to Uri, a Telinga name of cultivated sorts; but the Sanskrit names are Anu, Dhanya, and Vrihi, the wild kind being called Nivara; while that of the great tanks is called Arisi in the Tamil language. The European names are evidently all derived from the same sources, but the Malay name, paddy, is applied to the rice in its natural state, or before being separated from the husk. The natives of India call it Dhan in this state, as well as the plant, and the rice itself is called Chawul. The genus Oryza has two glumes to a single flower; paleæ two, nearly equal, adhering to the seed; stamens six, and styles two. Dr. Roxburgh describes two species,—one, O. sativa, distinguished by its diffuse panicle; the other, O. coarctata, has the panicle contracted, the valvulets of the calyx subulate, and the leaves culm-clasping. This species is a native of the delta of the Ganges, and was first discovered there by Dr. Buchanan in 1796, but was not found to be applied to any use. The common rice, O. sativa, unlike many long-cultivated grains, is still found in a wild state, Nivara, SANSK., Newari, TEL., in and about the borders of lakes in the Rajamundry Circars of the Peninsula, though never cultivated, because the produce is said to be small compared with that of the varieties in cultivation. The composition per 100 parts of several rices was as under:—

	Pegu.	Bombay bazar.	Broach.	Bareilly.	Malacca.
Moisture, ...	13·50	13·00	13·10	12·80	12·90
Nitrogenous matter, . .	7·41	7·44	7·12	8·24	7·24
Starchy matter, . . .	78·10	77·63	78·70	77·80	78·56
Fatty or oily matter, .	0·40	0·70	0·49	0·64	0·60
Mineral constituents (ash),	0·59	1·23	0·66	0·52	0·70

In the East Indies, rice is used for food for man, cattle, and fowl; for the manufacture of starch, and the distillation of spirit, etc. Rice is the food of a great number of the human race. The inhabitants of N. and S. America, on the S. of Europe, of N. Africa, of the south and east of Asia, all largely use it. It is the most easily digestible of all vegetable substances, but its bulk is objectionable.

There are in several provinces three distinct crops; the first, grown on somewhat high ground, is the early crop, sown for the most part in June, and reaped in August and September. The Burmese recognise nearly a hundred varieties of rice, but their principal distinctions between the different kinds are, the hard-grain rice, soft-grain rice, glutinous rice. These names are designative.

The Natsung rice of Burma is the hardest grain, and is the rice principally exported to Europe. The Meedo is the chief of the soft-grain varieties; is much preferred by the Burmese to the hard-grained sorts, and it is certainly superior in taste when cooked; but the hard-grained rice is chiefly purchased by the merchants for export, as it keeps better, and the soft-grained rice is too much broken by European machinery in cleaning. This last objection appears to have been overcome, and a demand sprang up for the Meedo rice for the markets of foreign Europe.

The Koung-nyeen, or hill rice, is called glutinous rice by Europeans, from the property it possesses, when cooked, of the grains all adhering in a thick glutinous mass. It is the chief article of food with the Karen and other hill tribes, but is not much eaten by the inhabitants of the low swampy plains, where the common rice is grown.

Many varieties of rice are grown in Oudh, but five kinds are considered among the best. Mihee and Basee are foremost. The peculiarity in the cultivation of these two kinds is, that they are transplanted and placed about 5 inches apart. By this method, if the soil is good, they grow to the height of an ordinary-sized man, and produce a much larger quantity than if otherwise treated. The odour and flavour of these two kinds, when cooked, are superior to those of any other variety. They are only used by such as can afford to buy them. Other esteemed varieties are the Bateesa and the Phool-birinj. They are sown broadcast in June, and left so, and they are mostly used by natives. The first two mentioned, when new, sell for 10 or 12 seers per rupee, and become dearer according as they become older. The other three kinds sell for about 19 seers per rupee, and are dearer if older. Some prefer Phool-birinj, as it swells in boiling, and has an agreeable odour.

Throughout the Panjab, where the soil is low and good, and water abundant, especially in the upper part of the Jullundur Doab, rice is grown. It is also abundantly grown throughout Siwalik tract, and up the valleys to an elevation in places of 6000 or even nearly 7000 feet. In Peshawur the varieties of rices are called doaba, shugha, zafrani, jyotshi, kaneri, and lukh, or coarse rice. In the plain districts the coarse rice commonly grown is called munji; other varieties met with in the bazar, of second and third quality, are begami and samoja, also sohn pat; a fourth class is the red-skinned kind called sathi, also sharbati and chinwa lal,—this is inferior.

In Mysore, rice is extensively grown in the wet

lands irrigated by the canals of the rivers Cauvery, Capila, Hamavety, Lutchman Tirta, and Pennar, at talapirige or fountain-heads, and under tanks. Nuggur and Astagram divisions have proportionally the largest produce of paddy. It is exported from one part of Mysore to another; but except to the Neilgherries, and a portion to the western coast from Nuggur and North Astagram, little goes out of the territories. There are many varieties. Indeed, almost every village in India has a variety of this grain peculiar to the locality. The ryots do not try to preserve paddy for a length of time, as it rapidly loses in weight.

The ardent spirits prepared from rice are—

Arrack, . . .	Batavia.	Saki, ...	Japan.
Ayet, ...	Burm.	Rij, Tanpo, Sichew,	Jav.
Mandrin, . . .	Chin.	Phaur, . . .	Nepal.
Paniz, . . .	Corea.	Lau, ...	Siam.

The No or glutinous rice of China contains much dextrine, and is rounder in the grain. The best glutinous rice of China is from Kiang-si; it is preferred for making congee, dumplings, wine, but is not so digestible as common rice.—*Ainslie; Roxb.; Stewart; Smith; Powell; Madras Ex. Jur. Rep.; Catalogue Ex.; Simmonds.* See Rice.

OSACA, an imperial city of Japan, pleasantly situated on a river, spanned by a bridge with several arches.

OSARA REWAND. In Tibet, extract of rhubarb, *i.e.* lit. rhubarb juice. In India, gamboge.

OSBECKIA ASPERA. *Blume.*

Osbeckia glauca, *Benth.*	Melastoma asperum, *Linn.*
Choto-phutika, . Beng.	Kaat katali, . Maleal.

This belongs to the order Melastomaceæ; there are several species. A pretty species, having the stamens all of equal length, is in flower on the Moulmein Hills in August.—*Roxb.* ii. p. 224.

OSCILLATORIA RUBESCENS. Ehrenberg, while navigating the Red Sea, observed that the occasional red colour of its waters was owing to enormous quantities of an animal, which has received the name of Oscillatoria rubescens, and which seems to be the same with what Haller described as a purple conferva swimming in water.

OSHADHI-PATI. Sansk. Lord of herbs, an epithet of the Hindu deity Soma, the moon.—*Dowson.*

O'SHAUGHNESSY, Sir WILLIAM, M.D., a medical officer of the Bengal army, who introduced the electric telegraph into India. Author of the Bengal Dispensatory, Calcutta 1842; Explosion of Gunpowder under Water by Galvanic Battery, in Bl. As. Trans., 1839, iii. p. 851; Preparation of Ganja, etc., ibid. 732, 838; Communication of Telegraphic Signals, etc., ibid. 714; Effects of Sea-Water on Iron, ibid. 1843, xii. part 2; Report on the Establishment of the Electric Telegraph, Pamphlet, Calcutta 1852, published by Government; also author of the Bengal Pharmacopœia.

OSHTERANI. South of the Sheorani hills, conterminous with the Dehra Ismail Khan and Dehra Ghazi Khan districts, the small Pathan tribe of Oshterani dwell, mustering about 1000 fighting men. They are brave and pugnacious, but not predatory. They dwell chiefly in the hills, and are so far independent; but many of them possess and cultivate lands in the plains at the foot of the hills, and consequently within British territory. Before annexation, they used to be quite as violent as their neighbours, especially during the continuance of a deadly feud with the Kasrani. The quarrel was, however, composed by Major Edwardes, before annexation. Subsequently, they never attacked British subjects, or made raids on property, and have evinced a good and friendly disposition. On the border of the Oshterani hills, and nearly opposite to Dehra Futteh Khan, is the Vooch or Korah pass, faced by the British outposts of Doulalwalla and Vehoa.—*Records, Government of India.*

OSIRIS, a god of the ancient Egyptians. He was worshipped as the Lord, the God and Father of each individual soul, the Judge of men, who passes sentence strictly according to right and wrong, rewarding goodness and punishing crime. The worship of animals was not introduced into the established religion earlier than the second dynasty, 200 years after Menes, therefore not much more than 5000 years ago (Bunsen's God in History, i. p. 226). According to some authors, Amun, the King; Neph, the Divine Spirit; Phthah, the Creative Power; Khem, the Reproductive Power; Thoth, the Divine Intellect; and Osiris, the Goodness of God, were all one and the same being. Osiris was the essential personification of divine goodness. Many cities claimed the honour of being his burial-place, particularly Philæ, Sais, Busiris, and Taposiris. At Memphis he became united to Phthah, and was called Phthah-sokar-Osiris; and also to the bull Apis, and then became Osiris-apis or Serapis, who was afterwards the chief god of Egypt. Isis, his queen and sister, held rank before him, and was the favourite divinity of the country. She had the characters of all goddesses in turn. She was sometimes the mother, sometimes the queen of heaven, sometimes Hecate, the goddess of enchantments. Horus, their son, had a hawk's head, and wears the crown. He was the avenger of his father's death. But he sometimes appears with the sun on his head, as Horus-ra or Arroeris, the elder Horus, and he is not then the son of Isis. They had another son, Arrubis, with a jackal's head, whose office was to lay out the dead body and to make it into a mummy. The god Typhon is in form of a she-bear or hippopotamus, walking on its hind legs. He was the author of evil, and he killed his brother Osiris. Nephthys was the sister and companion of Isis. Of this family, the trinity is sometimes Isis, Osiris, and Nephthys.

OSORIO. Geronimo Osorio, author of the great work, De Rebus Emmanuelis Virtute et Auspicio Gestis, 1571. It is an invaluable compilation on the early Portuguese period of its relations with the East Indies.

OSPHROMENUS OLFAX. *Commerson.* The Gourami at Penang, Malacca, Mauritius, and Madras. This fish has been successfully naturalized. A writer, signing himself 'Z,' in Land and Water of 8th February 1868, calls it the Ikan gorammi of the Malays, and adds: 'Dr. Cantor, in his catalogue of Malayan fishes (Jour. As. Soc. of Bengal, vol. xviii.) remarks that . . . they become tame, so as to appear on the approach of their feeder, and will rise to flies, beetles, and certain flowers, particularly those of a large hibiscus. Among themselves they are pugnacious. Several living ones were imported, and placed in a tank in the Calcutta Botanic Gardens, where they appeared to thrive.' General Hardwicke (Zool. Jour. iv. p. 309) gives an account of the breeding of this fish, appar-

ently monogamous; he observes they commence at six months of age, whilst their fecundity is astonishing. During the breeding season they frequent the sides of tanks, where shelter is afforded them by the grasses and weeds growing in the water. For several days they are very active, passing in and out of their grassy cover, and in some places thickening it, by entangling all trailing shoots, and forming what is generally considered the spot under which the ova are deposited. They continue to watch this place with the greatest vigilance, driving away any interloping fish, and at the end of a month numerous fry appear, over which the old gouramies keep watch many days.'—*Dr. Day.*

OSRHOENE of the Romans, the modern Orfa in the pashalik of Baghdad.

OSTEOCOLLA, an inferior kind of glue manufactured from bones. In Gurief, a fine boiled fish-glue is prepared, perfectly transparent, having the colour of amber, which is cast into slabs and plates. The Ostiaks also boil their fish-glue in a kettle.

OSTIAK. On the river Ket is a tribe called by the Tongusians Gosetiyasek or Ostiak, who possess a number of scattered habitations in the woods on each side of the Ket. They hunt the tiao, and pay a fixed tribute of the skins of this animal. The Ostiak regard it as a crime to marry a woman of the same family, or even of the same name. The same custom prevails among the Circassians, the Chinese, the Rajputs, Brahmans, and the Samoyeds.—*Staunton's Narrative; Pallas*, iv. p. 96; *Lubbock's Civil.*

OSTODES ZEYLANICA. *Thw.*

Desmostemon Zeylanicus, *Th.* | Walka-koona, . SINGH.

There are two varieties, a large and a small. The large tree is common in the dense moist forests of the Wynad, Animallays, Tinnevelly Ghats, Travancore, and Ceylon, up to about 4000 feet elevation. Its timber is in use for ordinary work in Ceylon. The variety O. minor, *Mull.*, is much rarer than the ordinary form. Colonel Beddome observed it only on the Animallays, and it occurs in Ceylon; it differs in no way, except in the size of all its parts, but it is considered a distinct species by Muller.—*Beddome, Fl. Sylv.*

OSTRICH, Struthio camelus, *L.*

Thar-ud-jamal,	ARAB.	Shutr-murgh,	PERS.
Strudsfugl,	DAN.	Abestruz,	PORT.
Struisvogel,	DUT.	Strouss,	RUS.
Autruche,	FR.	Avestruz,	SP.
Strauss,	GER.	Struts,	SW.
Struzzo,	IT.		

This is the only species of the genus Struthio. It inhabits Central and Southern Africa. It runs with great speed, aided by its wings, which are not sufficiently developed for flight. The length between each stride, when at full speed, is not unfrequently from 12 to 14 feet, moving with a velocity that puts the swiftness of the horse to the trial. They feed on the sprouts of the Acacia mimosa, and on the pulp of the Naras. When hunted by horsemen, the latter surround the troop of ostriches and drive them from one to another, gradually narrowing their circle. In the height of the hot weather, the ostrich makes but little effort, and a single horseman suffices to catch them. The ostrich imitates the lapwing and oyster-catcher in its stratagems to mislead those who approach its nest or its young. It hatches its own eggs, but reserves a few for the food of its young. Its usual cry is a short roar, but when at bay it hisses like a gander. Their long wing-feathers are sold at from £1 to £12 the lb.—from 70 to 90 feathers go to the lb.; the thinner the quill, and the longer and more wavy the barbs, the more it is prized.

Ostrich farming has been successfully introduced at the Cape of Good Hope, in S. America, and on the Pacific side of the United States, from species of Rhea. Buffon mentioned that the feathers of the finest quality are no doubt obtained from living birds. Captain Lyons, who travelled through the northern latitudes of Africa in the early part of the present century, also mentioned that 'at Sockna and its environs they keep ostriches in their yards and enclosures, and collect their feathers three times in two years. From the ostrich skins which I have seen exposed for sale, I fancy that the best plumes we see in Europe are obtained from those thus kept enclosed; for those obtained from wild birds have theirs so broken and soiled, that there are often not a dozen good ones found.' In 1856, it appears to have been suggested by the French that the ostrich might be domesticated in Algeria. According to Marmot, the native tribes of the province of Dara, in Numidia, raised ostriches for their feathers. They were put to graze in troops, so as to secure their feathers in the best possible condition.

M. J. Verran, the naturalist, made a large profit from the feathers derived from the ostriches he raised in his menagerie at Cape Town; and he managed to pluck his birds, without inconvenience, regularly twice a year. And the systematic breeding and rearing of ostriches in South Africa has taken deep and extensive root. In 1860, a pair of ostriches, six months old, could be purchased for 10s.; now, for one bird alone, a few days after hatching, £5 will be given, and for those of three or four months old, £8 to £10; at 12 to 18 months, £12, 10s. to £16; from 2 to 4 years, £20 to £30; a full-grown pair, from £60 to £300, and even £1000. In 1860, the quantity of ostrich plumes exported was 2297 lbs., valued at £19,201; in 1873 it had grown to 31,581 lbs., worth £159,677. An ostrich in full development and plumage, only, however, yields every eight months ¼ lb. of feathers.

The breeding birds are occasionally supplied with chopped meat. The cock birds are viciously pugnacious. They kick forward, and the claw on the end of the bigger toe rips like a knife. The body of the male is jet black, with beautiful white feathers drooping from its wings and tail, and long black feathers slightly overhang them.

They lay from 6 to 14 eggs, and are hatched in 42 days. A full-grown male ostrich, kept for plucking, yields annually about 40 long white and variegated feathers from the wings, called primes and seconds, equal to about 8 ounces in weight. These grow in two rows on each wing. Next in value are the tail-feathers and the long and short black ones. The hen has several long white and variegated feathers, and long and short drab ones, but the former are not of equal value to those of the cock bird. A pair of full-grown ostriches, from 4 years old and upwards, will bring in about £25 per annum by plucking them every 8 months, the average of the male's plucking being £10, and that of the female's £7, 10s. Young birds are plucked for the first time when 10 or 12 months old, but are only worth 7s. 6d. to 15s. the lb.

Their second plucking is when about 20 months old. Cutting obtains better feathers than plucking.—*Hartwig.*

OSWAL, a tribe of Rajputs engaged in commerce, and known to Europeans and natives of India as Marwari, also as Baniya and as Saraogi. They are not numerous, but are dispersed through India engaged in their avocations, usually of a banking financial character. They are large made, fair men, and are almost all of the Jaina religion, as also are all the mercantile Agarwal, Bandd'hmati, Jaiswal, Jati, Kharelwal, Lohiya, Sri Mal, Sri Sri Mal, Sri Mali Pattan, Palliwal, Purwal.—*Sherr. Tribes*, p. 289.

OSYRIS, a genus of the Santalaceæ or sanderswood tribe of plants. O. Nepalensis, *Don.*, is a tree of Nepal, Sirmur, and Hardwar. O. Wightiana, *Graham*, of Kandalla, the lotul, one of the Santalaceæ tribe of plants, is a small tree, with twiggy, erect-growing branches; in flower and fruit most of the year. The fruit, when ripe, is of the size of a small sloe, of a yellow colour, with a mark on the top like a blaeberry. It is sweet and very pleasant when tasted, and is deservedly ranked amongst the wild fruits by Colonel Sykes. O. Nepalensis and Eurya fasciculata are indigenous in the Himalayan valleys, resemble the tea plant, and were mistaken for it.—*Riddell.*

OT or Ota, a Hindi terminal suffix, implying of or belonging to, as Bapote, Gehlot, Mairot. The mountain clans of Albania and other Greeks have the same distinguishing termination, and the Mainot of Greece and the Mairot of Rajputana alike signify mountaineer, or of the mountain; Maina in Albanian, Maira or Mera in Sanskrit.

OTARIA JUBATA, the maned sea-lion, is 11 feet long, has an erect curly hair-tuft at its neck, with a mane flowing completely round its breast, but other parts of its body have only smooth hair or bristles. Otaria Stelleri, the sea-lion of Steller, is found on all the coasts and islands of the Pacific, from lat. 51° N. to the extreme south, but chiefly in Prebelow Island, St. George's. It is hunted by the Aleuth, who use its tawny bristled hide for a boat covering and articles of clothing.—*Hartwig.*

OTHMAN, Usman, or Osman, the 3d khalif of the Muhammadan Arabs.

OTHMAN, the founder of the Turkish empire, from his activity in warfare, was named Ilderim or Yelderm, signifying lightning. He opposed Timur, who in 1403 defeated him at Angora, took him prisoner, and, according to report, confined him in an iron cage. He died soon after. The Turkish race, from Ertoghrul's son Othman, has been called the nation of the Ottoman Turks, and the Osmanli See Ertoghrul; Ottoman; Turkey.

OTIDIDÆ, the bustard family of birds, comprise the genus Otis and three sub-genera, also species of Houbara, Eupodotis, and Sypheotides.

Eupodotis Edwardsii, *Gray*, Indian bustard.

Otis nigriceps, *Vigors.*	O. Lucionensis, *Vieillot.*
Tokdar sohun, . . HIND.	Burra chirath, . . HIND.
Guganbher, . . ,,	Batt-meka, . . . TEL.
Hookna, Gurayin, ,,	Batt-myaka, . . ,,

Length, 4½ to 5 feet; weight, 26 to 28 lbs. Not found in the valley of the Ganges, Bengal, Behar, or the Malabar coast, but is spread over other parts of India. Eupodotis nuba, *Ruppell*, E. Ludwigi, *Ruppell*, E. caffra, *Licht.*, E. Denhami, *Children*, E. Arabs, *Linn.*, and E. kori, *Burchell*, occur in Africa.

Houbara Macqueenii, *Gray, Hardw., Gould*, is the O. marmorata, *Gray, Hardw.*, and is the Tilaor, female, and Obarra, HINDI. The Indian houbara bustard is 25 to 30 inches long, and weighs 3¼ to 3½ lbs. It is found throughout the plains of the Panjab and Upper Sind, occasionally crossing the Sutlej and the Indus lower down, but it does not occur east of Dehli. It is much hawked both in the Panjab and Sind, the falcon used being the cherrug or Falco sacer.

Sypheotides Bengalensis, *Gm.*, Bengal florikin.

O. deliciosa, *Gray, Hardw.*	O. Himalayana, *Vigors.*
Charras, Charaz, .. HIND.	Dubar . . . of NEPAL.

Length, 24 to 27 inches; weight, 3¼ lbs. It occurs in all the north of India, from Calcutta to the Himalaya.

Sypheotides auritus, *Lath.*, black florikin.

Otis auritis, *Latham.*	O. fulva, *Sykes.*
Kan-noul, . . . CAN.	Tan-mor, . . MAHR.
Charas, Charaz, . HIND.	Waragoo-koli, . . TAM.
Chulla charz, . . ,,	Niala-nimili, . . TEL.
Likh, Khar-titar, . ,,	

Length, 18 to 19 inches; weight, 16 to 18 oz.; found throughout India.

Otis tetrax, *Linn.*, the Tetrax campestris, the small bustard of Europe, is said to have been found in the Peshawur valley. It occurs in Central and Western Asia and N. Africa.

The following are bustards of Africa, some of which spread into Arabia, viz.:—O. rhaad, *Shaw;* O. cœrulescens, *Vieill.;* O. scolopacea, *Temm.;* O. afra, *L.;* O. afroides, *S.;* O. Senegalensis, *Vieill.;* O. melanogaster, *Ralph.*

Otis tarda, *Linn.*, great bustard; Avis tarda.

Kodan, Jurz, . . ARAB.	Jungli-kabut, . . HIND.
Asford, ... ,,	Starda commune, . . IT.
Battmiaka, . CAN., TEL.	Ahu bura, . . . PERS.
Ostarde, Houtrade, FR.	Gustard, . . . SCOTCH.
Bistarde, . . . ,,	Abu-tarda, ... SP.
Trapp, Trapp-gans, GER.	Nil-naray, . . . TAM.
Grossetrappa, . . ,,	Batt-miaka, . . . TEL.
Acken-trapp, . . . ,,	Bit-miaka, . . . ,,

The bustards live generally in open countries, preferring plains or wide-spreading, extensive downs, dotted with low bushes and underwood,—localities which give them an opportunity of descrying their enemy from afar.—*Ainslie; Eng. Cyc.; Jerdon's Birds.*

OTOLITHUS, a genus of fish on the Malabar coast; excellent isinglass is obtained from two species. They are allied to the perches, but have more variety, and a more complicated structure in their natatory bladders; almost all are good for eating, and many of superior flavour.

Otolithus biauritus, *Cantor.* Total length, 3 feet. Inhabits Sea of Penang, Malayan Peninsula, Singapore, Lancavy, Tenasserim Provinces, and, according to Jerdon, the Malabar coast, where it is called Sille-kora in Malealam. The air-vessel is nearly one-half of the total length, and in shape might be compared with an elongated antique urn with two handles. From the anterior part of each of the latter proceed five branches, four of which give off smaller ones to each side, and the fifth is tortuous and smaller than the rest. It yields a large quantity of isinglass, which in the Chinese market is considered to be of the best quality, and fetches 40 to 50 Spanish dollars per pikul.

Otolithus ruber, *Bloch* and *Schneider.* Jarangigi, MALEALAM. The total length of this fish is 2 feet 6 inches. It yields isinglass.

Otolithus versicolor, *Cuv.* and *Val.* Panan, Panna, TAM. The total length of this fish is only 6½ inches. It inhabits the Sea of Penang. Its air-vessel is one-quarter of the total length. Jerdon says this fish is a foot long, and very common at Madras. It is the Perche pierre of Pondicherry.—*Cantor*, p. 1046.

OTONO, a city alderman of Japan. In Japan, a city is divided into wards; for the ten wards there is one lord mayor, who every morning receives the Otono or alderman, hears the cases of minor importance, and decides upon them with the alderman summarily. The Otono post up the public notices in their quarters, and take care of all the poor and sick in their wards.—*Hodgson's Nagasaki*, p. 228.

OTTER, a name for two distinct animals, the land-otter (Lutra vulgaris, L. nair, L. leptonyx, and L. Canadensis) and the sea-otter (Enhydra marina). Both are caught for their fur; of the former, Great Britain receives about 20,000 skins a year. The latter, more like the seal in its habits, is obtained in much smaller numbers, but, being the royal fur of China, is highly valued there and in Russia. The otters of India and S.E. Asia are classed by naturalists under the genus Lutra, and sub-family Lutrinæ.

The common Indian otter, the Lutra nair, *F. Cuv.*, is found throughout India, Ceylon, Burma, and Malayana, from the seashore to considerable elevations, frequenting rivers and salt marshes, making its lair under boulders and rocks. It is trained in Bengal and China to assist in fishing, by driving the fish into the nets. It is easily domesticated.

The hill-otter of India, L. vulgaris, *Erxleben*, is the common otter of Europe, and is found only in the Himalaya.

The clawless otter, L. leptonyx, *Horsfield*, is found throughout all the Himalaya, from the N.W. to Sikkim, also in Lower Bengal and Arakan.

Lutra auro-brunnea, a small otter of the Himalaya, has been described by Mr. Hodgson.

Lutra barang, *Raffles*, is an otter of the Malay Peninsula.

Lutra simung, *Raffles*, is found in Singapore and Borneo.—*Jerdon; Horsfield; Powell; Blyth.*

OTTO OF ROSES.

Atr, . . .	ARAB., GUJ.	Gulab-ka-atr, . .	HIND.
Mei-kwei-yu, . .	CHIN.	Atr-i-gul, . . .	PERS.

Otto of roses is a perfume obtained by the distillation of rose petals. It is manufactured in France, Turkey, Tunis, and Persia, and is also made in Hindustan. Dr. Jackson mentioned that in the early part of the 19th century, around the station at Ghazipur, there were about 300 bighas, or about 150 acres of ground, laid out in small detached fields as rose gardens, most carefully protected on all sides by high mud walls and prickly pear fences to keep out the cattle. These lands, which belong to zamindars, are planted with rose trees, and are annually let out at so much per bigha for the ground, and so much additional for the rose plants,—generally 5 rupees per bigha, and 25 rupees for the rose trees, of which there are 1000 in each bigha. The additional expense for cultivation would be about 8 rupees; so that for 38 rupees you have for the season per bigha of 1000 rose trees. If the season is good, this bigha of 1000 rose trees should yield one lakh of roses. Purchases for roses are always made at so much per lakh. The price of course varies according to the year, and will average from 40 to 70 rupees. As soon as the roses come into flower, the zamindar and cultivators of the rose gardens, as well as intending purchasers, meet in the city, and, according to the demand and expected produce, a nerick or market rate is established, and purchasers then enter into agreement with the cultivators for so many lakhs of roses at such a price. This agreement is considered binding, and the cultivator is obliged to deliver the quantity at the contract rate; when that is completed, another can be made, but this latter is always at a much higher rate.

Unlike the propagation of the specimen roses of England, which depend on grafting, these rose trees are raised from cuttings, which are planted out from nurseries after one year's growth, at an expense of 25 rupees per bigha. These slips are watered every five or six days till the setting in of the rains, and when once they have taken root they are finally transplanted to the rose garden. Here each rose tree is planted 3 feet apart from the other, and on an average 1000 shrubs are allowed to grow in each bigha of land. Rose fields are kept scrupulously clean by constant weeding and loosening of the soil round the root. This operation takes place about three times a year. The best sort of manure for roses is sprinkled all over the fields annually, and once a year the fields are irrigated by flooding them with well water. Pruning takes place in the month of January; the flowering season is in February and March, when the blossoms are picked and collected each day before sunrise. The average yield of flowers per bigha is from 30,000 to 60,000. These are sold to the distillers at a rate of from 100 to 125 rupees per lakh of flowers. The total area under rose cultivation in Ghazipur was estimated at about 200 acres, bearing an average rental of 4 rupees per bigha.

The rose trees come into flower at the beginning of March, and continue so through April. In the morning early the flowers are plucked by numbers of men, women, and children, and are conveyed in large bags to the several contracting parties for distillation. The cultivators themselves very rarely manufacture. The native apparatus for distilling the rose-water is of the simplest construction; it consists of a large copper or iron boiler well tinned, capable of holding from 8 to 12 gallons (shaped like the earthen hundi pots in which the gomastahs send in their opium), having a large body with a rather narrow neck, and a mouth about 8 inches in diameter; on the top of this is fixed the head of the still, which is nothing more than an old deghchi, or cooking vessel, with a hole in the centre to receive the tube or worm. This tube is composed of two pieces of bamboo, fastened at an acute angle, and it is covered the whole length with a strong binding of corded string, over which is a luting of earth to prevent the vapour from escaping. The small end, about two feet long, is fixed into the hole in the centre of the head, where it is well luted with flour and water. The lower arm or end of the tube is carried down into a long-necked vessel or receiver, called a bhubka. This is placed in a 'hundi,' or pot of water, which as it gets hot is changed. The head of the still is luted on to the

OTTO OF ROSES.

body, and the long arm of the tube in the bhubka is also well provided with a cushion of cloth, so as to keep in all vapour. The boiler is let into an earthen furnace, and the whole is ready for operation.

The best *rose-water* in the bazar may be computed as bearing the proportion of 1000 roses to a seer of rose-water; this perhaps may be considered as the best procurable. From 1000 roses most generally a seer and a half of rose-water is distilled, and perhaps from this even the attar has been removed. The boiler of the still will hold from 8000 to 12,000 or 16,000 roses. On 8000 roses from 10 to 11 seers of water will be placed, and 8 seers of rose-water will be distilled. This, after distillation, is placed in a carboy of glass, and is exposed to the sun for several days to become puckah or ripen; it is then stopped with cotton, and has a covering of moist clay put over it; this becoming hard, effectually prevents the scent from escaping. The price of this will be from 12 to 16 rupees. This is the best that can be procured.

To procure the pure *attar* or *otto*, the roses are put into the still, and the water passes over gradually as in the rose-water process; after the whole has come over, the rose-water is placed in a large metal basin, which is covered with wetted muslin tied over to prevent insects or dust getting into it; this vessel is let into the ground about two feet, which has been previously wetted with water, and it is allowed to remain quiet during the whole night. The attar is always made at the beginning of the season, when the nights are cool. In the morning early the little film of attar which is formed upon the surface of the rose-water during the night is removed by means of a feather, and it is then carefully placed in a small phial; and day after day, as the collection is made, it is placed for a short period in the sun, and, after a sufficient quantity has been procured, it is poured off clear, and of the colour of amber, into small phials. Another account of it is that in the manufacture of the purest attar of roses, a gallon or half a gallon of the best rose-water is kept in a large copper vessel in the cool night air, with a thin cotton covering over it. Before daybreak the extract floating over the surface of the water is carefully collected with a pigeon's feather, and placed in a phial. The next day fresh flowers are added to the same water, and it is again distilled; and the same process is continued for several days successively, till as much pure attar of roses is collected as is required. The whole quantity thus collected is kept in a phial and exposed to the sun for a few days; and as soon as the watery particles have evaporated, pure oil or attar of roses is left in the phial, which sells by weight at 125 to 130 rupees per tola. This sort of attar being costly, is generally made only to order, and the ordinary quantity purchased each year rarely exceeds five or six tolas. The rose-water left after the eighth or ninth distillation again comes into use, and is sold in the market as the best of its kind. It is, in fact, clear profit to the manufacturer, who is already amply repaid by the attar itself. The prime cost of a tola of attar is fairly estimated at Rs. 72, viz. cost of labour, Rs. 12; value of 50,000 rose-flowers at Rs. 120 per lakh, Rs. 60,—making the total Rs. 72. The margin left to the manufacturer, after covering the cost of interest on outlay, does not fall far short of Rs. 40 or Rs. 50.

The ordinary rose-water is sold in huge spherical glass receptacles, called karabas, each containing 14 quart bottles. The average selling price of ordinary rose-water varies from 2 to 12 rupees per karaba, and in English quart bottles from 8 rupees to 8 annas each. The usual cost of labour for each distillation yielding 24 bottles is 1 rupee. During the season, numerous temporary rose stills are worked by traders from different parts of India. Consequently it is very difficult to make even an approximate estimate of the actual quantity produced, but it is supposed to be somewhere between 200 and 300 maunds.

Pure attar, when it has been removed only three or four days, has a pale greenish hue; by keeping it loses this, and in a few weeks' time it becomes of a pale yellow. The first few days' distillation does not produce such fine attar as comes off afterwards, in consequence of the dust or little particles of dirt in the still and the tube being mixed with it. This is readily separated, from its sinking to the bottom of the attar, which melts at a temperature of 84°. From one lakh (100,000) of roses, it is generally calculated that 180 grains, or one tola, of attar can be procured; more than this can be obtained if the roses are full-sized, and the nights cold to allow of the congelation. The attar purchased in the bazar is generally adulterated, mixed with sandal oil or sweet oil; not even the richest native will give the price at which the purest attar alone can be obtained, and the purest attar that is made is sold only to Europeans. Attars sell at from 50 to 90 rupees the tola of 180 grains.

Native stills are let out at so much per day or week, and it frequently occurs that the residents prepare some rose-water for their own use and as a present to their friends, to secure their being provided with that which is the best. The natives never remove the calices of the rose flowers, but place the whole into the still as it comes from the gardens. The best plan appears to be to have the calices removed, as by this means the rose-water may be preserved a longer time, and is not spoiled by the acid smell occasionally met with in the native rose-water. It is usual to calculate 100 bottles to one lakh of roses. The rose-water should always be twice distilled; over 10,000 roses, water may be put to allow of 16 or 20 bottles coming out; the following day these 20 bottles are placed over 8000 more roses, and about 18 bottles of rose-water are distilled. This may be considered the best to be met with. The attar is so much lighter than the rose-water, that previous to use it is better to expose the rose-water to the sun for a few days, to allow of its being well mixed; and rose-water that has been kept six months is always better than that which has recently been made.

At the commencement of the rose season, people from all parts come to make their purchases. There are about thirty-six places in the city of Ghazipur where rose-water is distilled. The distillers generally put a large quantity of sandal oil into the receiver; the oil is afterwards carefully removed and sold as sandal-attar, and the water put into carboys and disposed of as rose-water. At the time of sale, a few drops of sandal oil are placed on the neck of the carboy to

give it a fresh scent, and to many of the natives it appears perfectly immaterial whether the scent arise solely from the sandal oil or from the roses. Large quantities of sandal oil are every year brought up from the south and expended in this way. The chief use the natives make of the rose-water, or the sandal-attar, as they term it, is on the occasion of their festivals and weddings. It is then distributed largely to the guests as they arrive, and sprinkled in profusion in the apartments. A large quantity of rose-water is sold at Benares, and many of the native rajas send over to Ghazipur for its purchase. Most of the rose-water as soon as distilled is taken away, and after six months from the termination of the manufacture there are not more than four or five places where it is to be met with.

The bulk of the otto of roses of commerce is made in Turkey, where it is almost invariably adulterated with the oil of an Indian andropogon.

In India, all the perfumed oils obtained from all flowers are called atr or otto, but for making adulterated rose otto or atr, sandal-wood is well pounded and mixed with water, and then subjected to the usual process of distillation with roses. This gives a greater quantity of oily substance than could be expected from roses only. The same water is distilled over and over again, with an additional quantity of flowers as many fresh times as suits the fancy of the manufacturer. The value of this alloyed attar rises in proportion to the number of distillations, and the best of the kind is sold for 10 rupees per tola, down to the lowest rate of 2 rupees for the inferior sorts. The process of collection of this attar is the same as that of the other, the only difference between the two being in the admixture or not of sandal-wood. It is difficult to estimate with any degree of accuracy the quantity of alloyed attar annually produced in Ghazipur, for a large number of outsiders come every year, stop for the season only, and then carry off what they produce. Probably a maund would be near the mark; but the value cannot be accurately computed, owing to the great variety of rate for the different qualities manufactured.

Other perfumed oils are manufactured without resorting to distillation. Layers of jasmine or other flowers, four inches thick and two inches square, are laid on the ground and covered over with layers of sesamum or any other oil-yielding seed. These are laid about the same thickness as the flowers, over which a second layer of flowers like the first is placed. The seed is wetted with water, and the whole mass covered with a sheet held down at the end and sides by weights, and allowed to remain for eighteen hours in this form; it is now fit for the mill, unless the perfume is desired to be very strong, when the faded flowers are removed and fresh ones put in their place. The seeds thus impregnated are ground in the usual way in the mill, the oil expressed having the scent of the flower. At Ghazipur, the jasmine and bela are chiefly employed; the oil is kept in dubbers, and sold for about 2 rupees a seer. The newest oils afford the finest perfumes. The process here described is the same as that pursued at Bombay. In Europe, a fixed oil, usually that of the bean or morunga nut, is employed. Cotton is soaked in this and laid over layers of flowers, the oil being squeezed out so soon as impregnated with perfume.—*Monthly Bombay Times*, 25th Nov. to 24th June 1850; *Dr. Jackson in Trans. Ben. As. Soc.* viii.; *Pioneer Newspaper*.

OTTOMAN TURK, the name by which the British designate the Turk tribe dominant in Turkey in Europe and Turkey in Asia,—a name derived from Othman, the founder of the dynasty. They were in their beginning a wandering horde, and even in the time of their greatest dominion they kept up much of the character. They have been a ruling order, a body ready to admit and to promote any one of any nation who chose to join them, provided that he accepted the Muhammadan religion. In this has lain their strength and their greatness, but it has been throughout the greatness of a conquering army bearing rule over other nations. The conquered nations could not throw off the yoke, because those among them who were their natural leaders were pressed into the service of their rulers. Their victories were won by soldiers who were really of the blood of the Greeks, Slavs, and other conquered nations. The chief posts of the empire, civil and military, were constantly held, not by native Turks, but by Christian renegades of all nations.

OUBASHI. Turki. A commander of ten horsemen.

OUCHTERLONY, Captain, Madras Engineers. Wrote Report on Nellore, Cuddapah, and Guntur, Madras 1841; Statistical and Meteorological Report of the Neilgherry Hills, 1848; Bombay Almanac, 1850; Account of Chinese War, etc., Lond. 1844.

OUDH, a province of British India under the administration of a Chief Commissioner, who is also the Lieut.-Governor of the N.W. Provinces. It consists of twelve revenue districts, in four divisions, and it lies between lat. 25° 34′ and 28° 42′ N., and between long. 79° 44′ and 83° 9′ E. Four great rivers traverse or skirt the plain of Oudh in converging courses,—the Ganges, the Gumti, the Gogra, and Rapti, with the smaller rivers, the Babai, Girwa, Katna, Kauriali, Mohana, Sai, Sarda, Soheli, and Ul. All these, except the Ul, Katna, Gumti, and Sai, are hill streams descending from the Himalaya, and subject to sudden freshes. The *Rapti* is a rapid, second-class river, navigable for boats up to Bhinga. It is used for rafting timber in the rains. It swarms with crocodiles. The *Babai* is rapid and shallow in its upper course, and useless for navigation or for rafting. The *Girwa* is a mountain stream with a great fall, rushing in rapids and pools over a stony and sandy bed. It is useless for navigation. It is a branch of the Kauriali, from which it issues by percolation, and to which it is reunited lower down. The *Kauriali* is the largest of the affluents of the Ganges. Its discharge is 13,082 cubic feet per second. It is more than twice the size of the Ganges where it leaves the hills, and is navigable for boats throughout the year within British territory. It is called Karnali in the hills; Kauriali, after it enters the plains to its confluence with the Sarju a little below Bhurtpur; Gogra, thence to Fyzabad; Sarju, about Ajodhya; and Dewa or Gogra again below this, down to its confluence with the Ganges at Revelganj, near Chupra. The *Mohana* is the boundary of the British territory from Gwari Ghat to its confluence with the Kauriali, rather more than half its course in the plains. It is a shallow and rapid stream, not navigable, but

timber is floated down it in the rains to the Kauriali. This river swarms with crocodiles, both the magar or broad-nosed, and the gaurial or long-nosed species. The *Sarda* is a river about the size of the Ganges where it leaves the hills; 9 miles below, its discharge is 6416 cubic feet per second. It is the boundary between British territory and Nepal out of Oudh. It has lost the character of a hill stream, and flows in a sandy bed. The *Gumti* is a river rising in some rice fields, from which its head-waters appear to trickle. Its water is sweet, and its banks are cultivated throughout the province. It is navigable throughout the greater part of its course in Oudh, but it is extremely tortuous, and the navigation is impeded at Sultanpur by rocks. Oudh has no lakes, though some of the jhils are very extensive sheets of water. The country between the Gumti and the Ganges is well supplied with them. They lie in two parallel elevated hollows on either side of the Sai, and about midway between that river and the Gumti and Ganges respectively. They are drained by lateral nalē or branches, which fall mainly into the Sai, and which cause the occasional floods in that river after heavy rain. They are a striking feature of the country, stretching in a continuous series, on both sides of the Sai, from the Shahjahanpur boundary to that of Jounpur and Allahabad, and often connected when the rain has been heavy. They are covered with all kinds of wild fowl, and some of them are fairly stocked with snipe. Behti jhil, in Partabgarh district, is 14 square miles; and the Sandi, in Hardoi, is 10 square miles.

The Oudh forests are in three divisions. The first, or Khairigarh division, lies between the rivers Soheli and Mohana. The reserved trees are Shorea robusta, Dalbergia sissoo, Cedrela toona, ebony, Diospyros melanoxylon, Conocarpus latifolia, Terminalia tomentosa, Acacia catechu, and Nauclea cordifolia. There is a very small tract under sissoo reserved for the use of the gun-carriage agency at Futtehghur. Other trees are Ægle marmelos, Ailanthus excelsa, Bassia latifolia, Eugenia jambolana, Feronia elephanta, Ficus Indica, F. glomerata, Mangifera Indica, Melia azadirachta, Mimusops elengi, Terminalia bellerica, Zizyphus jujuba. Shorea, cedrela, ebony, conocarpus, and terminalia are found in the higher forest, called Bhabar, or, locally, Domar. The other trees are found on the lower ground or terai.

The terai stretches all along the frontier of the province immediately below the forest, and is low and moist. It is more or less settled or cultivated, but the crops are poor, and the country is unhealthy at the first, and there are great difficulties in the way of bringing the soil under cultivation. Throughout this district there are large grassy plains, where numerous herds of cattle are kept, and it is interspersed with old water-courses, the former beds of the rivers, now forming jhils, and swarming with alligators. In the Baraich and Kheeree districts, where the terai changes into the drier land, are two tracts, known as Dhowrera and Nanpara, which have an excellent breed of draught cattle. In the centre of this tract there are a few jhils, especially in the lower part of Sitapur, in Lucknow, and Barabanki, where the soil is more clayey, and the crops more irrigated and finer.

Oudh takes its name from Ajodhya, a sacred city of the Hindus, close to the town of Fyzabad. It was the capital of the ancient Solar dynasty, one of whose rulers was the deified Rama, worshipped throughout India. Also, a few miles north of the Gogra, at Colonelganj, the Hindus point out the burial-place of Agastya, one of the Solar race, a pioneer of civilisation, whom the Tamil people acknowledge as the founder of their literature. The earliest historical information points to Sravasti (Sahet Mahet) under a powerful ruler. In its capital Sakya Muni began his labours; and the city long remained a seat of learning for the disciples of the Buddhist faith. Six centuries after the first promulgation of the Buddhist religion, Sravasti contributed two of the great schools of doctors who attended at the synod convened by the Scythian conqueror Kanishka in Kashmir.

The first Muhammadan invasion of this province took place in the 11th century of the Christian era, when Sayad Salar Masa'ud, a relative of the great Mahmud of Ghazni, fought his way into Oudh at the head of a large army. The history of his invasion, his first success, and his final defeat and death at Baraich, are told in the Mirat-Masa'udi by Saadat Khan, the founder of its last Muhammadan dynasty, who (A.D. 1756) was appointed subahdar of Oudh in the voluptuous reign of Muhammad Shah. He was succeeded by his son-in-law, Safdar Jung, who died in 1753, and was succeeded by his son, Shuja-ud-Dowla, who was created vizir by the emperor Shah Alam. He was defeated at Buxar in 1764, and retreated to his own dominions. He then sought aid from the Mahrattas, but was again defeated, and he then threw himself on the generosity of the British. Shuja-ud-Dowla died in 1775, and was succeeded by his son. During his reign, an interview took place with Warren Hastings, from which a treaty in 1781 resulted. Asof-ud-Dowla died in 1797, and his reputed son, Mirja Ali, succeeded, only to be displaced for Saadat Ali's eldest son, Shuja-ud-Dowla, with whom a treaty was made in 1812. He died 11th July 1814, and was succeeded by his eldest son, Ghazi-ud-Din Haider. Hitherto the family were styled vizir, but in 1819 the ruler was raised to the dignity of padshah or king. His son, Nasir-ud-Din Haider, succeeded him, but died in 1817, and was succeeded by his uncle, Muhammad Ali, who died in May 1842, and was succeeded by his son, Amjad Ali, who, on the 13th February 1847, was succeeded by Wajid Ali, whose misgovernment was such that, after repeated warnings, he was dethroned 6th May 1856. The British Government then assumed the sovereignty of Oudh, and the king was pensioned on 12 lakhs yearly. In the course of the connection of the British with this family, the family lent several large sums to the British.

Oudh has probably the densest population of any equal rural area in the world. The census of 1869 returned a total of 11,220,232 persons, spread over 23,992 square miles, yielding an average of 468 persons to the square mile. At the census of 1881, the N.W. Provinces and Oudh were taken together, and showed a joint population of 44,849,619, viz. Hindus, 38,555,121; Muhammadans, 6,162,900; Buddhists, 103; Christians, 47,673; Sikhs, 3644; Jains, 79,957; Parsees,

114; Jews, 101; and others, 6. Muhammadans are most numerous and powerful in the central districts of Lucknow and Barabanki. Their settlements there were mostly effected in the 13th, 14th, and 15th centuries, and they have generally continued to hold the lands they first acquired. Of the 55 talukdars of these two districts, 34 are Muhammadans, 23 belong to Barabanki, and 11 to Lucknow.

The higher classes of Muhammadans are, Sayad, Shaikh, Milki, Malik, Kuraishi, Pathan, Khandan, Rohilla, Moghul.

The Muhammadan converts from higher castes are, Bhale Sultan, Khanzada, Rajput, Mewati.

The higher castes of Hindus are thus given:—Brahman, Bengali, Jat, Jain, Kshatriya, Kyath, Khatri, Kashmiri, Marwari, Panjabi, Sikh, Saraok, Vaishya.

Of lower Hindu castes the most numerous are, Ahir, Bhunya, Bhat, Barheire, Chamar, Dhobi, Kahar, Kori, Kurmi, Lohar, Lodha, Mali, Murao, Nao, Pasi, Teli.

Aborigines: Dom, Nat, Kanjar, Bhar, Tharu, Paharia, and others.

There are thirty orders of religious mendicants, amongst whom are Gosain, Jogi, Byragi, Sad'hu.

The Ahir are largely agricultural. The Kurmi and Murao are the best tenantry and most industrious cultivators. They form the backbone of the wealth of the province, and have fought well under British officers. The Pasi furnish the greater part of the rural police. Others, like the Bhar and Tharu, live in small isolated groups on the outskirts of the jungle or the hill country, and hold no communication with the outer world. The Nat and Kanjar wander like gipsies over the face of the country, with their small moveable villages or wigwams of matting and leaf-screens. The Kori and Chamar, weavers and leather-cutters, have lean, black, and ill-formed figures, and their stupid faces and their filthy habits reflect the long degradation to which they have been hereditarily subjected.

In consequence of the prevalence of female infanticide amongst certain Rajput tribes in Oudh, this race was carefully enumerated in 1871, and 439 clans or subdivisions of clans were found in 13,066 distinct villages, containing a population of 559,699 souls, of whom were 250,849 males and 184,623 females above ten years of age, and 84,200 boys and 6027 girls under ten. In the five years 1875 to 1879, there were 77,540 births among the proclaimed castes, of whom 39,984 were boys, and 37,556 were girls. They seem to generate more male offspring than female.

OUGEINIA DALBERGIOIDES. *Benth.*

Dalbergia Oojeinensis, *Roxb. Fl. Ind.* iii. p. 221.

Tewas, ...	HIND.	Tunnus, . . .	MAHR.
Sanan, Sandan, .	,,	Tella motku, . .	TEL.

A very valuable, good-sized timber tree, found in the Godavery forests, Jubbulpur, Nagpur, and up to 4000 feet in different parts of the Bengal (from the Jhelum) and Bombay Presidencies. In the Panjab and in the Siwalik up to 4000 feet, it is a smallish tree. The wood is hard, strong, and very tough, heavy and close-grained, and not unlike Dalbergia sissoo, but handsome, and said to be durable, not liable to warp, and not attacked with worms. It is much valued, and is used for building, ploughs, wheels, carriage poles, sugar and cotton rollers, and various other purposes, and it makes very handsome furniture. In N. Konkan, a kind of gum kino is extracted from the bark, which is used by the natives in bowel complaints.—*Roxb.; Stewart; Beddome.*

OULA, a much-prized grass, which grows plentifully on the banks of the Longari, a river of Manchuria, in which the Tartars envelope their feet in lieu of stockings.

OURMIA, a lake in Persia, with saline water; specific gravity, 1·16507, and abounding in sulphates and muriates. It is an inland sea nearly 300 miles in circumference, situated in a volcanic country. The streams flowing into it abound in lime, which is deposited in large quantity in the form of a beautiful travertine. Lake Ourmia, like that of Lunar, contains potash, which Dr. Carter did not detect in the springs running into the latter.

OUSELEY, MAJOR, wrote on Washing of Gold-dust at Hera Khond, Bl. As. Trans. 1839, viii. 1057; Course of the Nerbadda, ibid., 1845, xiv. part 1, p. 354; Antiquities of Jerguja, ibid. xxii. part 1, p. 65.

OUTRAM, GENERAL SIR JAMES, C.B., K.C.S.I., a distinguished, generous-hearted soldier of the Bombay army in the early and middle part of the 19th century; author of Rough Notes, or the Campaign in Sinde and Affghanistan in 1838-39, London, 1840; also Conquest of Sinde, 1846. He took an active part in this campaign, also commanded in the war against Persia in 1856-57, and in 1857-58 in the suppression of the rebellion and mutiny in Northern India. He rose in the 4th Regiment Bombay Native Infantry, and while still a young man, he encamped amongst a Bhil tribe, and induced them to adopt a settled life. He took part in the expedition to place Shah Shuja on the throne of Kābul, and when returning with Sir Thomas Willshire's brigade, he was present at the storm and fall of Kalat, and rode from there to Sonmiani from the 15th-16th November 1839, on a yaboo, in 7½ days, a distance of 355 miles. He was deemed a model for younger men to imitate; was styled the Bayard of the Bombay army, sans peur et sans reproche. Born 29th January 1803, he died at Pau, 11th March 1863. A statue was erected to his memory in London, and Sir Frederick Goldsmith wrote his life in two volumes.

OUVIRANDA FENESTRALIS, a plant of Madagascar, remarkable for the window-shaped structure of its leaves.

OVERLAND ROUTE. This line of communication between Europe and the E. Indies entered into the far-seeing projects of the first Emperor Napoleon, had been kept in contemplation by many a British statesman, and has been effected by a few men of spirit and enterprise. Lord Wellesley, before the close of the 18th century, had a line of the Company's cruisers running fortnightly between Bombay and Bussora, from which port letters were carried on by dromedary-post through Aleppo to Constantinople. Tidings of the victory of the Nile were sent by Nelson to the Bombay Government by way of Baghdad and Bussora. A few officers, from the year 1809 onwards, made their way to and from India by the Red Sea via Cosseir, including Sir Hudson Lowe. Sir John Malcolm came home by it in 1821. A definite proposal for a line of communication by that route was made by Mountstuart Elphinstone as early as 1823, and renewed in

1826, but rejected by the Court of Directors of the English East India Company. In the year 1830, Lieutenant Waghorn, after reaching Bombay by the Red Sea route, was found still to uphold at a public meeting the route by the Cape, in preference to that by the Red Sea advocated by Mr. Taylor; but on the success of Commander Wilson's experimental trip in the *Hugh Lindsay* to Suez and back in the spring of the same year, he threw his undivided energy into the advocacy of the overland passage. A committee of the House of Commons having in the year 1834 formally reported in its favour, a regular mail service was organized by means of the E.I. Company's steam flotilla. The Indian navy, in the person of its energetic representative, Commander Wilson, claim the practical initiation of this important line of ocean communication.

OVIS. Mr. Blyth considers that there are fourteen species of this genus of mammals. M. Gervais reckons only six species. Of Asiatic species, Jerdon describes O. ammon, cycloceros, nahura, Polii, and Vignei, giving O. burhel as a syn. of O. nahura. Blyth mentions O. Gmelini of Armenia, O. cylindricornis of the Caucasus, and O. nivicola, *Eschscholts*, of Kamtschatka. Mr. Hodgson regards the sheep as essentially an alpine animal. The Kirghiz breed has a great tail of 20 vertebral bones, so loaded with fat that a truck is occasionally made to carry it. The Karakul breed has a fine, curled, black, and valuable fleece. Gestation lasts 144 to 150 days.

Ovis ammon, *Linn.*, the argali.

O. argali, *Pallas.* | O. Hodgsoni, *Blyth.*
O. ammonoides, *Hodgs.*

Hyan, Nuan, Nyan, Niar, Nyund, Gnow, TIB.

On the Tibetan side of the Himalaya. Ovis ammon stands from 4 to 5 feet high, and measures 7 feet from nose to tail. It is quite a Tibetan animal; is seen as high as 18,000 feet, and is seldom seen below 14,000 feet, except when driven lower by snow. Measurement of a male of five years, according to the markings on the horns, 6 feet 5 inches, viz.:—

From nose to base of horns,	.	.	1 ft.	1 in.
Thence to insertion of tail,	.	.	5 ,,	1 ,,
Tail to end of hair,	.	.	0 ,,	3 ,,
Circumference of horn at base,		.	1 ,,	4¼ ,,

Winter pelage, above deep brown, interspersed with grey, with a distinctly marked darker dorsal line passing (as in O. montana) in a narrow stripe through the disc on the croup, even to the tip of the tail. Sides mixed hoary or slaty grey brown; disc on the croup well defined and dirty white, the hair appearing as if rubbed. The throat and neck beneath to the breast, white, sprinkled with scattered brown hair; the hair long, bushy, and pendent, and from 6 to 7 inches in length, while that of the back is barely 2 inches, except on the dorsal line, where it is 3 inches, and on the ridge of the neck above 3½ inches. Tail, above, brown, whitish at the sides, naked beneath. Under parts dirty white; medial line blackish, outside of the limbs with a dark list; lips whitish. Dr. Adams says it is more plentiful on the northern ranges. A few remain about the Tooskee lake and neighbouring hills during summer; the majority, however, migrate to Nubra as the snow melts. The finest horns are to be procured on the chaits. These cairns are mostly made up of horns of tame yak, wild sheep and goats, which are piled up in the shape of a cone, with stones, pieces of quartz, pebbles, and sticks, to which rags are attached. When a Tartar arrives at one, he walks round it several times, repeating a prayer, of which 'Om mani padi om' forms the chief part. An adult male argali stands about 12½ hands high at the shoulders.—*Blyth; Jerdon; Adams.*

Ovis aries, the common sheep, is subject to great variety, and many of its forms have been raised to the rank of species. Dr. Gray, in the British Museum Catalogue, enumerates no less than 38 varieties as under:—

(*a*) The *Spanish sheep*, Ovis Hispanicus, *Linn.*; called also the Merino sheep and the British middle-woolled sheep.

(*b*) The *common sheep* (Ovis rusticus, *Linn.*; O. Gallica, *Desm.*; O. brachyurus, *Pallas*; O. leptura, *Schreb.*); the hornless sheep (O. Anglicana, *Linn.*). Of this variety there are numerous forms, such as the Muggs, Shetland, Southdown, Old Lincoln, Romney Marsh, Cobwold, New Leicester, Cheviot, Old Teeswater, improved Teeswater, Dunky, Zetland, Orkney, Welsh mountain sheep, soft-woolled sheep of Wales, Wicklow mountain sheep, Kerry sheep, Exmoor sheep, blackfaced sheep, blackfaced Heath sheep, and the Rass or Roosh (Ovis Polii, *Blyth*).

(*c*) The *Barwall sheep* (Aries barwal, *Hodgson*); Ovis barwal, *Hodgson*; O. ammonoides, *var.* 1, *Gray*. It inhabits Nepal.

(*d*) The *Huniah sheep* (Ovis hunia, *Hodgson*), the Hunia, or blackfaced sheep of Tibet. Also a native of Nepal.

(*e*) The *Cago* (Ovis cagia, *Hodgson*), the Kago, or tame sheep of Kābul region, the Cago sheep of Gray. A native of Nepal.

(*f*) The *Seling*, a native of Nepal.

(*g*) The *Curumbar sheep* of Mysore.

(*h*) The *sheep* called Garar in India.

(*i*) The *Dukhun sheep*.

(*j*) The *Shaymbliar sheep* of Mysore.

(*k*) The *broad-tailed sheep* (O. lati caudatus, *Erxl., Geoff., Mem. Egypt, Lesson, Comp., Buffon*, x. p. 812; O. laticauda, Platyceros Arabica, *Linn.*; O. Turcica, *Charlet*; O. cauda obesa, *Ludolf*). It is a native of Barbary. There are several forms of this variety, of which the following are most prominent:—The fat-rumped sheep (O. steatopyga, *Pallas*, the Tartarian sheep of Bewick); the Persian sheep (O. A. caudatus, *Geoff.*); the fat-tailed sheep (O. A. macrocercus, *Schreb.*); the Aora fiyel, or Abyssinian sheep; the Bucharian sheep (O. Bucharica, *Pallas*); the Tibetan sheep (O. Tibetanus, *Fischer*); the Cape sheep (O. Capensis, *Erxleb.*); the sheep of Belkah.

(*l*) *Many-horned sheep* (O. polyceratus, *Linn.*). It is also called the four-horned ram, and the Dumba sheep. It is a native of Nepal.

(*m*) The *Puchia*, or Hindustan Dumba (O. puchia, *Hodgson*).

(*n*) *Caprovis vignei*. This genus embraces the Sha or Koch. It is the mountain sheep of the north of India, and is found in Tibet.

Ovis cycloceros, *Hutton, Sclater, Blyth.*
O. Vignei, *Blyth.*, in part. Uria, Urial, Koch, Kuch, PANJ.

The Panjab wild sheep is found all over the Salt Range of the Panjab, the Sulimani range, the Hazara, Peshawur. Mr. Blyth has pointed out that Captain Hutton's Ovis cycloceros had been priorly named by him Ovis Vignei.

Ovis cylindricornis, *Blyth*, a species of the

Caucasus. This is the least satisfactorily established of all the species in Mr. Blyth's monograph, resting on a communication from Colonel Hamilton Smith, relative to a species which must have been very different from either of those known to Mr. Blyth, though described from memory only by Colonel H. Smith, one of the most experienced of zoologists in the history of the ruminantia.

Ovis Gmelini, *Blyth*, a sheep of Armenia, identified with a species long ago rudely figured by the younger Gmelin, and the horn by Pallas; and Gmelin's description of the habits quoted, with further original information. Head figured in Taylor's plate, No. 9.

Ovis musimon, *Linn.*, the wild moufflon sheep of Corsica and Sardinia. Described by Mr. Blyth from life, and a further notice given in J. A. S., x. p. 878.

Ovis nahura, *Hodgs.*, *Blyth.*

O. nahoor, *Hodgson.*	O. burhel, *Blyth.*
Blue wild sheep, . ENG.	Na, Sna, LADAK, TIBET.
Burhel, Bharal, . HIMAL.	Nervate, . . . NEPAL.
Bharur, ... ,,	Wa, War, . . . SUTLEJ.
Menda (male), . . ,,	

Valley of the Sutlej, Sikkim, Bhotan. Described from specimens, amongst which was a hornless female, and clearly established as distinct from O. ammon.

Ovis Polii, *Blyth*, Rass; Roosh of Pamir; found on the plains of Pamir at 16,000 feet. Founded on a magnificent frontlet and horns brought by Lieutenant Wood from the Pamir steppe, combined with the notice quoted from Marco Polo, which refers undeniably to the same animal. Of the distinctness of this superb species, there can be no doubt whatever; and the frontlet is figured in Taylor's plate, figs. 1 and 2. It is to the east of Bokhara. The horns of one specimen were 2⅔ feet long round the curvature, and 14¼ inches in circumference at the base.

Ovis tragelaphus, *Pallas*, Aondad of the Moors, found on the Atlas mountains of N. Africa. A well-known species.

Ovis Vignei, *Blyth*, Indian wild sheep.

O. montana, *Cunningham.* | Sha, Sha-poo, LAD., TIB.

Found in the Hindu Kush, the Pamir Range, west from Ladakh to the Caspian Sea. It is more like a deer than the moufflon of Europe. It is active and courageous. — *Jerdon's Mammalia; Gray's Catalogue; Hooker*, i. p. 244; *Blyth in Bengal As. Soc. Journ.; Adam's Naturalist in India; Jerdon*, p. 298; *Darwin.*

OWAIS-bin-AAMIR never saw Mahomed, but he so loved and revered that reformer, that he caused two of his front teeth to be extracted, because Mahomed had lost two of his front teeth in the disastrous battle of Ohod. Owais affirmed that all who entered his society and performed the mortifications enjoined upon them, would have these two teeth miraculously extracted during sleep, and on awakening find them under their pillows. The example set by him was followed by the khalifs Abubakr and Ali; and to the associations of recluses created by them all the various orders of darvesh which are now scattered over Muhammadan countries, trace back their origin.—*Osborn's Islam*, p. 92.

OWEN, CAPTAIN W. F., an officer of the British navy, who between 1822 and 1826 surveyed the southern and eastern coasts of Madagascar, the shores of Madagascar, and neighbouring islands. Sickness overtook the ill-fated expedition, and nearly all the officers perished.

OWL.

Owlet, ...	ENG.	Ghugu, . . .	HIND.
Eule, ...	GER.	Civetta, ...	IT.

The owls are the nocturnal tribe of the order Raptores, or birds of prey. They are arranged by naturalists under the family Strigidæ of the order Raptores, and are subdivided into the subfamilies Striginæ, Syrniinæ, Asioninæ, Buboninæ, and Surniinæ.

Owls are found throughout the world, and many races, alike of Europe and of Asia, continue to entertain superstitious opinions regarding species of this nocturnal genus. The horror of the owl's nocturnal scream has been equally prevalent in the west as in the east. Ovid introduces it in his Fasti, L. vi. l. p. 139, but Tibullus in his Elegies, L. i. El. v. says Pliny, lxi. c. 93, doubts as to what bird produced the hated sound; and the details of Ovid's description do not apply to an owl. The women of India, hearing the hooting of the ghugu, shut the ominous sounds from their ears by wrapping their sarees round their heads. And Shakespeare notices the common superstition, when he says:

'It was the owl that shrieked, the fatal bellman,
Which gives the stern'st good night.'

Of the nocturnal accipitres of Ceylon, the most remarkable is the brown owl, Syrnium Indrani, *Sykes*, which, from its hideous yell, has acquired the name of the devil bird. The Singhalese regard it literally with horror, and its scream by night in the vicinity of a village is bewailed as the harbinger of impending calamity. There is a popular legend in connection with it, to the effect that a morose and savage husband, who suspected the fidelity of his wife, availed himself of her absence to kill her child, of whose paternity he was doubtful, and on her return placed before her a curry prepared from its flesh. Of this the unhappy woman partook, till, discovering the crime by finding the finger of her infant, she fled in frenzy to the forest, and there destroyed herself. On her death she was metamorphosed, according to the Buddhist belief, into an ulama, or devil bird, which still at nightfall horrifies the villagers by repeating the frantic screams of the bereaved mother in her agony. Mr. Blyth, from Calcutta, wrote to Sir J. E. Tennant as to the Syrnium Indrani, *Sykes*, mentioning that there are some doubts about this bird. There would appear to be three or four distinguishable races, the Ceylon bird approximating most nearly to that of the Malayan Peninsula. Mr. Mitford, of the Ceylon Civil Service, also regards the identification of the Singhalese devil bird as open to doubts. He says, 'The devil bird is an owl. I never heard it until I came to Kornegalle, where it haunts the rocky hill at the back of Government House.'

The unpleasant laugh of the fish owl of Ceylon (Ketupa Ceylonensis) is known; no sound grates harsher on the ear, or is more calculated to bring back recollections of hobgoblins, than the loud hollow voice of this otherwise fine bird; nor is it less startling to creep through the bush and come suddenly on an individual moping at mid-day on a branch overhead, flashing his large orange eyes full on your face, as with outstretched wings he snaps his bill, or, hissing defiance, makes straight

off to the nearest cover, pursued by crested bulbuls, jays, etc. This species is not often seen, its mid-day haunts are in impassable parts of the jungle.

The Indian owl (Athene brama) is numerous in the Ceylon jungles.

The Himalaya owl (Athene cuculoides) is common in the woods and jungle, and is diurnal in its habits so far that Dr. Adams killed one at mid-day with a rat in its talons; the bird is, however, most often seen at dusk. Its favourite food consists of mice, shrews, and large coleopterous insects.

The pretty pigmy owlet (Athene Brodiei) is often found in bushes. It is a diminutive little creature. Its call is measured, and composed of two notes frequently repeated. Its egg is white, and generally laid in the hollow of a tree, without any preparation whatever.

The typical owls, of which the barn owl of Europe, Strix flammea, is the type, are nocturnal in their habits, and are often called screech owls from the unearthly screechings of their call.

The Indian screech owl, S. Javanica, *de Wurmb.*, of a pale-yellow buff colour, is found throughout Ceylon, India, Burma, and Malayana. It differs somewhat from the barn owl of Europe. It roosts during the day, comes forth at dusk, and hunts entirely at night, living on rats, mice, shrews, etc. It breeds in holes of trees and buildings. Its names, Karaya, Karail, Buri churi, HIND., Chaao-pitta, TEL., and Chaao-kurani, TAM., mean evil bird, and death bird.

The grass owl, St. candida, *Tickell*, above of a tawny yellow colour, is found sparingly throughout the greater part of India. It lives almost exclusively in long grass, from which it rises heavily, flies a short distance, and drops suddenly into the grass.

Strix Rosenbergii and S. Javanica are owls of the Malay Archipelago, and the latter is in all the islands up to Lombok.

The bay or chesnut-coloured screech owl, the Phodilus badius, *Horsfield*, occurs in Nepal, Sikkim, Burma, Malayana, and the E. Archipelago. The natives believe it is on good terms with the tiger.

The sub-family Syrniinæ comprise the hooting owls. They are birds of rather large size, living in woods and groves, and nocturnal in their habits. The Syrnium Indrani, *Sykes*, the brown wood owl, is 19 to 21 inches long, is found in Ceylon, throughout British India, Burma, and Malayana. It is of nocturnal habits. It is the devil bird of Ceylon.

The Nepal brown wood owl (Syrnium Newarense, *Hodgson*), 2 feet long, occurs in Ceylon, S. India, Central Nepal, N.W. Himalaya, and the Malayan Peninsula.

The mottled wood owl is the very beautiful plumaged Syrnium Sinense, *Latham*, of a rich tawny colour, found in wild wooded districts throughout India, but not yet found in Ceylon and Burma. It has a loud, harsh, dissonant hoot.

Syrnium seloputo, of Burma and Malaya, has even more beautiful plumage.

Syrnium leptogrammica, *Temm.*, is from Borneo.

Syrnium nivicolum, *Hodgson*, is the Himalayan wood owl, mottled dark-brown and fulvus. It is found above 7000 feet up to the snow-line in the Himalaya.

The sub-family Asioninæ has the genus Otus.

Otus vulgaris, *Fleming*, the long-eared owl of Europe, Afghanistan, Kashmir, and Nepal, frequents woods, and feeds on mice, moles, and beetles.

Otus brachyotus, *Gmelin*, is the short-eared owl of great part of N. America, and over all the old world; in India is found in long grass, hunting chiefly at night, though it flies well by day. In India it is migratory, coming in at the beginning of the cold weather, and leaving about March. Its call is a double or treble hoot, not unlike that of the hoopoe.

The sub-family Buboninæ comprises the genera Urrua, Huhua, Ketupa, Ephialtes, and Scops, the great horned owls, or eagle owls, also the scops owls.

Urrua Bengalensis, *Franklin*, the rock horned owl, 22 inches long, is found throughout Afghanistan, India, and Ceylon, wherever it can get rats, birds, lizards, snakes, crabs, and large insects, generally in broken rocky ground, but also in dense groves or gardens. Its cry, durgoon, durgoon, is a loud solemn hoot.

Urrua Coromanda, *Latham*, is the dusky horned owl, 22 inches long, found in all India. It frequents thick groves and forest jungle.

Huhua Nepalensis, *Hodgson*, the forest eagle owl, of a dark-brown colour, and 22 inches long, occurs in Nepal, S. India, and Malayana.

Ketupa Ceylonensis, *Gmelin*, the brown fish owl, 21 to 23 inches long, is found throughout Ceylon, India, Burma, perhaps to China, frequenting forests, groves, and gardens, coming forth at dusk to feed, generally making its way to a tank, brook, or river, occasionally uttering its dismal cry, a repulsive laugh like haw-haw, haw-ho. It is said to kill even cats.

Ketupa flavipes, *Hodgson*, the tawny fish owl, is confined to the Himalaya. It is constantly found on the banks of rivers, and flies well by day.

Ketupa Javanensis, *Lesson*, and K. Ceylonensis, extend from Ceylon and Arakan to Java.

Ephialtes pennatus, *Hodgson*, the Indian scops owl, is supposed by some to be the S. zorca of Europe. It is found throughout India and Ceylon, the Himalaya, Burma, and China.

Ephialtes Lempigi, *Horsfield*, is the large scops owl of all India, Ceylon, Burma, Malayana, and China, found in forests.

Scops rufescens, *Horsfield*, a large owl of Malayana, Japan, Celebes, and Philippines.

Scops gymnopodus, *Kaup*, is said to be from India.

The sub-family Syrniinæ has the genera Athene, Glaucidium, Ninox, Syrnium.

Athene brama, *Temm.*, the spotted owlet of Ceylon, India, Panjab, Burma, Persia, and all Asia, is found in dense forests. It is of an earthy grey-brown colour, each feather with a white spot. It is 8 or 9 inches long.

Athene radiata, *Tickell*, the jungle owlet of all India; is probably the Athene cuculoides, *Philips*, of N.W. Provinces.

Athene Malabarica, *Blyth*, the Malabar owlet, 8 inches long, of Travancore, Cochin, and S. Provinces of Malabar.

Athene castanoptera, *Horsfield*, Malayana.

Athene castanopus, *Blyth*, Ceylon.

Athene cuculoides, *Vigors*, the large barred owlet, 9½ or 10½ inches long, occurs in the Himalaya, Panjab, Assam, Arakan, Tenasserim to China. It feeds on mice, rats, beetles.

Glaucidium Brodiei, *Burton*, the collared pigmy owlet, is found at from 3000 to 4000 feet throughout the Himalaya. It is 6½ inches long.

Ninox scutellatus, *Raffl.*, the brown hawk owl, 12 inches long, is found in the wooded parts of all India, extending into Burma, Malayana, China, and Japan; also said to occur in Madagascar. It frequents the skirts of the thick forests also.

Ninox Borneensis, *Schlegel*, and N. Japonica, *Schlegel*, of Borneo and Japan.

—*Jerdon's Birds of India; White's Nat. Hist. of Selborne; Tennant's Nat. Hist. Ceylon.*

OWUND KARI. MAHR. A person cultivating and in a village, but residing in another village.

OX.

Bakara, ...	ARAB.	Bue, ...	IT.
Bœuf, ...	FR.	Buez, ...	SP.
Ochs, ...	GER.	Mar, ...	TAM.
Bail, ...	HIND.	Ukyuz, ...	TURK.

The ox is one of the Bovinæ, a sub-family of the family Bovidæ, of the order Ruminantia. The order Ruminantia may be shown as under:—

Cervidæ.	Bovidæ.	Hermitragus.
Cervus.	Antilopinæ.	Capra.
Rucervus.	Portax.	Ovis.
Rusa.	Tetraceros.	Bovinæ.
Axis.	Antilope.	Bos.
Cervulus.	Gazella.	Gavæus.
Moschus.	Caprinæ.	Bubalus.
Memimna.	Nemorrhœdus.	

The Bovinæ, called cattle, also horned cattle, to which this notice is restricted, have always horns in both sexes, usually inclining upwards or forwards, with a large and broad muffle, a moderately long tail, no eyepits, but with four mammæ. The sub-family Bovinæ is divisible into three groups, the Bisontine or bisons, the Taurine or oxen, and the Bubaline or buffaloes.

The *Bisontine* group comprise the bison of Europe and N. America, the musk ox of Arctic America, and the yak or Poephagus grunniens of Central Asia. The true bison of Europe, Bison urus or the Aurochs, has a broad forehead, long limbs, and shaggy mane. The yak, called in Tibetan Brong-Dhong, in Hindi the Banchowr or wild bull, is found wild on the northern side of the Himalaya, but it has been domesticated, and called the Chaori-gao.

The *Taurine* group has been subdivided by Blyth into the Zebu, or humped domestic cattle, the Taurus, humpless cattle with cylindrical horns, and Gavæus, humpless cattle with flattened horns, peculiar to South-Eastern Asia. They have all thirteen pairs of ribs. It is to the Zebus that the common humped cattle of India belong; they have run wild in Mysore, near Nellore, in Oudh, Mozuffurnuggur, Rohilkhand, and Shahabad. Near Nellore, the country they frequent is much covered with jungle, and intersected with salt-water creeks and marine lagoons, and the cattle are as wild and wary as the most feral species. They are of large size, and their horns are long and upright. The genus Taurus contains the cattle of Europe with cylindrical horns, including the feral race of Chillingham. The flat-horned Taurines of Blyth include the genera Gavæus, Gavæus gaurus, *Jerdon*, the Gaur or Gauri-gao of all India, the Pyoung of the Burmese; also the Gayal or Mit'hun, the G. frontalis, compared with the Gaur, a heavy, clumsy-looking animal of the hilly tracts to the east of the Brahmaputra, and at the head of the valley of Assam, the Mishmi hills and their vicinity, and probably extending north and east into the borders of China. *It is extensively and easily* domesticated, and has bred with the common Indian cattle.

The Ban-teng or Burmese wild cow, Gavæus sondaicus, the Tso-ing of the Burmese, extends from Chittagong through Burma, the Malayan Peninsula, and Siam, into Borneo, Java, and the larger islands of the E. Archipelago. This species resembles the Gaur more than the Gayal, and it wants the dewlap. The young and the female are red.

The *Bubaline* group, the buffaloes, of the genus Bubalus, have large, almost horizontal, angular horns, inclining backwards and sometimes downwards, with a large and spare muffle and thirteen pairs of ribs. The wild buffalo, the Bubalus arni, is largely domesticated, and used for all the purposes of an agricultural population. But it is found in the north and east of Ceylon, from the Godavery to Midnapur and Raepur, in the plains of Lower Bengal as far as Tirhut, and Oudh to the Terai and Bhutan, inhabiting the margins of forests in the most swampy sites. It lives in large herds, but in the rutting season the most powerful males lead off and appropriate several females. They rut in autumn, and the female gestates ten months, producing one or two in summer. The domestic buffalo is often lean and angular; they are used for draught and as milch cattle. But the wild buffalo is uniformly in high condition, and the bull is of such power and vigour as by his charge frequently to prostrate a well-sized elephant. There is an African species, B. brachyceros, *Gray*, and a Cape buffalo, B. cafer, with horns so large as nearly to cover the forehead. In the E. Indies the buffalo is generally used in ploughing up the muddy lands in which rice is grown, often for carriage, rarely for draught for long journeys. The Binjara and other migratory grain merchants, who travel over several hundred miles of India, collecting grain and carrying salt, invariably use the bullock, never the buffalo; and a handsome bullock, ornamented with streamers and a bell, leads the herd. They are the only race that subjects the cow to labour.

Oxen are used by the peasantry of the E. Indies both in ploughing and in tempering the mud in the wet paddy fields before sowing the rice; and when the harvest is reaped they 'tread out the corn,' after the immemorial custom of the east. In many parts of British India and in Burma, the cattle are greatly exposed to the weather. In other parts, as in the Cuddapah district, the utmost care is taken of them as to housing and food. The wealth of the native chiefs and landed proprietors in Ceylon frequently consists in their herds of bullocks, which they hire out to their dependents during the seasons for agricultural labour; and as they already supply them with land to be tilled, and lend the seed which is to crop it, the further contribution of this portion of the labour serves to render the dependence of the peasantry on the chiefs and headmen complete. From their constant exposure at all seasons, the cattle in the E. Indies, both those employed in agriculture and those on the roads, are subject to devastating murrains, that sweep them away by thousands. So frequent in Ceylon is the recurrence of these calamities, and so extended their ravages, that they exercise a serious influence upon the commercial interests of the colony, by reducing the facilities of agriculture, and augmenting the cost of carriage during the most critical periods of the coffee harvest. A similar disease, probably peripneumonia, frequently carries off the cattle in Assam, Burma, and other provinces and districts of India; and there, as in Ceylon, the inflammatory symptoms in the lungs and throat, and the internal derangement and external eruptive appearances, seem to indicate that the disease is a feverish influenza, attributable to neglect and exposure in a moist and variable climate, and that its prevention might be hoped for, and the cattle preserved, by the simple expedient of more humane and considerate treatment, especially by affording them cover at night. The labour for which they are best adapted, and in which, before the opening of roads in India, these cattle were formerly employed, is in traversing the jungle

paths of the interior, carrying light loads as pack oxen in what in Ceylon is called a 'tavalam,' a term which, substituting bullocks for camels, is equivalent to a 'caravan.' The persons engaged in Ceylon in this wandering trade are chiefly Muhammadans, locally called Moors; and the business carried on by them consists in bringing up salt from the Government depôts on the coast to be bartered with the Kandyans in the hills for 'native coffee,' which is grown in small quantities round every house, but without systematic cultivation. An ox will work well seven years, if taken care of.

In Ceylon, to every herd of cattle there is a sacred bull, who is supposed to exert an influence over the prosperity of the flocks; his horns are ornamented with tufts of feathers, and frequently with small bells, and he invariably leads the great herd to pasture. On starting in the early morning from the cattle kraal, the natives address the bull, telling him 'to watch over the herd, to keep the cows from straying, and to lead them to the sweetest pastures, so that they shall give abundance of milk,' etc.—*Tennant's Ceylon; Jerdon, Mammals.*

OXALIC ACID, Sauerkleesaure of the Germans, a vegetable acid, found in considerable quantity in sorrel and rhubarb. It is used in calico printing, and by straw hat makers. It is an object of considerable importance in Switzerland, where it is prepared from the juice of wood-sorrel. Oxalic acid is obtainable from the salt in the leaves of gram, Cicer arietinum, the genera Oxalis, Rumex, Acetosella, and other plants. Accidents have frequently occurred from its being administered instead of Epsom salts, which it resembles in appearance.—*Faulkner; Taylor; Waring; Royle.*

OXALIDACEÆ. *Lindl.* The wood-sorrel tribe comprises the genera Averrhoa, Biophytum, and Oxalis. The genus Oxalis includes upwards of 200 species, excepting about half-a-dozen (the delicate little wood-sorrel [O. acetosella] being one of them) peculiar to S. America and the Cape of Good Hope. Several Peruvian and Chilian species have fleshy roots or tubers, used as potatoes. O. tuberosa is extensively cultivated in Bolivia, and might be introduced into India. The fresh tubers are acid, but, after exposure to the sun for a week or ten days, they lose their acidity, and become but little inferior to the potato. Some of the pinnate-leaved species exhibit irritability on the application of a stimulus.

Oxalis acetosella, *Linn.*, wood-sorrel.

Tsah-tsiang-ts'au,	CHIN.	T'sau-mu, . . .	CHIN.
Tso-tsiang-ts'au, . .	,,		

A small perennial plant, with a subterranean root-stock consisting of many scaly joints, of the N.W. Himalaya, at from 3500 to 9000 feet. It has a pleasant acid taste, dependent on the presence of oxalic acid, and is frequently used in salads; its flavour approaches near to that of lemons or tartaric acid, with which its medicinal effects also correspond, as it is esteemed a refrigerant anti-scorbutic and diuretic. The expressed juice, evaporated and set in a cool place, affords a crystalline salt, which may be used whenever vegetable acids are wanted. It is sold in the shops under the name of essential salts of lemons, and is employed to take iron-moulds and ink-spots out of linen.

Oxalis corniculata, *Linn.*, Indian sorrel.

Oxalis monadelpha, *Roxb.*		Oxalis pusilla, *Salis.*	
Hemenbab, Hemba,	ARAB.	Dantashata, , .	SANSK.
Homadmad, . . .	,,	Ambashta, Amlika,	,,
Chuka-tiputti, .	BENG.	Amla-loniha, . .	SIAM.
Umbuti ki baji, .	DUKH.	Trawake, . . .	SUTLEJ.
Ambuti, Amrul, .	HIND.	Puliari kiray, . ,	TAM.
Chukha, Khatta-Mitha,	,,	Pullachinta, . . .	TEL.
Shuklika, Chukrika,	SANS.	Surchi, . . .	TR.-IND.

It is a native of Europe, particularly in Spain, Italy, and Greece, also of India, Malay Islands, Japan, Mexico, N. America, and England. The flowers are yellow. The flowers of the N. American plant are larger than those of the European. This species is common all over India, and in the Himalaya up to 8000 feet. It possesses exactly the same properties, and yields the same products, as the European sorrel. The small leaves, tender shoots, and flowers are given in electuaries by the Hindus as a cooling medicine in fevers, to the extent of two teaspoonfuls daily; is also used in flatulent indigestion. In Peninsular India, it is a common weed on lawns and in gardens, and is used by the natives in making chatni; and in curries it is a good substitute for lime-juice or tamarind, imparting a peculiar acid taste. In Dacca, washermen use its juice to remove iron marks.

Oxalis sensitiva, *Linn.*

Biophytum sensitivum, *Roxb., D.C., Wight.*

Bun maranga, .	BENG.	Toda vadi, . .	MALEAL.
Lak-chana, . . .	HIND.		

Common in India and Java; the plant beaten up and mixed with gingelly oil is given in gonorrhea; and mixed with butter is applied to wounds and boils.—*Dr. Weddell; Smith; Waring; Ainslie; Roxb.; O'Sh.; Gen. Med. Top.; Jaffrey; Useful Pl.*

OXENDON. Christopher and Sir George Oxendon, servants of the English E.I. Company; the former died in 1659, and the latter in 1669.

OX-GALL, Ox-bile.

Niu-tau, . . .	CHIN.	Fel-bovis, Fel-tauri,	LAT.
Pit, ...	HIND.	Pittam, Pittamu,	TAM. TEL.

An inert substance, but used by Asiatics medicinally.

OXIDE of LEAD, Massicot or Murdar sang. The manufacture of this was introduced at Jagadri by Kashmiri and Bakal, two atta sellers, etc., who came from Jalalabad; they manufactured it in secret, and would not let others know the process. This is said to be made at Lahore and Jagadri, and it might be well employed in making lead plaster (strapping) with some of the country oil; other preparations of lead also might be manufactured from it.—*Powell's Handbook.*

OXLEYA XANTHOXYLA. This tree is a native of Australia, and attains a height of 100 feet. The wood is yellow, and employed for building boats. It is called yellow wood.—*Eng. Cyc.; Hogg's Veg. Kingd.*

OX-TAIL. The tails of the ox and of the yak are used in India as whisks; in places as standards. In Indian wars, the ox-tail and umbrella were not unfrequently placed over some chief of consequence, to divert attention and protect the king from danger. In Shakespeare's description of the battle of Bosworth Field, Richmond, in assaulting the usurper, exclaims, 'Three have already fallen who wore that crown.'—*Tod's Travels*, p. 201.

OXUS, the Jihun of the Arabs, and Amu, Abi-ma, of the Persians. North-east of Bokhara is a lofty range of mountains which runs east-

wards to the borders of the Khanate of Khokand, where it converges at right angles to the Bolor or Belur Tagh. This is called the Ak-Dagh, or white mountains, and seems to mark the northern boundary of the high land of Pamir, on the west side of which the Oxus takes its rise. It collects all the drainage of the Great Pamir, through two main head-streams, the Panja or southern rising in Lake Victoria (13,900 feet), discovered in 1838 by Wood; the Ak-Su (Murghab) or northern, flowing apparently from Lake Barkal. Yasin (13,100 feet), and receiving the outflow of Lake Kara-Kul above the junction. The united stream flows westwards towards Balkh, from which it runs north-west to the south coast of the Aral Sea. Lieutenant Wood penetrated thither in mid-winter. On reaching a spot elevated 14,400 feet above the level of the sea, some of his escort refused to proceed farther; upon which he pushed forward with the remainder, through deep new-fallen snow. As he neared the head-waters of the Oxus, the ice became weak and brittle. After quitting the surface of the river, he travelled about an hour along the right bank, and then ascended a low hill which apparently bounded the valley to the east; on surmounting this at 5 P.M. of the 19th February 1838, he stood on the Bam-i-Duniah, or 'Roof of the World,' while before him lay stretched a noble frozen sheet of water, from whose western extremity issued the infant Oxus. This fine lake lies in the form of a crescent, about 14 miles long from east to west by one mile in average breadth. On three sides it is bordered by swelling hills about 500 feet high, while along its south bank they rise into mountains 3500 feet above the lake, or 19,000 feet above sea-level, covered with perpetual snow, from which never-failing source the lake is supplied. From observations made at the west end, he found the latitude to be 37° 27′ N., and long. 73° 40′ E., and the elevation, as deduced from the boiling point of water, 15,000 feet.

In the upper part of its course it is called the Wakkan, also Ab-i-Panj, the latter being from a belief that it is formed by the junction of five streams. At the village of Isar, in lat. 37° 20′, at an elevation of 10,000 feet, Lieutenant Wood found two rivers joining, one of which he traced to Lake Sir-i-Kul, at an elevation of 15,000 feet, on the Pamir table-land. It then flows through Wakkan, encloses in an angle Badakhshan, of which it forms the natural frontier, and passes alongside the desert within 40 miles of the city of Balkh. 80 miles below this Afghan outpost is Khojah ferry. At Kunduz, 600 miles from Khiva, the navigability of the river is supposed to cease. Sir Alexander Burnes describes the channel as being 'straight and singularly devoid of rocks, rapids, and whirlpools, and rarely impeded even by sandbanks. The depth varies from 6 feet to 20 feet, with an average current of 3½ miles an hour.' In the spring the river is liable to be flooded with the snows of the Hindu Kush, and in the winter the ice collects on the surface near the Aral sufficiently thick to permit of caravans crossing over it. In its course through the desert from Khulm to the frontiers of Khiva, the Amu fertilizes a narrow strip of country on either bank.

The fruitful oasis of Khiva, with its canals 50 feet broad, its rows of stately elms, its orchards of mulberry trees, apples, apricots, and cherries, and its lovely gardens, is simply a slice of the desert irrigated by the Oxus. Settlements would in time grow alongside the stream if a check could only be placed on the predatory nomades. What Central Asia might be under a secure and peaceful rule, we have evidence in the ruins of Balkh, 20 miles in circuit; in the remains of Merv, which once boasted of a million inhabitants; in the walls of Samarcand, which in ancient days were manned by 100,000 men; and in the 2000 villas which marked a suburb of the city of Bokhara.

According to Sir Henry Rawlinson, the Oxus, from B.C. 600 to A.D. 500, with the Jaxartes, emptied itself into the Caspian, and the Aral as an inland sea did not then exist. Even in A.D. 570, the Aral was only a reedy marsh; and it was not till quite thirty years later that the influx of the Oxus caused it to swell out in the hollow in which it now lies. In 1224 the Oxus again forced its way into the Caspian, and the Aral dried up once more, exposing the ruins of cities which had been swallowed up during its previous expansion. In 1330 the river was described by an eastern traveller as flowing into the Caspian close to the mouth of the Atrek; and the accuracy of this is attested by the remains of the bed which General Abbott saw in 1840. During the whole of the 14th century the Oxus poured itself into the Caspian, while its fellow-stream, the Jaxartes, was swallowed up in the sands. In the 15th century, Ruy Gonzalez de Clavigo describes it as being a noble river, 'three miles in breadth, very deep, and traversing with wonderful force a flat country before falling into the Caspian.' In 1720 a Dutch geographer speaks of the river as having two branches, one flowing into the Caspian and the other into the Aral. Travellers like Anthony Jenkinson, English officers employed last century in Persia, and Russian explorers of recent date, one and all are agreed that the Amu Darya up to very recent times flowed into the Caspian Sea. The river never confined itself to any particular outlet, but during a series of centuries scored one opening and then another in the soft, sandy cliffs that stretch between Persia and Krasnovodsk. Strabo and Pliny both mention that in the early days of the Christian era the merchandise of India used to come down the Oxus to the Caspian, whence it was conveyed up the river Kurr on the one side of the Caucasus, and down the river Rion on the other, till the Black Sea and Europe were finally reached. The deflection of the Oxus is due solely to that normal habit of changing its bed which characterises not only the Oxus but the Syr Darya also, and most of the other and minor rivers of Central Asia. The sands stretching between Persia and Siberia are so soft, and the volume of water poured down from the buttresses of the Pamir so vast at certain seasons of the year, that it is a most natural thing for a river to leave its cutting, and plough a fresh passage through the desert. If the course of the stream be controlled, the merchandise of China and Tibet might once more flow down with the current to the Caspian, thence to be distributed by Russia over Europe. Goods shipped into lighters at Cronstadt could circulate along the northern canal system and the Volga to Krasnovodsk, and thence could be transported up the river Oxus,

either via the Syr Darya branch to Tashkend, Khokand, and Kashgaria, or via the parent stream to Khiva, Bokhara, and Afghanistan.

Alexander crossed the Oxus on inflated skins, but there are now numerous boats at the ferries of Khojah Saleh, 800 yards wide; at Char-Jui, leading to Merv, 650 yards wide; at Kirki, where Vambery crossed on his way to Herat. The boats used on the river are built alike at both ends, with bows projecting very much, so as to stretch easily from the shallows to the shore. They are made of the squared logs of a dwarf jungle tree, fastened together with iron clamps. Most of them attain a length of 50 feet, with a beam of 18, a depth of 4 feet, a displacement of barely 12 inches of water, and a tonnage of about 20 tons, rendering them capable of conveying 150 soldier passengers. Notwithstanding their clumsy build, they are strong and durable, and both Timur and Nadir Shah employed them for making bridges, over which their hosts passed in safety. The river is said to have been known to the Arabs as the Jihun, derived from the Turki Œgus or Œkus, a river. The Greek Okos has been supposed to be from the Wakhsh or Uakhsh.—*Asia, by Keane and Temple*, p. 403; *Vambery's Bokhara*, p. 27; *Trotter's Central Asia; Wood.*

OXYBELES LUMBRICOIDES, a fish of the Indian seas, which takes up its quarters in the star-fish called Asterias discoida.

OXYCANUS, a prince of the Panjab, mentioned by Arrian and by Curtius, whose two chief cities were taken by Alexander. Curtius makes Oxycanus the king of people named Præsti, and states that Alexander captured his chief city after a siege of three days. Diodorus and Strabo call the king Portikanus. General Cunningham identifies Musicanus with the great mound of Mahorta on the bank of the Ghar river, 10 miles from Larkana. Masson describes it as the remains of an ancient fortress, on a huge mound named Maihota. At present Mahorta is within a few miles of the river; but in the time of Alexander, when the Indus flowed down the bed of the Nara, the nearest point of the stream was at Alor, from which Mahorta was distant 45 miles to the south of west. Hence Alexander was obliged to leave his fleet, and to march against Oxycanus.—*Cunningham's Ancient Geog. of India*, p. 259.

OXYGEN. The property of absorbing oxygen belongs to fresh wood, whether taken from the twig or from the inner trunk of a tree. When fine chips of such wood are moistened and placed under a jar of oxygen, the gas diminishes in volume. But wood, dried in the air, and then moistened, converts the oxygen into carbonic acid without change of volume. When villages situated on the banks of rivers become inundated with floods, this property of wood gives rise to much disease. The wood of the floor and rafters of the building become saturated with water, which evaporates very slowly. The oxygen of the air is absorbed rapidly by the moist wood, and carbonic acid is generated. The latter gas exercises a directly pernicious influence, when present in the air to the amount of 7 or 8 per cent.

OXYLOPHUS MELANOLEUCOS. *Swainson.* The edolio or pied crested cuckoo has a piping well-known call, and in the evening sports like a swallow. The crested cuckoos during the rainy season are parasitical upon the nests of the Satbhai. It is the Coccystes melanoleucos of Gmelin.

OXYRIA RENIFORMIS, the mountain sorrel, is found in the Sutlej valley between Rampur and Sungnam, at an elevation of 6000 to 8000 feet. Used as a native remedy.—*Clegh.*

OXYSTELMA ESCULENTUM. *Roxb., Br.*

Asclepias rosea, *Roxb.*	Periploca esculenta, *Orr.*
Gharat, Gani, . of RAVI.	Pala kura, . . . TEL.
Chiru pala, . . . TEL.	Pinna pala, . . . ,,
Dudi pala, Nela pala, ,,	Se'pa chettu, . . ,,

A twining, perennial, deciduous plant; flowers in the rains, large, white, with a slight tinge of rose colour, and streaked with purple veins; texture, thin and delicate. Common in India on the banks of rivulets; used by the natives in decoction as a gargle in apthous ulcerations of the mouth, and in sore throat. Cattle eat the roots. The fruit is eaten.—*Roxb.; Riddell; Royle; O'Sh.; Stewart.*

OXYTENANTHERA THWAITESII. *Munro.* This plant—Dendrocalamus monadelphus, *Thw.*; Watte, MALEAL.—is very common on the Animallays at 3500 to 6000 feet elevation, and on the outskirts of moist woods, along the Western Ghats and central parts of Ceylon, at the same elevations. Its leaves are used for thatch.—*Beddome.*

OYSTER.

Hau, ... CHIN.	Ostreæ, ... LAT.
Osters, Oester, DAN., DUT.	Teram, ... MALAY.
Huitre, ... FR.	Ostras, . . . PORT., SP.
Austern, . . . GER.	Ustritsa, ... RUS.
Sipi, Kaloo, . . HIND.	Ostra, Ostron, . . SW.
Ostriche, Ostrica, . IT.	Istridiye, . . . TURK.

The oyster is a well-known and diffused mollusc, occurring in many parts of the eastern seas. At Kottiar, near Trincomalee, the edible oysters are of prodigious size. The shell of one of these measured a little more than 11 inches in length by half as many broad, thus unexpectedly attesting the correctness of one of the stories related by the historians of Alexander's expedition, that in India they had found oysters a foot long. Pliny says, 'In Indico mari Alexandri rerum auctores pedalia inveniri prodidere.' Darwin says that amongst the fossils of Patagonia he found 'a massive gigantic oyster, sometimes even a foot in diameter.' The oyster is much relished as an article of food, and in France and Britain has been cultivated.

Oysters are amazingly fruitful, one of them is said to contain 1,200,000 eggs; so that a single oyster might yield enough to fill 12,000 barrels. The eggs are expelled in the form of spawn, a white fluid resembling a drop of grease, in which the microscope reveals innumerable minute oysters. This substance is called 'spat' by the fishermen, and the matter in which they swim doubtless serves to attach them to various submarine bodies, or to individuals of their own species. In this way are formed innumerable banks of oysters, which are kept up by collecting the spawn at sea and in different places along the coasts of England and France, and depositing it in the sheltered and shallow waters selected for 'oyster layings,' which are usually kept untouched till they have arrived at some size, that is in the course of two or three years. The pearl oyster is the Meleagrina margaritifera.

P

P, in the English language, is the twelfth consonant and the sixteenth letter, and is pronounced by closely shutting the lips and opening them suddenly with an explosive emission of breath, as in part, pop, prop. When an initial or a final, as in play, imp, it gives an abruptness of sound to the consonant next it. P, b, f, m, and v are all labial letters, and are convertible in various tongues. Ph, in representing the sounds of the Indian alphabets, is to be regarded as a simple aspirate, as in up-hill, and not as an f, though this also occurs in the Mahrati, where p'hul, HIND., a flower, becomes fool, and pathar, a stone, fattar. The Tamil letter p ⌴ represents ph, as well as b and bh. The letter p, therefore, is in eastern tongues transmutable into f and b. P and f in Persian names are used interchangeably; the p belongs to the old language, the f to the modern. Thus the ancient Aspadana has become Ispahan, and hence Isfahan. Pars is now Fars. Also, in Turkish, s and p of the Persian become t and b, as in tarband for sar-band, literally head-binder, and tarbūsh for sar-pōsh, or head-cover. The Arabs have neither p nor g before a, o, u, and always substitute for these letters k and b; thus Aigouptios, an Egyptian (a Copt), becomes Kibt.

PA. SANSK. A prince or chief.

PAAK. DUKH., GUJ., HIND. Sharks' fins.

PAAL, a land measure in the Eastern Archipelago, ⅓ of a statute mile.

PAB. HIND. A ferment for beer, etc.

PABAR, a river of the Bashahir state of the Panjab, said to rise in lake Charamai, near the Barenda pass. The main stream emerging from the Barenda pass, called by the natives 'Bûren ghati,' is narrow and rocky, presenting a series of small rapids above Shergoan, which renders the transport of timber impracticable. The declivity of the Pabar between its confluence with the Sipun and Shergoan is 254 feet per mile.—*Gerard.*

PABHI HILLS, a range of hills to the east of Jhelum. It is crossed by the Khori pass, 5 miles to the N.E. of Rasul, and by the Kharia pass, 10 miles to the S.E. of Jhelum. The range stretches for 30 miles from the neighbourhood of Bhimbar to Plasal, and is not more than 500 feet above the river.—*Cunningham, Anc. Geog.* p. 166.

PABNA, a town in Bengal, in lat. 24° N., long. 89° 17′ 25″ E., on both banks of the Ichhamati. It is the chief station of the Pabna revenue district, in the Rajshahi Koch-Bahar division, with a population in 1872 of 1,211,594. The people are largely of aboriginal descent, but have adopted Muhammadanism, 847,227; Hinduism, 361,314. The other religions having Chandal, 50,126; Sunri, 29,728; Jaliya, 26,948; Rajputs, 664; Kayasths, 35,359. In 1873, the people, harassed by the landlords, broke out into agrarian rioting.

PACHA, Pasha, or Basha, a title of the Turkish court in the higher grades, equivalent of viceroy. The rulers of Egypt were so designated until the title of Khedive was bestowed.

PACHAD. PERS., PUSHTU. Land irrigated by small streams.

PACHAK. HIND. Cossyphus Aucklandia.

Kust-i-Hindi,	ARAB.	Sepuddy,	MALEAL.
Kust-i-Arabi,	,,	Kushtam,	SANSK.
Kust, Kustus,	GR.	Godu mahanel,	SINGH.
Kut, Ooplate,	HIND.	Kushta,	SYRIAC.
Costus Arabica,	LAT.	Changala,	TEL.
Pucha,	MALAY.		

Pachak is a fragrant root, so designated in the price-currents of Calcutta and Bombay, whence it is exported to Canton, being highly esteemed by the Chinese as an incense. It is the Cossyphus Aucklandia, and a native of Kashmir. Kuth is described in Persian works on Materia Medica with Kust as the Arabic, Kushta as the Syriac, and Kustus as the Greek name. Dr. Royle was only able to meet with two kinds in India, one called Kust-Hindi, and the other Kust-Arabi. These evidently refer to two of the three kinds of costus described by Dioscorides as the Arabian, Indian, and Syriac. There can be little doubt, therefore, that the Kuth or Pachak is one of the kinds of costus of the ancients which formed an ingredient in their most famous compound alexipharmic confections, such as the Theriaca and the Mithridatium. It was also highly esteemed by them as an incense. When burned, it yields a fine smell. The Chinese beat it into a fine powder, which they burn as incense in the temples of their gods. Of the Pachak, 6697¾ bazar maunds, of the value of Rs. 99,903, were exported from Calcutta in the year 1837-38. Dr. Falconer subsequently found it growing in great abundance all round the elevated summits of Kashmir, and thought it could be produced to an unlimited extent, of the best quality, in the Himalaya at elevations of from 7500 to 9000 feet above the sea, and that the Chur mountain alone might be brought in a few years to produce thousands of maunds of it. He introduced it into the Saharunpur Botanic Garden, and named it Aucklandia, in honour of Earl Auckland. It is a gregarious herb, 6 or 7 feet high. Its roots are dug up in September or October, chopped up into pieces from 2 to 6 inches long, and exported without further preparation viâ the Panjab to Bombay, whence it finds its way to the Red Sea, Persian Gulf, and China, another portion being sent across the Sutlej and Jumna to Hindustan. In Kashmir the cost of its collection and transport to a mercantile depôt is about 2s. 4d. per cwt.; but at Jugadree on the Jumna it has increased to about 16s. 9d. or 23s. 4d. per cwt., and in the Chinese ports it fetches nearly double that price the cwt. The Chinese attach great efficacy to it as an aphrodisiac. The imports into Canton in 1850 were 854 pikuls, valued at 5150 dollars. In Kashmir it is chiefly used for the protection of bales of shawls against insects.—*Royle's Prod. Res.; Royle's Ill.; O'Sh.; Simmonds.*

PACHAMALAI, or Green Mountains, a mountain range in Trichinopoly and Salem districts, Madras, lying between lat. 11° 10′ and 11° 24′ N., and between long. 78° 33′ 30″ and 78° 50′ E.

PACHA-PAT. HIND. Marrubium odoratissimum, white horehound, a well-known article in Bengal. Its source was long doubtful, although extensively used by the natives of the country. The drug is found in every bazar almost throughout Hindustan. The leaf is largely imported by Moghul merchants; it is used as an ingredient in tobacco for smoking, and for scenting the hair of

women; the essential oil is in common use for imparting the peculiar fragrance of the leaf to clothes among the superior classes of natives; the people of the Peninsula are peculiarly fond of this perfume, as are also the Roman Catholic inhabitants of India generally.—*Cat. Ex.*, 1862; *Wallich, Tr. Med. Phy. Soc. of Cal.*, 1835; *O'Sh.* p. 493.

PACHETE HILLS, length 105 miles, breadth 95, lie between lat. 22° 56′ and 23° 54′ N., long. 85° 46′ and 87° 10′ E. North part described as marked by hills from 400 to 600 feet. About lat. 23° 35′ N., long. 85° 50′ E., a mountain, conjectured at from 2500 to 3000 feet. Coal is found near Jeria, lat. 23° 44′ N., long. 86° 25′ E., and iron ore exists at a short distance. The chain unites the north extremities of the West and East Ghats, and forms the base of the triangle on which rests the table-land of South India. By the Moghuls, the country to the north was called Hindustan, and that to the south the Dekhan.

PACHISI. HIND. An Indian game, played with cowry shells on a board or cloth, usually by four persons, each of whom is supplied with four wooden or ivory cones, which are called 'got,' and are of different colours for distinction. Victory consists in getting these four pieces safely through all the squares of each rectangle into the vacant place in the centre,—the difficulty being that the adversaries take up in the same way as pieces are taken at backgammon. Moving is regulated by throwing cowries, whose apertures falling uppermost or not, affect the amount of the throw by certain fixed rules.—*Tr. Hind.*

PACHMARHI, a plateau in the Hoshangabad district of the Central Provinces, round which the Chauradeo Jata Pahar and Dhupgarh hills stand sentinel; it is about 3500 feet high, and 2500 feet above the plain in which Sohagpur lies; and its average temperature is probably from seven to ten degrees lower than that of the valley. There are some interesting ancient temples at Pachmarhi. The jungles lying all about the base of the range bear the same name, and are very dense to the east and west of it, with a great profusion of fine timber. The temperature is nearly 10° F. lower than in the valley, and, though not free from fever, affords an agreeable sanatorium. Pachmarhi chiefship comprises 24 villages, in the heart of the Mahadeo hills. The chief is a Kurku by caste, and the principal of the Bhopa or hereditary guardians of the temple on the Mahadeo hills, in which capacity he receives yearly £75 in lieu of pilgrim tax, less a quit-rent on his estate of £2, 10s.—*Imp. Gaz.*

PACHODY, a waist-cloth of coloured silk and gold and silver weaving.

PACHWAI, an intoxicating liquor forming an item to revenue. It is made either from maize or rice or sorghum. The grain is boiled and spread out on a mat to cool. It is then mixed with a ferment of vegetables called bakar, and kept in a large earthen vessel for some days; warm water may at any time be mixed with it, and in a few hours it ferments, and is ready for use.

PACHYMA COCOS. *Fries.*

Tsein-a-pho-ta-roup, BURM. | Fuh-ling, . . . CHIN.

This fungus of N. America and E. Asia is the hard Tuckahoe truffle, used in China as a diet article and as a medicine. It occurs in the form of large tubers, varying in size up to a peck measure; has a corrugated, blackish-brown skin, and consisting internally of a hard starchy substance of a white colour, but sometimes tinged with pale red or brown, especially towards the outside. They are found connected with living fir plantations, or on the sites of old ones, and they are exported to India and elsewhere as China root. Fu-shin is another kind mentioned in books. It occurs in many parts of China, in Japan and in Shan-tung, also in S. Carolina, where it is called Indian bread. In China it is ground up, mixed with rice flour, and made into small square cakes, which are hawked about in the early morning. They are regarded as beneficial in dyspeptic complaints. P. Hoelen, *Fries.*, of Souchong, and in China, is a large truffle of very agreeable flavour.—*Smith; Chinese Mat. Med.; Von Mueller.*

PACHYRHIZUS ANGULATUS. *Rich.*

Dolichos bulbosus, *Linn.* | Carcara bulbosa, *Rumph.*
Shakr-aloo, . . HIND. | Ingomaas . of MANILLA.

A trailing plant, native of S. America, cultivated in India for its edible tuberous root. It is like a turnip in consistence and taste. No other part of the plant is used for food, but this and Sida tiliæfolia furnish coarse sorts of grass cloth fibre. Rumphius says its root, properly prepared, has been considered in Amboyna as a great delicacy.—*Ainslie*, p. 249.

PACHYRHYNCHI, beautiful beetles of the Philippines, veritable living jewels, gold and green. See Beetles.

PACIFIC OCEAN extends between Asia and America, and is upwards of 10,000 miles in breadth, studded with islands. When Magellan entered this ocean, through the strait that bears his name, he sailed three months and twenty days in a uniform direction to the north-west without discovering land, enjoying such uninterrupted fine weather, with fair winds, that he gave it the name of Pacific. On one side of the equator it is called the North Pacific Ocean, and on the other the South Pacific Ocean.

The eastern part of the Pacific has the Easter and Gomez Islands, and moving farther west are the Low or Paumotu Archipelago, Society Archipelago, Mendana or Marquesas group, Cook or Harvey and Austral Islands, Gilbert Archipelago, numerous islands between the Low and Gilbert Archipelagos, Sandwich Archipelago, and several islands to its south, Samoa or Navigator group, Friendly Archipelago, Fiji group, Ellice group, Marshall group, New Hebrides, Santa Cruz group, New Caledonia, Australia, Louisiade, Salomon Archipelago, New Ireland, New Britain, New Guinea, Admiralty group, Caroline Archipelago, Pelew Islands, Mariana Archipelago or Ladrones, Bonin or Arzobispo group, Java, Macassar, Borneo, Sumatra, and many other islands of the Eastern Archipelago acknowledging the supremacy of the Netherlands.

The islands of the East Pacific extend from New Guinea and the Philippines to within 2500 miles of the western coast of America, and from about the 22° of north to the 47° of south latitude,—thus over 200 degrees of longitude and 70 of latitude, or over a fifth part of the earth's surface. On the west are the innumerable islands of the Indian Archipelago, extending from Sumatra to New Guinea, and the great group of the Philippines. They are inhabited by distinct races of men, as the Malayan, the brown

Polynesian, the insular Negro of several varieties, and the African of Madagascar. Of these, the state of civilisation is so various that some are abject savages, while others have made a respectable progress in the useful arts, and have even attained some knowledge of letters.

The brown race of the Pacific occupy all the islands from the Sandwich group in the northern hemisphere to New Zealand in the southern, and from the Tonga group in the west to Easter Island in the east. The black race occupy the islands extending from the Fiji to New Guinea, both inclusive. Certain physical features distinguish each race. Those with brown complexions have generally lank hair and scanty beards, and speak essentially the same tongue, although divided into many dialects; while the black race, numbering several varieties of men, and speaking several distinct languages, have frizzly but not woolly hair, and abundant beards. French naturalists call the islands which the black race occupy Melanesia, or the islands of black men; while Polynesia is applied to the islands peopled by the brown race. Intermixture has occurred between the black and brown races at their points of junction; 300 miles across the trade wind, from the Fiji Islands to the Tonga Islands, being a voyage of no difficulty to a maritime people. The Polynesians, or brown-skinned race, have been again subdivided into Micronesians and Polynesians proper. The former occupy the Pelew, Caroline, Marianne, and Tarawa Islands, and the latter the Sandwich, Navigator's, Marquesas, Tonga, Society Islands, the Dangerous Archipelago, Easter Island, and New Zealand. The Micronesians are distinguished from the Polynesians proper by their low stature, their language, Mongolian conformation, and absence of the system of Tapu or Tabu. Ethnologists have entertained the opinion that the Polynesians proper are sprung from the Malay family of the human race; and Mr. Hale, the best authority on the migrations of the Polynesians, is of opinion that the Samoa or Navigator's Islands were first occupied, and that from them all the other Polynesian islands were peopled. For ages Malay fleets have habitually resorted to the northern coasts of Australia to fish. Although ignorant of the compass, the Polynesians had names for the cardinal points, and steer by the stars, and it was this grand principle of selecting a course which brought the Malay fleet to Navigator's Islands.

From the remains of some Hindu and Jewish customs among the New Zealand branch of the Polynesian race, and the entire absence of anything like Muhammadan customs, it is inferred that the Malay migration from the Indian Archipelago to Polynesia took place after the Hindu influence began to prevail there, and before the arrival of the Muhammadan traders and settlers from Arabia. Indian colonies were established in Java in the first century after Christ. But, according to Javanese annals, the first arrival of the Hindus in the Indian Archipelago from Western India occurred about A.D. 800, and the Muhammadan tradition to the Archipelago began in A.D. 1278. The date of the last migration is probably correct; that of the Hindus, being more distant, is uncertain. From these two great events, it is inferred that the Malay ancestors of the Polynesians left the Indian Archipelago soon after the commencement of the Christian era.

No trace of a written character has been found in the wide extent of the islands of the Pacific. Most of them are probably too small to have furnished a population, at once sufficiently numerous and concentrated, to generate the amount of civilisation requisite for the purpose.

The history of the nations along the southern borders of Asia has in every era exercised some influence on the Archipelago, and the importance of the international influences of the Archipelago itself may be supposed from the circumstance, that while some writers have derived Malayan civilisation from an original source in Menangkabau, others have referred it to Java, and others to Celebes; whilst two of the ablest, Mr. Marsden and Mr. Crawfurd, have endeavoured to exhume a great nation whose civilisation preceded the Javanese, the Malayan, and the Bugis, and impressed itself more or less, not only on the Archipelago, but over all Polynesia. And the learned now recognise that a great continent, with peculiar forms of animal life, once lay in the sea between Madagascar and the Archipelago.

In the Pacific Ocean, a westerly current fills the whole breadth of the tropical zone, from the coast of America to that of Australia and the Indian Archipelago. The cold Peruvian stream flows with great rapidity along the shores of Chili and Peru, and takes a westerly direction on reaching the neighbourhood of the line. It has everywhere a remarkably low temperature comparative to the latitude. After the current has assumed a westerly direction, its mean temperature does not exceed 20·5° R., but as it advances towards the west its temperature gradually rises to 27° or 28° R. On the western banks of the Pacific, the equatorial stream divides into several branches. Part of its waters flow to the south, a greater quantity penetrates through the channels of the South Asiatic Archipelago into the Indian Ocean, the remainder turns to the north-east, on the confines of the Chinese Sea, leaves the eastern coast of the Japanese islands, and then spreads its warm waters under the influence of north-westerly winds over the northern part of the Pacific. Then the Japanese stream plays here the same part as the Gulf Stream in the Atlantic, and exerts a similar, though less mighty, influence over the climate of the west coast of America, as it is neither so large nor so warm, and having to traverse a wider ocean, in higher latitudes, naturally loses more of its heat during the passage.—*Crawfurd's Malay Dic.; Logan in J. Ind. Arch.*, 1848–1858; *Hartwig; Captain Elphinstone Erskine's Western Pacific*, p. 448; *Marsden; Wilkes' Narrative; D'Urville's Voyages; Captain Blackwood's Survey.*

PACKHAN BED. HIND. of Kangra. A root obtained from Tibet, believed to be an antidote for opium, and used as such in cases of poisoning by that drug, either in powder, in doses of 15 grains, or in infusion.—*Cat. Ex.*

PAD or Paud, as Vasarapad, Nundepad, Mundlapad, written in Tamil Padagai, is a cluster of cottages, situated, for the convenience of farmers, at some distance from the village to which they belong. It is the same word seemingly as the Bengali Para, a village, or part of a village or town, and used in Bengal as a suffix, as in Gokulpara.

PADÆI, an ancient pastoral people, tributary to Darius, supposed to have been somewhere in India, and on the banks of the Ganges, and who, according to Herodotus (Thalia iii. c. 99), eat their aged relatives. See Batta.

PADAL, Pathadi, Pardhan, or Desai, is a Gond tribe who are the bards or religious counsellors of the upper classes of Gonds. From these has sprung a half-caste tribe who speak Mahrati, and occupy themselves in spinning thread and playing on wind instruments.

PADAM is the term by which the races designate themselves, whom the Assamese name Bor and Bor-Abor. The Bor occupy the mountains to the north of the Brahmaputra river, in about lat. 27° 12′ N., and long. 94° to 97° E., on the west or right bank of the Dihong river, on the southern face of the Himalayas, on the borders of Tibet and China. They dwell to the south of the Bor-Abor, and their chief town is Membu. Higher up are the Bor-Abor, whose capital is Semong, of about 300 houses; they are polyandrous, it being not uncommon for an Abor woman to have two husbands, brothers, living under one roof. They do not eat beef, but hunt, and eat the flesh of the wild buffalo. They are more powerful than the Bor. Their bachelors live in the Morang, a large building in the centre of the village for the reception of strangers, and in this custom they resemble some of the Archipelago races. They sacrifice to deities of the woods and hills. Numbers of these people are also found on the shores of the two great northern branches of the Brahmaputra river. When first known, they made periodical descents on the plains. Bor means tribute; hence Abor, free from tribute; and the Padam are so arranged into the payers and non-payers of tribute. They carry bows and arrows, some of which are poisoned. Their dress is made of the bark of the Udhal tree. Bor is also said to mean 'great,' and we find the term of Bor Khamti employed. The Bor-Abor race dwell on the north of the Abor, occupying the mountains on the north of the Brahmaputra river, in lat. 28° N., and long. 95° E., to the west of the Dihong river.—*Indian Annals; Latham's Ethnology; Aitcheson.* See Abor; India.

PADANG. MALAY. A plant, probably the Pandanus odoratissimus, used in the Archipelago for making mats.

PADANG ISLANDS, seven in number, lie on the west coast of Sumatra. Padang is the chief settlement of the Dutch on the west coast of Sumatra.

PAD BAHERA. HIND. A mushroom of the Panjab, said to produce insensibility.—*Powell.*

PAD-DAN. BURM. In Amherst, a timber used for making drums and musical instruments. It is a kind of red sanders-wood.—*Cat. Ex.*

PADDANATTU PILLAIYAR, a rich Chetty merchant, who lived at Kaveripatnam about the 17th century. He acquired great wealth by trading with Ceylon. One day, in his absence, a Saiva mendicant asked alms from his wife, but was refused. The beggar left a little slip, to be given to her husband, containing these words, 'Mind that even a needle with a broken eye will not follow thee in thy last day.' Paddanattu Pillaiyar then became an ascetic, and wandered about, visiting Saiva temples, and composing verses in their honour.

PADDY. ANGLO-MALAY. Oryza sativa.

Bhatt, . .	GUJ., HIND.	Nellu, ...	TAM.
Padi, ...	MALAY.	Vadlu, ...	TEL.

Unhusked rice, whether growing or cut, before thrashing, or before the grain is separated. The Malays, like the other people of S.E. Asia, have many varieties of rice, as Adan-padi, Jinjang-padi, Jongko-padi, Kappa-padi, Radin-padi, Sambas-padi, Sampangan-padi.

PADDY BIRDS, an egret; so named from Padi, MALAY, rice, because they often fish in rice fields. See Birds; Cranes; Egret.

PADEEN, a race of Ichthyophagists dwelling near the Indus, whom Herodotus describes as hunters, and eating raw flesh; it is most probable he had heard of the class termed Pardi, the hunters and fowlers to this day of India.—*Tod's Tr.* p. 147.

PADEWAHKAN. The trade of the Bugis with New Guinea and the Eastern Islands, and the trepang fishery on the north coast of Australia, are carried on chiefly in vessels called Padewahkan. These leave Macassar and the other parts of Celebes, for the Eastern Islands, during the westerly monsoon, returning with the S.E. trade wind.

PADI. KARN., TAM.; also Pari. In Madras, a measure of capacity = $\frac{1}{8}$th of a marcal, containing 93·752 cubic inches, or about 3 lbs. 6 oz. of water. It is the same as the nali. It is also a measure of weight equal to 100 palam or 125 oz. avoirdupois. As a measure of capacity, 8 olluk make 1 padi.

PADIKASU, a native of Kalandai, who was one of the court poets of Kegunatha Setupati of Ramnad, A.D. 1686–1723. His principal work, Tondamandala Satakam, contains 100 stanzas in praise of the Tonda country.

PADIVIL KOLOM, a round tank of Ceylon of great dimensions.

PADKA, the engraving of the soles of two feet on the top of a tombstone, to mark the tomb or samdi of a Gosain. It is also called Charnpad and Paglan. Paduka, footprints of a Jaina priest.

PADMA. SANSK. The lotus, Nelumbium speciosum. Padma devi, also Padmavati, consort of Vishnu, a title of the goddess Lakshmi. Padmanabba-swami, a name of Narayana in the Malealam country. Padmasana, a lotus seat. Padma-wan, the sacred lily lake of the Hindus.

PADMANABHAM, a village in the Vizagapatam district, Madras presidency, situated in lat. 17° 58′ N., long. 83° 19′ E., near the fort of Bimlipatam. Population (1871), 558. It is a place of religious and historic interest, containing a large endowed Hindu temple of much local celebrity, and marking the scene of a decisive battle fought between Viziaram Raj of Vizianagaram and Colonel Prendergast's force, on the 10th of June 1794. Viziaram Raj was defeated, and fell with most of the principal chiefs of the country.—*Imp. Gaz.*

PADMANI, daughter of Hamir Sank, the Chauhan raja of Chitor in the 13th century. She was very beautiful, and was married to Bhim-si, uncle of the young prince Lakum-si of Chitor, and protector of the kingdom during his minority. In 1275, Bhim-si was lured into the camp of Ala-ud-Din, who had conducted a long unsuccessful siege, and there made prisoner, but was promised release if he would deliver up Padmani. Padmani, after consultation, feigned compliance, and was sent out with seven hundred covered litters, each of which contained an armed warrior. At the last interview allowed to the husband and wife, Bhim-si escaped

under the cover of the warriors, who had to fight their way, and mostly fell, and Ala-ud-Din retired. Ala-ud-Din returned in A.D. 1303, and the Mewar people, despairing of success, resolved on the rite of Johar. In this all their wives, to the number of several thousands, were led to subterranean fires, Padmani closing the train. Her name is hallowed in Rajput song,—her beauty, accomplishments, and destruction.

PADMA PURANA, a religious book of the Hindus. It contains 55,000 slokas or stanzas. It is in five khanda or books, viz. the Sreshti-khanda, which treats of creation; Bhumi-khanda, on the earth; Swarga-khanda, on heaven; Patala-khanda, on the regions below the earth; and the Uttara or last khanda. The tone is strictly Vaishnava, and in the last-named section Siva and Parvati join in worshipping Vishnu.—*Dowson.*

PADOMAN. MALAY. A compass; the word is also written Paduman, Pandoman, Panduman.

PADOUK. BURM. Pterocarpus dalbergioides, also P. Indicus. Several experiments have been made in the ordnance department of Madras to ascertain its fitness for gun carriages. From its large size, its even grain, rendering it susceptible of a high polish, and beauty of colour and pattern, it appears to be well suited to the manufacture of articles of furniture.

PADRI, a Portuguese titulary name given to the religious teachers of all faiths, to the Protestant and Romish clergymen, and in Sumatra to the Muhammadan teachers of Acheen. These last are chiefly Malays of the Menangkabao states, of the interior of Sumatra, who for many years opposed the advance of the Dutch, but are now chiefly congregated in Acheen. The Padhrai of the Bombay side of India is a levied tax or fee for the maharaj and guru, presented at their visits.

PADSHAH. HIND. A king, equivalent to the Arabic sultan; Padshahi, royal; Padshah-zada, a prince; also written Pacha, Pasha, Basha.

PADSHAH SALEP, a commercial term for a drug lately imported from Bombay into England. Its source is unknown, and supposed by Dr. Birdwood to be the root of Asparagus adscendens.

PADUA GURUWA, a small community of untraced origin in the mountains of Udakind, in Western Uvah, in Ceylon, who profess Muhammadanism, but conform to Kandyan customs.

PÆCILONEURON PAUCIFLORUM. *Bedd.* Pudangalli, TAM. A tree abundant on banks of rivers on the South Tinnevelly and Travancore mountains, up to nearly 4000 feet. It yields a valuable hard reddish timber, which is used for building and other purposes, and for walking-sticks.—*Beddome, Fl. Sylv.* p. 93.

PÆDERIA FŒTIDA. *Linn.*

Psychotria volubilis, *Roxb.* | Apocynum fœtidum, *Bur.*
Gandho-bhadhuli, . BENG. | Savirela chettu, . TEL.
Gandhali, ... HIND. |

Grows in Bengal and peninsular India. It has a very offensive fœtid smell, and the roots are used as an emetic.—*Roxb.* i. p. 683.

PÆONIA plants were formerly in great repute as a medicine; and Dioscorides gives 16 names by which the drug was known.

Pæonia corallina, Ud-salap, HIND., is one of the Pæonia of Dioscorides. Its root occurs as irregular, flattened, woody masses, with a brownish epidermis, and fibrous, with numerous fissures radiating from the centre. It is used by native physicians for weakness, palpitation, and asthma, and to fasten round the neck of children to prevent asthma. Root believed to be antispasmodic and to stimulate the secretion of milk and menses. It is said to become more efficacious the longer it is kept.

Pæonia moutan, Mau-tan, CHIN., a native of China, is a shrub, of which several varieties, with beautiful whitish flowers stained with pink, are now in British gardens. The Pæonia papaveracea has a broad crimson stain at the base of each petal. It sprouts so early in the spring, that if exposed to the sun, it is very liable to be cut off by the late frosts of England. A very dwarf kind (apparently a distinct species) has finely-cut leaves, and flowers of a dark velvety purple, like the Tuscany rose. This the Chinese call the black moutan, and it is supposed to be the same which Lindley named Pæonia atro-sanguinea. Another kind, called tse, or purple, has double flowers of a large size; this is probably the variety reported to have 1000 petals, and which is said to exist only in the garden of the emperor. The third, called lan, or blue, is a lilac variety, with flowers of the colour of Wistaria Sinensis. There are others of various shades of purple, perfectly distinct from those, and equally fine. The double whites are also numerous and handsome. The largest of these Dr. Lindley has named P. globosa, but there are four or five others nearly as large and double. Some of them have a slight lilac tinge, which gives a richness to the colour. The most expensive is one called wang, or yellow, by the Chinese; it is a straw-coloured variety, rather pretty, but not so handsome as some of the others.

Pæonia rubra.

Chih-choh-yoh, . . CHIN. | Chuen-choh, . . . CHIN.
Tiau-chih, . . . „ |

Its root is used in Chinese medicine as a carminative.—*Smith; Fortune's Wanderings*, p. 321; *Riddell; Eng. Cyc.; Powell.*

PAG. GUJ., HIND., MAHR. A foot, a footmark. It is variously used and combined to mean intelligence, search. Paggi, a searcher.

PAGADAPU CHETTU. TEL.

Melanthesa rhamnoides, *B.* | P. reticulatus, *Poir.*
Phyllanthus vitis idœa, *R.* | Errapurugudu, . . TEL.

The same name is also given to some others with red berries, as P. turbinatus, etc., and likewise to Sethia Indica, the Telugu name of which Roxburgh assigns to *M. turbinata.*

PAGAH. HIND., MAHR. State soldiers, household troops; any body of horse under a commander.

PAGAN, a ruined Burmese town, in lat. 21° 10′ N., long. 94° 34′ E. Captain Yule found the details of its architecture of Hindu origin; and it is known that Anoratha Saumen, when he established Buddhism in Pagan, built all its pagodas and temples after the exact models of those then existing in Thatung or Satung, of the same size, and in the same order. Such is the testimony of Talaing tradition, and he believes of Talaing history. The name of this town is also written Paghan, and it was a royal city about A.D. 700. The remains of 800 to 1000 Buddhist temples are to be seen, the most remarkable being the Ananda, Tha-pin-ya or Thai-pin-yu, Gauda-Palen, and Dhamayangyee.

Gauda-Palen signifies the throne of Gaudama. Height, 180 feet. It is cruciform in plan, and is

very conspicuous in approaching Pagan from the southward. It has numerous pinnacles and a tall central spire; it is seen glistening with its white stucco-like plaster far down the Irawadi river, rising like a dim vision of Milan cathedral. It is compact in structure, and elevated in proportion to its bulk. It has a massive basement, with porches, and rising above in a pyramidal gradation of terraces, crowned by a spire Tee. From the top of the terrace, just below the spire, is a fine prospect of the vast field of ruined temples, stretching north-east and south-west.

The *Ananda* temple is supposed to have been built about the time of the Norman conquest. Ananda means the Infinite. The plan of the building is a square of nearly 200 feet, having on each side a projecting vestibule, which converts it into a perfect Greek cross. These vestibules are lower in perpendicular height than the body of the temple, which rises to 35 feet in two pairs of windows. Above this rise six successive terraces, diminishing as they ascend, connected by carved converging roofs, the last terrace just affording space enough for the spire which crowns the edifice. The gilded Tee caps the whole at a height of 168 feet above the ground. The outer corridor is roofed with a continuous flying buttress abutting on to the massive outer walls.

Thai-pin-yu, or Omniscient, is the second great temple of Pagan, and is stated to have been built about A.D. 1100. It forms a massy square edifice of 200 feet on each side, rising to a height of 210 feet from the ground. The characteristic of the Thai-pin-yu is the elongation of the building, before any considerable diminution of spread takes place, and also the position of the principal shrine, which stands high above the ground. There is first a spacious two-storeyed basement, similar to that of the Ananda, then two receding terraces, but here the usual gradation is interrupted. The third terrace, instead of rising by terraces, like the others, projects at one leap aloft to a height of some 50 feet in a truly massive and stupendous cubical donjon, elongated again at the top by a renewal of the pyramidal gradation of terraces, and the usual culminating spire. Colonel Fytche (p. 31) suggests that there was an Upper Pagan, near Pagoung, and a Lower Pagan, in lat. 21° 12′ N., on the banks of the Irawadi.—*Fergusson*, p. 618; *Yule; Fytche*, p. 30.

PAGGI. HIND., from Pag, a foot. A village servant in Gujerat and the N.W. of India, who traces thieves by their footprints. Mr. Elphinstone (p. 192) relates that one was employed to pursue a man who had carried off the plate belonging to a regimental mess at Kaira. He tracked him to Ahmadabad, 12 or 14 miles, lost him among the well-trodden streets of that city, but recovered his traces on reaching the opposite gate, and, though long foiled by the fugitive's running up the water of a rivulet, he at last came up with him, and recovered the property, after a chase of from 20 to 30 miles. The skill of many of the paggi in Gujerat is remarkable. They measure with a string every trace of the impression of the foot, and make observations with a sense which practice renders very acute. The moment the object of their pursuit is traced to a village, the string and all the remarks are delivered to its paggi, who pursues the chase till he finds the thief or murderer, or till he lodges him in another village. In the Jhalawar district, the property stolen or the thief must be produced, and the paggi who trace the pag or footprints are there the most famous. In Sind, also, the paggi was skilled. A chaprassi, who had gone off with a considerable sum of money, was traced by his pag from Kotree to Bahulpur, where he was arrested, brought back, and punished for the theft. Burckhardt relates some curious facts concerning the sagacity of the Arabs in tracing of footsteps or ath'r, a talent which they seem to possess in common with the free Indians of America, with this difference, that in the American woods the impression is made upon grass, in Arabia upon sand.—*Rob. Tr.* ii. p. 176; *Elphin.* p. 192; *Malcolm, Cent. India.*

PAGLAN. HIND. The sculptured soles of feet on the tombstones of Saddhu Hindus.

PAGODA.

Tse-dee, Po-ya,	BURM.	Dewal,	URDU.
Bhoo-ra, Po-rah,	,,	But-kadah,	,,
Koil,	TAM.	But-khana, Murat,	,,

This is a term by which Europeans designate the religious temples of the Hindus and Buddhists of India, Further India, China, and Japan. The pagodas of Hindus and Buddhists, and the mosques and tombs of Muhammadans, are of importance in the architectural history of these countries, being numerous, and almost the sole structures which have survived through the revolutions of dynasties and religions. The name has been variously derived,—from Muhammadan authority, as Būt-kada, from Būt, an idol, and Kada, a temple. It may have been applied in the S. of India from Dhatugarbha or Deh and Gopa, a Buddhist shrine, a relic receptacle. It may also be from Pe or Pei, TAM., a devil, and Gudi, TEL., a temple. Some of the Hindu and Buddhist temples are magnificent. The most costly pagoda in British India is that built by Bimul Sah on a spur of the Aravalli mountains. The site cost sixty lakhs to level, and it took fourteen years in building, at a cost of eighteen kror of rupees, perhaps in all twenty millions sterling. The more celebrated of those of peninsular India are at Achaveram, Chellumbrum, Conjeveram, Jaganath, Seringham, Tripati, Trivadi, Verdachellum, and Wariore. Trinomally is 222 feet high. The whole exterior of many of the largest of the Burmese pagodas (Buddhist) is gilt. In the capital, some of the most beautiful and elaborate khyoungs or priests' houses are covered with the richest and most ornate gilding from top to bottom; and in some cases the cost of gilding alone, for a single building, has exceeded £10,000 sterling. On the occasion of festivals, also, it is a prevailing custom among the Burmans to attach to their pagodas leaves of gold, even when the building generally is not gilt, which is the origin of the little patches of gilding seen on the temples near every village of any size or wealth.

The prominent parts of the Hindu temples are the Gopura or Torana, the gateway; and the Kalasa, with the Mora and Kangni.

The architectural form of the pagodas of different parts of India have distinctive forms.

The Dravidian temples at Mahavellipur, Tanjore, Madura, are in storeys with cells; those of Bengal present no trace of utilitarianism, no pillars or pilasters, no reminiscence of habitations, but have a polygonal base, and all the lines of the pyramid or sikra are curvilinear.

The chief Dravidian temples are at Chellumbrum, Combaconum, Conjeveram, Ramisseram, Madura, Seringham, Tanjore, Tinnevelly, Tiruvalur, Vellore, Peroor, Vijayanagar, Avadea, Kovil, Veeringepuram, Taramangalam, Mahabalipuram, Ramisser, and others.

The ruined temple at Chellumbrum is supposed to have been dedicated to Subramanya. As it now exists it was built at intervals from A.D. 927 to the year 1685; it has a hall 340 feet by 180 feet, with 1000 columns, each of a single granite stone, and all ornamented. A temple to Parvati is near the hall.

Tiruvalur, 30 miles W. of Madras, has a double shrine of Dravidian form dedicated to Siva and his consort, standing in a cloistered court, which measures 192 feet by 150 feet over all, and has one gopura in front. This has afterwards been enclosed in a court measuring 470 feet each way, with two gopuras, and containing numberless little shrines and porches; and subsequently the whole was enclosed in a court 940 feet by 701 feet, with five gopuras and several important shrines, amongst them a hall with 688 columns.

Seringham temple, near Trichinopoly, is a small village shrine, but with six enclosures, the innermost enclosing a hall 450 feet by 130 feet, with 1000 (960 ?) columns, each of a single block of granite, and all elaborately carved. Each enclosure was intended to have four gopuras. The outer wall that encloses all measures 2475 feet by 2880 feet. It has four great outer gopuras. The northern one leading to the river and to Trichinopoly measures 130 feet in width by 100 feet in depth, and is one of the most imposing masses in S. India, and is severe and in good taste throughout. There are in all 14 or 15 great gate towers. This great Vaishnava temple at Seringham owes all its magnificence to buildings erected during the Naik dynasty, A.D. 1532–1742.

Near the Vaishnava temple of Sri Rangam is one dedicated to Jumbukeswara, a title of Siva. In architectural beauty it far surpasses the Vaishnava structure.

The pagoda at Tricullore in S. Arcot is handsome, and many natives of S. India retire to this town to spend the evening of their days.

Conjeveram is said to have been at first founded by Adondai, the illegitimate son of Kolotunga Chola, in the 11th or 12th century, and to have succeeded Combaconum as the capital of Cholamandalam. Great and Little Conjeveram are contiguous towns. There is a Saiva and a Vaishnava pagoda. The great temple at Great Conjeveram has some large gopuras, also a hall of 1000 columns, several large and fine mantapas. It is said to have been at one time a Jaina pagoda.

Vellore has a temple inside the fort, which has been converted into an arsenal. It has one of the most elegant as well as one of the oldest porches or mantapas in the south, with many Yali and mounted warriors. The porch is supposed to be of date A.D. 1350. The lingam there indicates its dedication to Siva.

Tarputry has two temples, one now in use dedicated to Vishnu, the other, deserted, on the banks of the neighbouring river. It has two gopuras, one of them unfinished, the whole of the perpendicular part covered with the most elaborate figure sculpture, cut with exquisite sharpness and precision in a fine, close-grained hornblende rock in a rich and tasteful style,—two handsome temples elaborately decorated with sculptures representing Hindu mythological events. Among the basreliefs is a figure holding a Grecian bow, rarely seen in Hindu sculptures.

Combaconum has a temple dedicated to Sri Rama, and there is a small but fine gopura in the town 84 feet across and 130 feet in height.

Madura has many temples, most of which were erected during the long and prosperous reign of the tenth Naik king, Trimul Naik, A.D. 1621–1657. The most important was a choultry, which he erected at a cost of a million sterling, between 1623 and 1645, to receive the presiding deity when taken in procession. Its hall is 333 feet long by 105 feet wide. The façade of its hall is sculptured with the monster-like Yali and mounted warriors. In front of the choultry is a gopura left uncompleted by the same king. The sanctuary of the great temple is said to have been built by Viswanath, the first Naik king, A.D. 1520, but it owes all its magnificence to Muttu Virappa, the eldest brother of Trimul Naik, and to Trimul Naik, 1622–1657. It has a hall of 1000 (985) columns, whose marvellously elaborated sculptures surpass those of any other known temple hall. There is a small shrine dedicated to Minakshi, the tutelary goddess. The Perumal pagoda at Madura was erected in the 18th century.

The great pagoda at Tanjore was converted by the French armies in 1777 into an arsenal, and has not been re-appropriated to sacred purposes. The temple stands in a courtyard 500 feet square, the distance between the gateway and the temple being broken by the shrine of the bull Nandi. The perpendicular part of its base measures 82 feet square, and is two storeys in height, of simple outline. Above this the pyramid rises in 13 storeys to the summit, which is crowned by a dome, and reaching a height of 190 feet. All the sculptures on the gopuras belong to the religion of Vishnu, while everything in the courtyard is dedicated to the worship of Siva. It is supposed to have been erected by Kadu Vettiya Soran or Cholan, a king reigning at Conjeveram in the beginning of the 14th century. Besides the great temple and the Nandi porch, there are several other smaller shrines in the enclosure, one of which, dedicated to Subramanya, a son of Siva, though small, is as exquisite a piece of decorative architecture as is to be found in the south of India. The bull and this temple are of the 15th or 16th centuries.

At Tinnevelly is a double temple; the great square, being 508 feet by 378 feet, is divided into two equal portions, of which one is dedicated to the god Siva, and the other to his consort Parvati, with three gateways to each. Its great hall has 1000 columns, a forest of pillars.

Ramisseram temple, on the island of Ramisser at Paumben, is enclosed in an outer wall 868 feet long by 672 feet, and 20 feet in height, with four gopuras built entirely of stone, three of them being unfinished. Its corridors extend to 4000 feet in length, are 20 to 30 feet broad, and about 30 feet high. Each pillar or pier is compound, with rich elaborate designs. The central corridor is 700 feet long. It is supposed to have been begun about the year 1550. A small vimana in the west is alone of older date. It is now devoted to Siva.

Vijayanagar is built on the Tumbudra river. A city is said to have been founded there in A.D. 1118 by Vijaya Rayal, but only as a dependency of the Mysore Raj. The Muhammadans in A.D. 1310 had struck down the kingdom of Hoisala Bellala, and destroyed their capital Hullabid; in 1322, Warangal was finally destroyed by them, and Bakka and Harihara, princes of Warangal, re-established themselves at Vijayanagar. For two hundred years it maintained a gallant struggle against the Bahmani and Adal Shahi kings of Ahmadnaggur and Bijapur. The period of its greatest prosperity was between the accession of Krishna Deva, A.D. 1508, and the death of Achutya Rayal, 1542; and it is to their reigns that the finest monuments of the city must be ascribed. In 1565 it was finally taken by the Muhammadans, and it has ever since continued in ruins. There is no other city in India where ruins exist in such numbers. The most remarkable of the remains is an unfinished temple dedicated to Vitoba, a local manifestation of Vishnu. It was commenced by Achutya Rayal, A.D. 1529–1542. The principal part is its porch of granite, carved with a boldness and expression of power nowhere surpassed by buildings of its class.

Mahavellipore, south of Madras, on the sea-shore, is famed for its monolithic temples or raths. There are inscriptions in Sanskrit, and their date seems to have been not later than the 7th century. They have been formed out of the solid rock, and on one of the oldest the Hindu deities are sculptured, the gods being represented with four arms. One of them, the Arjuna rath, is nearly finished, and was intended to contain a cell. There are also some excavated caves; and at Saluvan Kuppam, two miles north of Mahavellipore, is a cave with ten tiger heads at its entrance.

Ellora Kailas cave has a model of a complete temple of the Dravidian style, standing in a courtyard, and consisting of a vimana between 80 and 90 feet in height, preceded by a large square porch supported by 16 columns; before this stands a detached porch, reached by a bridge, and in front of all stands the gateway, which is in like manner connected with the last porch by a bridge, the whole being cut out of the solid rock, standing in a court dug around the temple in the sloping side of the hill, about 100 feet deep at its inmost side, and half that height at the entrance or gopura, the floor of the pit being 150 feet wide and 270 feet in length; and in the centre of this rectangular court stands the temple. There are also two pillars or dipdan (lamp pillars) left standing on each side of the detached porch, and two elephants about the size of life. All round the court there is a peristylar cloister, with cells and some halls. The completeness of this cave never fails to strike the beholder with astonishment.

In the Ganjam district, the Hindu temples are formed by a group of rather low buildings, in some cases detached, in others joined, each with a graduated pyramidal roof, terminating in an ornamental conical cupola.

In Northern India, from Orissa to the foot of the Himalaya, the Hindu temples, with scarcely a single exception, are rectangular in plan and cubical in the form of their body. In Southern India, also, the square temple is the rule.

The Dharmsala temples of the Sikhs are, in general, plain buildings. They are built by rich men, or by several uniting to defray the expense. They have a flat roof, and are sufficiently capacious to accommodate a multitude of attendants, who sit or stand during worship. Images are banished. The bunga or temples at Amritsar, surrounding the holy tank, are fine buildings; each misl or association of Sikhs has a separate bunga.

Pagodas of Burma are chiefly relic receptacles, viz. dat-dau, relics of a Buddha or Rahanda; paree-bau-ga, implements or garments of Buddha or other sacred person; dhamma, books or texts; and the ou-deit-tsa contain statues of Buddha. The Buddhists of Burma, at Prome and Rangoon, have erected magnificent temples for their worship, with much detail, but with a grandeur of dimensions that prevents the thought of puerility. The great colossal figures of the pagodas at Rangoon and Prome are magnificent structures. That at Rangoon, built on the most elevated part of a great laterite ridge, towers majestically above all surrounding objects.

The finest architectural remains in Burma are to be seen in the deserted city of Pagan, but many of the most magnificent have been greatly shattered by earthquakes. The bow and the pointed arch, as well as the flat and the circular, have been in use long before their employment in India. Modern buildings are chiefly of wood. Palaces and monasteries, carved with extraordinary richness of detail, and often gilt all over, present an aspect of barbaric splendour. The dhagobas, relic chambers, which form at once the objects and the localities of Buddhist worship, are almost the only brick structures now erected, and these are often gilt all over; £40,000 are said to have been expended on a single temple. The ordinary buildings are chiefly built of bamboo and thatched with grass, and well raised from the ground on piles. In carving, the Burmese artisans give full scope to the working of a luxuriant and whimsical fancy.

Chinese joss-houses are simple structures, but ornamental from their pleasingly contrasted colouring.

In the common form of a Hindu temple, the adytum containing the object of worship is invariably covered with a 'sikar,' or bell-shaped spire; the mandap, or ante-chamber, is open, and contains in temples of Siva a figure of the attendant bull Nandi. Vaishnava temples, especially, have frequently two ante-chambers, in which case the first is open and the second closed. These, as also the temples of the Jain religion, have occasionally three spires, the centre one rather higher than the other two. The temple is surrounded by a Dharmsala, or house of accommodation for attendants and worshippers. The surrounding structure is, however, still sometimes, especially in Jain temples, formed of numerous small spire-covered shrines, and the lodging-houses are in that case detached, but the whole mass of buildings is frequently encircled by a fortified wall. A large temple presents, in fact, the appearance of a village; the auxiliary buildings look like substantial private houses, but are more liberally adorned with carved woodwork; and sometimes nearly the whole exterior of them is covered with rude paintings, representing marriage or other domestic festivals, or more frequently the achievements of the gods. Small reservoirs of water called koond, circular wells, and more

imposing wav or bowlee, and sometimes majestic tanks, are the more or less indispensable accompaniments of places dedicated to the religion of the Hindus. Like the Christian churches of the middle ages, the Hindu temples of Gujerat are usually placed in situations highly favoured by nature. The awful gloom of the grove, the romantic beauty of the mountain glen, the brightness of the river's bank, the wildness of the cloud-enveloped peak, or the solemn calm of the ocean bay, are accessaries of which the religions of Siva and of Adinath fully avail. The officiating priests are, in the temples of Siva, usually Gosai; in those of Vishnu, Brahmans or Viragi; in temples of Devi, low caste Brahmans or Gosai. The priest in a Jain temple may be of any caste, with the curious provision that he be not a Srawak, or layman of that religion. Low caste Brahmans, especially the class called Bhojak, are frequently employed. The Gosai are members of a monastic order which follows Siva. They wear orange-tawny clothes, and the tilak, or sectarian mark upon their foreheads, is horizontal. The Viragi is a Vaishnava monk, and wears a white dress and a perpendicular tilak. Those who are servants of the Deo add to the tilak a chandlo or red spot, made with a preparation of turmeric. The Jain monk is commonly called a Jati, but the general name applying to all these orders is that of Sanyasi, or ascetic. The Sanyasi are often persons who have lost their property, or have been deprived of their children, or suffered some other calamity, against which they have not had resolution to bear up. The intended recluse having arranged with a guru, or monkish dignitary, for his reception into the order, and having ascertained the favourable day by astrological calculation, breaks the sacred cord, if he be of the regenerate classes, removes the hair of his head, assumes the monastic dress, and with alms and prayers receives initiation. The Sanyasi are, however, sometimes consecrated at an early age; a person who despairs of having children not unfrequently vows to consecrate one son, if two be granted to his prayers; and among the Jains, when disciples are scarce, as they frequently are, the monks purchase children for the purpose of initiating them. The markings which Hindu sects place on their foreheads are alluded to by Moses, Leviticus xix. 28: 'Ye shall not make any cuttings in your flesh for the dead, nor print any marks upon you: I am the Lord.' Bishop Patrick notes that this imprinting of marks or signatures was understood to be fixing a badge or characteristic of the person's being devoted to some false deity.—*Fergusson*, pp. 334-374; *Mason; Moor; Yule; Forbes' Rasamala*, ii. p. 311; *History of the Panjab*, i. p. 123. See Java; Mat'h.

PAGODA.

Hun, ... HIND. | Varaha, Varagan, SANSK.

Pagoda, a gold coin that was current in Madras until towards the middle of the 19th century. The derivation of its name, pagoda, though it is of modern origin, is very obscure. Prinsep derived the term from the pyramidal temple depicted on one side of the coin, and this would appear to be the general opinion. Bartolomeo, who lived in Southern India from 1776 to 1789, called the coin Bhagavadi, and states that it was improperly called by the Europeans pagode or pagoda. Bhagavadi or Bhagavati is one of the names of Durga or Parvati, whose image used to be shown on the coin, and as Bartolomeo was a good linguist, his etymology of the term is probably correct. The East India Company's pagodas, with the figure of a temple on one side, were comparatively modern, and it seems more probable that this device was adopted on account of the prevailing European name for the coin, than that the name arose from the device. The following are the names of the different classes into which the coins described have been divided:—(1) Buddhist coins, (2) Chalukya coins, (3) Nonambavadi coins, (4) coins of the Gajapati dynasty, or elephant lords, (5) the Lingayat pagoda, (6) Vijayanagar or Bijanagar pagodas, (7) the Gandikota pagoda, (8) the Chittuldroog pagoda, (9) the Travancore pagoda, (10) East India Company's pagodas, (11) Adoni pagodas, (12) Mysore pagodas. Latterly, the varieties of these coins became very numerous, so that their discrimination at the present day is a matter of some difficulty. The immediate prototype of the pagoda is a globular punch-struck coin believed to be of Buddhist origin. It was known to some of the people of S. India as the Varaha or Varagan, from the practice of the ancient Chalukya dynasty of stamping their coins with the figure of the boar incarnation or avatar of Vishnu, varaha mudra meaning boar stamped. The same figure appears as the signet of the rajas of that country in some old copper grants of lands in the Mackenzie collection. A pon seems to have been half a pagoda. In Tanjore the revenue accounts were kept in pon, panam, and kasu, but the modern value of a pon was R. 1.9. The Tamil name for gold is ponna. With the Canarese-speaking race the term honnu meant gold; two honna were equal to one varaha; and the term honna (hun) was adopted by the Muhammadan conquerors for the coin which the British call a pagoda. The Hindu name probably varied according to the image of the coin; thus we find the Rama tanka having the device of Rama and his attendants, and the matsya hun of Vijayanagar with four fish on the obverse. Other pagodas have Vishnu, Jaganath, Vencateswar, etc., on them. Those with three swami or figures are of the best gold, and were valued ten per cent. higher than the common pagoda. The canteroy pagoda is named from Kanthirava or Lion, the title of an ancient raja who ruled Canara. The Nayu pagoda probably means a coinage by Timma Nayu, a ruler in the Peninsula.

The hun was subdivided into fanams and kas. Fanam, or more properly panam, is identical with the word pan, known in Bengal as one of the divisions of the Hindu metrical system, now applied chiefly to a certain measure of cowries and copper money. The old fanam was of gold only, and was the one-sixteenth of a hun. In the Lilavati we find 16 pana = 1 dharan; 16 dharan = 1 niskh, where the dharan (or dharam) seems to accord with the hun, which is identical in weight with the Greek drachma. The Ikkeri pagoda contains 16 fanams, that of Vararai and Anandrui 14, and the Kalyan pagoda 28. The division adopted by the British was 42. A pagoda, as a Madras gold coin, was equal to three rupees and a half, and it was about 50 to 52·8 grains weight; 80 pagodas weight is a (cutcha) seer of 24 rupees weight. This corresponded with the average weight of the old native rupee of 175 grains; but after the introduction of the 'Com-

pany's rupee' of 180 grains, the pagoda weight was 54 grains generally.—*Brown's Wars.*

PAGODA THRUSH, Acridotheres pagodarum, is probably the bird referred to in Lalla Rookh,—

> 'Mecca's blue sacred pigeon, and the thrush
> Of Hindustan, whose holy warblings gush
> At evening from the tall pagoda's top.'

PAGRI. HIND. A head-dress, a turban closely folded. This is the only article of dress which indicates the caste and race of the wearer. The Konkani Brahman has on his head a disc of artfully folded red calico, three or four feet in diameter; the Bhatia has the tip of his turban curled up above his forehead, like a rhinoceros' horn; the Sikh has a closely-fitting and neatly-folded turban; the fisherman's turban is usually made out of a piece of old fishing net; and a Mahratta's head-dress looks like a bundle of tightly-twisted snakes.

PAGRUS, a genus of fishes belonging to the family Sparidæ, with four or six strong concave teeth in front, supported by similar conical teeth behind them, with two rows of rounded molar teeth on each side of both jaws.

PAGUMA LANIGER. *Gray.* The Martes laniger, *Hodgs.*, the Terai tree-cat, is an animal of Tibet and the Snowy Himalaya; it is one of the Viverrinæ.

Paguma trivirgata, *Gray.*

Viverra trivirgata, *Reinward, Mus. Leyd.* | Paradoxurus trivirgatus, *Gray.*

This animal is very common in Burma, and occasionally enters houses in the towns in pursuit of rats. When young it is easily domesticated, and valuable as a rat-catcher.—*Mason.*

PAGURIDÆ, the Pagurians or hermit crabs, a tribe of the Crustacea, composed of a considerable number of species, the greater part of which are remarkable for the more or less complete softness of the abdomen, the want of symmetry in the appendages of this part of the body, the shortness of the two posterior pairs of feet, and many other characters. Modern writers recognise several genera of this family. The Pagurus of Aristotle was not a hermit crab, but he describes three kinds of hermit crabs under the name Καρκίνιον. They are termed Καρκίνας by Oppian, Ælian, and Galen. A great resemblance exists among all the hermit crabs, Paguri, properly so called, not only in the details of their organization, but in their habits. The cephalo-thoracic portion of their body is shorter than the abdominal portion. They have stout claws and have a shield in front, but have a long, soft, and utterly defenceless tail. They occupy empty natica and neritina shells.

Pagurus cristatus, *Edws.*, New Zealand.
P. deformis, *Edws.*, Mauritius, Seychelles.
P. punctulatus, *Edws.*, Indian Ocean.
P. affinis, *Edws.*, Ceylon.
P. sanguinolentus, *Q. and G.*
P. setifer, *Edws.*, New Holland.
P. clibanarius, *Edws.*, Asiatic Seas.
P. crassimanus, *Edws.*, South Seas.
P. tibicen, *Edws.*, South Seas.
P. elegans, *Q. and G.*, New Ireland.
P. aniculus, *Edws.*, Mauritius.
P. gonagrus, *Edws.*, China.
P. pilosus, *Edws.*, New Zealand.
P. frontalis, *Q. and G.*, New Holland.
P. gamianus, *Edws.*, Cape of Good Hope.
P. miles, *Edws.*, coasts of India.
P. custos, *Edws.*, coasts of India.
P. diaphanus, *Edws.*, Oceanica.
P. hungarus, *Fabr.*, India, Naples.

Cenobita of Latreille is a genus of the Paguridæ, and, in the opinion of M. Milne-Edwards, establishes the passage between the Paguri, properly so called, and Birgus. Cenobita rugosa, in length about three inches, is found in the Indian Ocean. There are three other species.—*Eng. Cyc.; Milne-Edwards.*

PAHAL, or Chaupan Pal, of Kashmir, are shepherds who tend the flocks of other people; there are, besides, several wandering tribes who seem distinct from the settled population.

PAHAL, amongst the Sikhs, the initiatory rite for admitting a candidate into the Sikh religion. The novice must have attained the age of discrimination, and he stands with his hands joined in the form of supplication, and repeats after the priest the articles of his faith. Some sugar and water are stirred in a basin with a double-edged dagger, and the water is sprinkled on his face and person. He drinks the remainder, and exclaims, 'Wah! Guru.' At least five persons have to be present, one of them a priest. Women were sometimes thus initiated. Since the middle of the 19th century, the Sikh sect has rapidly diminished.

PAHANG, on the east coast of the Malay Peninsula, in lat. 3° 31½' N., the capital of a kingdom, was formerly a place of great trade; the river is small. The southern part of Pahang is inhabited by the same tribe of Binua who are found in Johore. See Jakun.

PAHAR. HIND., MAHR. A division of time, a watch of the day or period of three hours. There are eight in the 24 hours; hence Pahara, a guard, a body of men on guard; Pahari-wala or Pahari-kara, a sentinel.

PAHARI. HIND. A mountaineer; a tribe on the N.W. frontier of India. They are not numerous, and are Hindus.

PAHARIA, of the Santal pargana, number about 41,000. They are arranged into two tribes, those who live in the Rajmahal hills, and the Naiga Paharia on the plains to the west. The former live by grain crops reared on the slopes of the hills, and by bartering in the plains the hill bamboos, and the grass and timber which grow in luxuriant profusion in every direction. The Paharia are addicted to drink. The Bhagulpur hill rangers were principally composed of this people. But since Mr. Cleveland's settlement at the close of the 18th century many of them receive pensions. The Naiga Paharia have no right of forest or well-wooded hills. Both the Paharia tribes are low in the social scale. Their language is called Male or Rajmahali, and its basis is Dravidian. The Male or Rajmahali are low in stature, but stout and well proportioned. There are many less than 4 feet 10 inches, and perhaps more under 5 feet 3 inches than above that standard; but 5 feet 3 inches is about the average height of the men. Buchanan Hamilton says that the features and complexion resemble those of all the rude tribes whom he had seen on the hills from the Ganges to Malabar. Their noses are seldom arched, and are rather thick at the points, owing to their nostrils being circular. Their lips are full, but not at all like those of the Negro; on the contrary, their mouths in general are very well formed. Their eyes, instead of being hid in fat, and placed obliquely like those of the Chinese, are exactly like those of the Europeans. Their

women, though hard worked, are far from having harsh features. The Male head, like that of the Kol, has more of an elongated oval than that of a lozenge shape. The forehead is not narrow, and the lateral projection of the zygomata is comparatively small. The Male or hill man is described by Captain Sherwell as much shorter than the Santal, and of a much slighter make. He is nearly beardless, is not of such a cheerful disposition, nor is he so industrious.—*Cal. Review*, Dec. 1860; *Mr. Logan in Jl. In. Arch.*

PAHLAV or Pahlava is a term supposed by Olshausen to have arisen out of the name of the Parthava or Parthians. They were not the Persians, who are called Parasika, but the Arsacidan Parthians. The term Pahlav, as applied to a people, early fell into disuse in Persia, and came into use in India in the second to the fourth centuries A.D.

Pahlavi is a later Iranian dialect which followed on Zand and the Old Persian of the inscriptions, and led to Parsi or Pazand and the Persian of Firdusi. The origin of the word has also been said to be Balkavi or pertaining to Balkh, and softened into Pahlavi. The term Pahlavi, however, now applied to the official language of the Sassanian dynasty, Dr. Haug traces to Pahlav-Parthia, and holds that from the memory of Parthian rule in Persia, everything connected with antiquity was called Pahlavi, *i.e.* ancient. The term Huzvaresh, as applied to Pahlavi, he explains as a mode of writing and pronouncing a foreign word, generally Semitic being written, and its Persian equivalent pronounced in its stead. Dr. Haug deciphered the Hajjabad, Naksh-i-Rajab, and other Pahlavi inscriptions, and showed that, in the Pahlavi languages, the Semitic element far outweighs the Iranian. The Iranian verbal terminations, found in the Pahlavi MSS., are entirely wanting in the earlier Hajjabad inscription. The Pahlavi of the MSS. is, as written, a Semitic language with an admixture of Iranian words and a prevailing Iranian construction, and is, as read, a purely Iranian tongue. From using the Huzvaresh mode, the Persians came by degrees to write their words as they pronounced them, and thus the Semitic words of the Pahlavi had disappeared from modern Persia as early as the time of Firdusi. In discussing the origin and age of Pahlavi, it cannot be supposed that the Sassanian kings, very zealous promoters of Persian ascendency and restorers of the Zoroastrian religion, would adopt for their official language a Semitic dialect not then existing in Persia. Dr. Haug therefore looks to an earlier period of Persian history, and shows reason for concluding that Pahlavi is identical with that form of the Assyrian language which was spoken at Nineveh, whence it spread, with the Assyrian rule, over all the subject provinces, and among others over Iran. An old Pahlavi-Pazend glossary was edited by Dastur Hoshengji Jamaspji Asa, revised and enlarged, with an introductory essay on Pahlavi, by Dr. Martin Haug, Ph.D. It comprises the text of the Sassanian Farhang, and a Pahlavi-English glossary arranged as an alphabetical index according to the Roman character, and an important essay on the Pahlavi language by Dr. Haug. The essay comprises a history of the researches made in Europe into the Pahlavi language and literature. Mr. Growse describes it as a dialect of Assyria, and the language of the Persian court.—*Times of India; Growse; Weber*, p. 188.

PAHWAR, the tract of country and districts between the Jhelum and Indus rivers.

PAI. HIND. A small copper coin in Indian currency, the third part of a pice and twelfth part of an anna.

PAI or Pey, also Paisachi, a demon, a disembodied spirit, a goblin. The worship is confined to the extreme south of India, and chiefly among the Shanar race of Tinnevelly; but, under the teaching of Bishop Caldwell and other eminent missionaries, from the middle of the 19th century they largely adopted Christianity. The Bant race of Canara believe that persons who die a violent death become Paisachi.

PAIDI PATTI or Pamidi Patti. TEL. Gossypium acuminatum. Paidi means gold, hence excellent, this species being much prized by Brahmans for making the sacred thread and for the wicks of temple lamps. It is generally found in back yards and gardens, and is known by its coarctate seeds.

PAIGHAMBAR. HIND. Any prophet of the Hebrew. Scriptures, also applied to Mahomed. The word is Persian, and is from Paigham, a message, and Bar, a bearer. It is equivalent to the original Hebrew and Greek words meaning messenger, which have been translated angel. The Muhammadans believe in angels. The original word is often applied to men, 2 Samuel ii. 5, Luke vii. 24, and ix. 52. Our knowledge of such beings is derived wholly from revelation, and that rather incidentally. The expression, Matthew xviii. 10, seems to denote the relation which the children of God sustain to him. The term in Arabic is Rasul; Rasul Allah, prophet of God, Mahomed.—*Lane's Koran.*

PAIGHAMBRI GAHOON. HIND. In Gugaira, a huskless or pearl barley; black or purple barley is called the same, literally prophet's wheat, a fine wheat without husk.

PAIJAMA. HIND. Trousers, literally leg dress.

PAIK, Hindu village militia, called Paik, Shetsanadi, and Halab in different parts of the country. Also an infantry soldier, an armed watchman or peon, a village watchman, a messenger.—*W. E.*

PAIKASHT. HIND. Cultivators, persons who, having no land of their own, cultivate other people's land on terms agreed on.

PAILA, among the Ho race a test for witches.

PAILI, a measure of capacity, ½ of a kurawa.

PAI-LOO. CHIN. Usually called a triumphal arch; ornamented buildings common in every part of China, some of stone, and others of wood. Most of them have been erected at the public expense. The Toran of the Sanskrit, a triumphal gateway.

PAIN. HIND. Lower. Pain Ghat, land below the ghats, low lands. Pain Ganga, an affluent of the Godavery river. The town of Chanda is built on its bank.

PAINA, bracelets worn by native women of India.

PAINSADI, also Painsi. HIND. Broad cotton cloth, 500 threads in the web.

PAINTED PARTRIDGE, Francolinus pictus, is the Kala-titar of India and the Kakkera-kodi of the Teling people. It occupies the central

parts of India. It delights in grassy plains and fields. The cock bird's call, chee kee kerray, chee kee kerray, is heard in the early morning.

Painted snipe, Rhynchæa Bengalensis, is the R. picta of Gray, and R. orientalis of Horsfield. It is a permanent resident in many parts of India, breeding in June and July, in thick marshy ground. It is found also in Africa, Ceylon, Burma, Malayana, and S. China.

PAINTINGS, pictures, or representations are forbidden in the second of the ten commandments, which Jews and Christians recognise. All the doctors of El-Islam differ on this head, some absolutely forbidding any delineation of what has life, under pain of being cast into hell; others permitting pictures of the bodies, though not of the faces, of men. The Arabs are the strictest of Misiconists, yet even they allow plans and pictures of the holy shrines. Other nations are comparatively lax. The Alhambra abounds in paintings and frescoes. The Persians never object to depict in books and on walls the battles of Rustam, and the Turks preserve, in the Seraglio treasury of Constantinople, portraits by Greek and other artists of their Sultans in regular succession.

Painting as an art has attained to various degrees of excellence amongst the many nations of Eastern and Southern Asia. Hindus have often beautifully illuminated manuscripts, but the other ornaments are better executed than the figures. Muhammadan artists excel them in this art. Painting on wood, a decorative art, is practised in Kashmir, the Panjab, and Hyderabad in Sind, the ornamental designs being in the form of foliage and shawl work; in Sind, all shades of agreeable hues of red, green, and yellow. Sind is famous also for another form of wood painting, in articles from the turning lathe, in which all these shades are used, broken by casting on other colours. It is waved or curled like the grain of marble, by the handiness of the workman, and taken up. Articles of painted pottery were exhibited from India in 1861. At the International Exhibition of 1871, beautiful painted tiles were shown from Hyderabad, Sind; beautiful patterns on painted wood from Kashmir. The beautiful painted tiles of Hyderabad, Sind, prove that skill little inferior to that which covered the most lovely archways and other buildings of imperial Dehli, still remains at the command of the architect to-day, in districts famous of old for this class of miscellaneous painting. The enamels, vitrified colours on a metal base from Jeypore, were as lovely as anything Cellone or Caradosso ever did. The Panjab enamel is usually blue and green.

The people of Kashmir execute beautiful patterns on their papier-mache work.

The Shiahs do not entertain the same objection to pictures that Sunni Muhammadans have; and portraits and other representations of the human figure are common among them. The art of caligraphy is carried by the Persians to the highest perfection, and they are allowed to be the best penmen in the east. Their beautiful character affords the greatest scope for a fine writer to display his skill. The caligrapher of the Muhammadan races also displays great skill in arabesque ornamentation of his pages, and the Guldastah-i-Soohn published in Madras affords many beautiful illustrations, with ornamentation in every variety of arabesques. In white-washing their walls, over the chunam or lime plaster, the workmen of Seringapatam first give a thin coat of suday, or fine clay, which is mixed with size, and put on with a hair brush. They next give a coat of whiting made of powdered balapum or potstone, and then finish with a coat composed of eight parts of abracum or mica, one part of powdered balapum, and one of size. The abracum is prepared from white mica by repeated grindings, the finer particles being removed for use by washing them from the grosser parts. The wall when finished in this manner shines like the scales of a fish; and when the room is lighted, it has a splendid appearance.

Painting of portraits is an art which in India and China has attained to a degree of excellence. Sir Rutherford Alcock's work on the artistic works of Japan has shown the high state of excellence to which the people of that nation have attained. At the International Exhibition of 1871, the paintings on talc from Patna, Benares, and Tanjore, the Dehli paintings in ivory, and other specimens, were prominently noticed. — *Burton's Mecca; Elph.* p. 158.

PAIR-AMMA-VARU, amongst the non-Aryan races of the S. of India, the goddess of small-pox. The words mean lady mother of the eruption.

PAISACHI. SANSK. Demoniac, a demon, a goblin, a disembodied spirit. A form of marriage amongst the Hindus in ancient times; the forcible seizure of a wife. A written character in the S. of India, invented by the Palli race. The Paisachi Prakrit, a vernacular tongue of ancient India, was a dialect differing not much from Magadhi.—*Hind. Theat.* ii. p. 215; *As. Res.* iii. p. 315, vii. p. 199.

PAITA or Poita. BENG. From the Sanskrit Pavitra, the thread or string of cotton worn by the Brahman, Kshatriya, Vaisya, and the artisan castes of Hindus; it marks them as initiated into the tribe or guild, or, as applied to the Brahmans, twice born.

PAITAN, a town on the Godavery, supposed to be near Plithana of the Periplus. It is mentioned as sending onyx stones to Barygaza, the modern Baroch, 230 miles distant. Col. Tod says (Travels, p. 297), Paitan, on the Godavery, is the Tagara of the Periplus, which supplied the sindones for the Roman market, and he supposes Tagara to be from Tak-nagara, the city of the Tak or Takshak. It is variously written, Paithana, Pattana, Puttan, and Pythan; and Tagara and Plithana seem to have been towns of importance near it, and known to the Greeks.—*Elphin.* p. 224; *Tod's Travels*, p. 297. See Salivahana.

PAITHINASI, a Hindu philosopher who resided at Hardwar. He taught that God is visible and eternal. He is mentioned in the Skanda Purana.—*Ward*, iv. p. 44.

PAKA. HIND. Written Pukkha. Ripe, mature, exact, complete, perfect, satisfactory. Used of buildings; means made of stone or brick and mortar, as opposed to mud. Paka plaster, plaster made of lime.

PA-KA-THAN. BURM. A timber tree in Amherst, Tavoy, and Mergui, of maximum girth 2 cubits and maximum length 12 feet. When seasoned it floats in water. It is used by Burmese to make paddles, oars, etc.; is a tough, durable, good wood.—*Captain Dance.*

PAK-CHAN, a boundary river in Tenasserim, which falls into the Bay of Bengal at Victoria Point, after a course of 78 miles. The territory of Ma-li-won, on the right bank, belongs to the British. On the left are the Siamese provinces of Krà and Re-noung, which are considered valuable for their lead and tin mines.—*Imp. Gaz.*

PAKENATTI, a homeless migratory race, found in Mysore and the Telugu country, who about the beginning of the 18th century were driven from their houses by oppression. The head of the village authorities in the Telugu district of Bellary is of this agricultural tribe.

PAKFONG, the white copper of the Chinese, an alloy of 40·4 parts of copper, 31·6 of nickel, 25·4 of zinc, and 2·6 of iron.—*Simmonds' Dict.*

PAKHAL. HIND. A leather bag for carrying water in. In British India, a pakhal is slung on each side of a bullock; the driver is called a pakhali.

PAKHALL, a lake, distant about 140 miles from the Nizam's capital in a north-easterly direction. This reservoir, which is picturesquely situated in the heart of a pretty dense forest, has a magnificent spread of water, taking in a circumference of about 50 miles, its shelving margin being girded by a chain of low wooded hills and undulations. One in particular deserving special notice, situated on the south-east side, of considerable height and clothed with arborous verdure, constitutes a striking foreground to the picture, well worthy the pencil of the artist. The advantages here presented by nature, in steep natural ridges, have at some remote period in the past been made subservient to the formation of a huge embankment, by which means the capacity of the lake was considerably enhanced, and the existence of old weirs and sluices unmistakeably indicate the former flourishing condition of the land in the vicinity. The place is often visited by wild elephants. Thick beds of coal occur in the valley of a nullah not very far from Pakhall in the Warangal district. Trial borings were made in Ballarpur, and beds of more than fifty feet thickness were found. At Wurroa, a coal-pit was commenced. The coal is of poor quality, breaks very rapidly on exposure, and is therefore very wasteful. The coal from a place known as Saster is said to be very durable.

PAKHTO, or Pushtu, the spoken language of the Afghan people.

PAKINA DINA VARU. KARN. A tribe of fortune-tellers.

PAKKIWAR, a predatory tribe in the Panjab, whom the authorities in 1863 tried to reform. They profess Muhammadanism.

PAKLI, a plain in the Hazara district occupied by the Swati, Awan, Syuds, and Tanaoli.

PAK-PATTAN, or Ajudhan, an ancient city in Montgomery district, Panjab, on the high bank of the old Sutlej, 28 miles from the present course of the river. Its foundation is assigned to a Hindu saint or raja of the same name, of whom nothing else is recorded. This part of the doab is still known as Surat-des, a name which recalls the Sura-kousæ of Diodorus, and the Sudrakæ and Oxudrakæ of other Greek writers. For many centuries Ajudhan was the principal ferry of the Sutlej, where the two great western roads from Dehra Ghazi Khan and Dehra Ismail Khan met, the first via Mankera, Shorkot, and Harapa, the second via Multan; and at this point the conquerors Mahmud and Timur, and the traveller Ibn Batuta, crossed the Sutlej. The fort is said to have been captured by Sabaktagin in A.H. 367 or A.D. 977–78, during his plundering expedition in the Panjab; and again by Ibrahim Ghaznavi, in A.H. 472 or A.D. 1079–80. On the invasion of Timur, the mass of the population fled to Bhatner, and the few people that remained were spared out of respect for the famous saint Farid-ud-Din, Shakr-ganj, whose shine is in Ajudhan. From this saint the place derives its modern name of Pak-Pattan, or the 'Ferry of the Pure One,' that is of Farid, whose latter days were spent at Ajudhan. By continued fasting, his body is said to have become so pure, that whatever he put into his mouth to allay the cravings of hunger, even earth and stones, was immediately turned into gems and sugar, whence his name of Shakr-ganj, or 'sugar-store.' This miraculous power is recorded in a well-known Persian couplet:—

'Sang dar dast o gohar gardid,
Zahr dar gam o Shakar gardid.
'A stone in the hand became a gem,
Poison in the mouth became sugar.'

From a memorial couplet we learn that he died in A.H. 664 or A.D. 1265–66, when he was 95 lunar years of age. But as the old name of Ajudhan is the only one noted by Ibn Batuta in A.D. 1334, and by Timur's historian in A.D. 1397, it seems probable that the present name of Pak-Pattan is of comparatively recent date. The saint Farid-ud-Din was instrumental in the conversion of the whole Southern Panjab to the faith of Islam. Pilgrims from all parts of India, and even from Afghanistan and Central Asia, visit his shrine, and during the Maharram as many as 60,000 persons have been estimated as present. On the afternoon and night of the last day, a well adjoining the shrine is pierced by a narrow opening, known as 'the Gate of Paradise,' and whoever can force his way though this aperture during the prescribed hours is assured of a free entrance into heaven. The crush is naturally excessive, and often results in severe injuries to the pilgrims.—*Cunningham's An. Ind.* pp. 214-219; *Yule, Cathay*, ii. p. 406; *Imp. Gaz.*

PAKSHA. SANSK. A fortnight; the half of a lunar month. That from the new moon to the full is called the Sukla-paksha or light fortnight, the other is the Krishna-paksha or dark fortnight of the waning moon.

PAKSHU DHARA MISHRA, author of the Prasanna Raghava.—*Ward*, iv. p. 376.

PAKUNG-BA, in Munipur, the personal deity or ishta-deva of the raja: It is a snake, from which the Munipur family claim descent. When it appears it is coaxed on to a cushion by the priestess in attendance, who then performs certain ceremonies to please it.

PAKWAZ. HIND. An oval-shaped drum used for keeping time to the singing of the dancing girls.

PAKYOTH, the wild gourd of Scripture, Citrullus colocynthis, *Schrd.*, grows in many parts of India, on the sandy lands of the Peninsula, Dekhan, Gujerat, Cutch, Dehli. Dr. Burn states colocynth of two kinds occur in Gujerat, the Cucumus colocynthis and C. pseudo-colocynthis. The colocynth of commerce is the dried fruit, peeled and unpeeled, and is brought from the Levant,

north of Africa, and south of Spain. Colocynth is useful for protecting shawls and feathers against insects.

PAL. HIND. A tent; a division of a Jat clan. Pal is also the term for a community of any of the aboriginal mountain races; a section of any Hindu tribe. The Mewati have twelve pal. The Jat have many pal.

PAL, a local term for long defiles, the residence of the mountaineers; their chiefs are called Indra Pati; in Bhaka, Put. Its import is a defile or valley, fitted for cultivation and defence.—*Rajasth.* i. p. 381, ii. p. 350.

PAL, also Pala. TAM., TEL. Milk.

PAL. HIND. As a measure of time, a moment, or minute, of which there are 60 in a ghari.

PALA, a dynasty of, it is said, eighteen kings, who ruled in parts of the ancient Gaur dominions in Western and Northern Bengal, and in Behar from A.D. 745 to 1200.

PALA-BHOGAM. TAM. A form of land tenure.

PALA-KAPYA, an ancient Hindu physician who wrote on medicine. He was supposed to be an incarnation of Dhanwantari.—*Dowson.*

PALALU, of the Northern Circars, agricultural labourers who were regarded as slaves to the ryots, and were hereditarily attached to and transferable with the land. The Agari of Cuttack are said to be domestic slaves.

PALAM. TAM. A measure of weight at Madras equal to 1 ounce 3·75 drachms avoirdupois.

PALAMCOTTA, a town and small military cantonment in the Tinnevelly district, in lat. 8° 42½′ N., long. 77° 46′ 40″ E.; population, 17,885 in 1871. A mile east of the Tamrapurni river. Its fort is dismantled.

PALAMOUD, an alimentary substance used by the Turks and Arabs. It consists of acorns which have been dried, toasted (to destroy the bitterness), and reduced to powder, with sugar and aromatics added.—*Simmonds' Dict.*

PALAMOW, a subdivision of the Lohardagga district in Bengal; area, 4260 square miles; population, 366,519. Coal is worked in the district, which is very mountainous.

PALANG POSH, PERS.; in commerce, Palampore. The former term is composed of two Persian words, literally bed-cover. These are manufactured in the district of Cuddalore, at Ponnary, also at Sydapett in the outskirts of Madras, but especially in the town of Masulipatam, the last always of a superior kind, and in various sizes, 5½ to 6 cubits in breadth, and 7 to 8 long, and are sold from 6 to 15 rupees, according to size. The Cuddalore, Ponnary, and Sydapett fabrics are of ordinary quality, and are sold at from 2 to 7 rupees each.

PALANKEEN or Palanquin, a litter or covered carriage borne on men's shoulders. It has almost wholly ceased to be used in India. Palanquins form one of the articles which eastern rulers present to their subjects, or give them permission to use. Written also Palki.

PALANPUR, a native state in the province of Gujerat, Bombay, between lat. 23° 57′ and 24° 41′ N., and long. 71° 51′ and 72° 45′ E. It is one of eleven states in communication with the Palanpur political agent, viz. Palanpur, Radhanpur, Tharad, Wao, Warai, Terwara, Suigaon, Deodar, Santalpur, Kankrej, and Bhabar. Palanpur, Radhanpur, Warai, and Terwara are Muhammadan, the others are Hindu, five of their ruling families being Rajput. The Palanpur family is of Afghan origin, belonging to the Lohani tribe, and is said to have occupied Behar in the reign of Humayun. In 1597, Ghazi Khan, the chief, obtained from Akbar the title of diwan, for having successfully repulsed an invasion of the Afghan tribes. Its revenue, £40,000, and tribute of £5000 to the Gaekwar of Baroda. He maintains a force of 294 horse and 697 foot.—*Imp. Gaz.*

PALAR, a river of the Carnatic, which rises on the Mysore table-land, lat. 13° 27′ N., long. 78° 2′ E., runs S.E. 55 miles, E. 87 miles, S.E. 48 miles, into the Bay of Bengal. Length, about 230 miles, running past Vellore, Arcot, and Chingleput. It receives the Pony, 40 miles; Sheyaru, 90 miles. The entrance of the Palar, 9 miles S. of Sadras, is contracted by a bar or narrow ridge of sand, inside of which the river becomes of considerable width. The town of Conjeveram is built on the Palar. The Palar anicut, in the N. Arcot district, was constructed about the year 1855. Across the river near Vellore it is 2600 feet long, and is the head of a system which irrigates about 37,672 acres.

PALAS. SANSK. Butea frondosa. When a Hindu dies at a distance, it is customary to burn vicariously an article of clothing along with a bundle of leaves of the Butea frondosa. This vicarious rite is called Palasavidhi. It was from the abundance of the palas tree on the battle-field that the name of Plassey was given to the battle fought by Clive in 1757. Palas gum, or Palas gond, or Dhak ka gond, is the produce of Butea frondosa, in ruby red, transparent grains of irregular tears. Under the name of kini or cheena, it furnished one of the kino gums imported into Europe.—*Wilson.*

PALA UTAN. MALAY. In Penang, a wood of light brown colour, from a large tree; used for planks.—*Colonel Frith.*

PALAVA, a tribe of the Kshatriya race who had neglected to reverence Brahmans. Manu, speaking of them, styles them Dasya, whether they speak the language of the M'hlecha or that of the Arya, and the people to whom he there alludes seem to have been Medes occupying the valley of the Indus.

PALAVERAM, in lat. 12° 57′ 30″ N., long. 80° 13′ E. A town and military cantonment, 11 miles S.W. of Madras, situated close to the western side of a small range of hills, and 4 or 5 miles distant from the sea-coast. The Adyar river runs sluggishly about 300 yards to the north.

PALAVESHUM, a Maravar of a servile family, who made himself celebrated for his robberies and outrages, from Madura round to Quilon, during the latter part of the Muhammadan government of Seringapatam. Since his death he has been worshipped as one of the demons of the Shanars of Tinnevelly, and was most feared of all their devils. Thousands of persons are called after his name, to deprecate his enmity. Many children of the Tamil Pariah races are similarly named after other demons.

PALAWAH. BURM. A beautiful red but heavy wood of British Burma. A cubic foot weighs 52 lbs. Length of the trunk to the first branch is 45 feet, and average girth, measured at 6 feet from the ground, is 6 feet. It sells at 12 annas per cubic foot.—*Cal. Cat. Ex.*, 1862.

PALAWAN, the S.W. island of the Philippine group, is a narrow strip of land extending nearly S.W. and N.E. 250 miles, forming the eastern boundary of the China Sea, from 8° 13′ to 11° 17′ N. The N. extremity is a narrow peninsula about 60 miles in length, consisting of a mass of limestone rock rising precipitously from the sea, from 200 to 300 feet in height, which the native inhabitants climb readily in search of the edible birds' nests, their chief occupation. It is along the eastern coast of this island that ships proceed when bound up the China Sea late in the seasons, when the north-east monsoon is expected, and derives from this the name of the Palawan passage. —*Journ. Ind. Arch.*

PALAYAKAR. MALEAL. In Travancore, a convert from the Syrian sect to that of the Romish church. Pullenkur, a Syrian Christian in Malabar.

PALAYAR, predial slaves of Malabar. The Pale of the Tuluva are a class of Pariahs. See Kanagan; Slaves.

PALCHARA. In Rajput mythology, the Palchara corresponds to the Furies of the Romans. Describing a battle, the Rajput poet says, 'The abstraction of Iswara was at an end, joy seized his soul at the prospect of completing his chaplet of skulls (mūnda-mala). The Yoginis danced with joy, their faces sparkled with delight, as they seized their vessels to drink the blood of the slain. The devourers of flesh, the Palcharas, sung songs of triumph at the game of battle between the Chohan and Chundail.'

PALEGARA or Paleiyakaran, the Polygar of the early English writers. They were semi-independent chieftains in the south of the Peninsula.

PALEMBANG in the early part of the 19th century held the first rank amongst the native states of Sumatra, between lat. 2° and 4° 30′. The town is built on both sides of the Moosee river. It has many crocodiles in the river. During the British occupation of Java, the sultan caused all the Dutch in this town to be massacred, and the British Government at Batavia despatched a force against him under the command of Colonel Gillespie. The sultan fled into the interior with his treasure. With his flight the Malays rose, and were slaughtering the Chinese and other foreign settlers, on which Colonel Gillespie went on in a few light boats, and his party, which consisted of ten persons, himself included, landed among them. At midnight, the main body of troops entered the place, and a town defended by forts and batteries mounting 250 pieces of cannon, was taken possession of without the loss of a single life. A new sultan was soon afterwards placed upon the throne. This Residency of Netherland India is 2558 geographical square miles. In 1880, its population (628,490) comprised—Europeans, 280; Natives, 621,900; Chinese, 4245; Arabs, 1941; others, 124.—*Court.*

PALEMONIDÆ, a family or tribe of macrurous decapodous crustacea. They belong to Milne-Edwards' family of salicoques or shrimps, and his tribe Palemoniens. The genera are, Gnathophyllum, Hippolyte, Rhynchocinetes, Pandalus, Lysmata, and Palemon. Hippolyte ventricosus occurs in the Asiatic seas; H. Quoyanus at New Guinea. Rhynchocinetes typus—length, about 2½ inches—is a native of the Indian Ocean.

Palemon, *Fabr.*, the prawn. The species of this useful and delicious genus are numerous. M. Milne-Edwards records 17, besides the Indian Palemon brevimanus and P. Coromandelianus of Fabricius. Some of the species of warm climates attain to a considerable size. P. carcinus, of the Indian seas and the Ganges, attains to nearly a foot in length, and P. Jamaicensis, of the Antilles, is from 10 to 12 inches long. The prawns generally inhabit sandy bottoms near the coasts, but some are found at the mouths of rivers, and far up. They mostly boil red. The better known are—

Palemon natator, *Edws.*, Indian Ocean, on Gulf weed.
P. brevimanus, *Edws.*
P. Coromandelianus, *Fabr.*
P. longirostris, *Edws.*, Ganges mouth.
P. carcinus, *Edws.*, ,,
P. ornatus, *Edws.*, Amboyna, Waigyou.
P. lamarrei, *Edws.*, Bengal coasts.
P. Tranquebaricus, *Fabr.*, Tranquebar.
P. hirtimanus, *Edws.*, Mauritius.

PALENGA ZEYLANICA. *Thw.* Palengagass, SINGH. A tree 40 to 50 feet high, of the Ambagamowa district in Ceylon, at an elevation of about 3000 feet.—*Thw. Zeyl.* p. 287.

PALERI AMMA, a deity of the non-Aryan Tamil races of the Peninsula. See Hindu.

PALESTINE is on the S.W. part of Syria. It gets its name from Philistine, a race who inhabited a tract bordering on the Mediterranean Sea. Palestine was originally inhabited by a number of tribes,—Kenite, Kenizzite, Kadmonite, Hittite, Jerezzite, Jebusite, Amorite, Canaanite, Girgashite, Hivite, Phœnician, and Philistine. The desert coast between Gaza, the frontier town of Palestine, and Pelusium or Shur, the frontier town of Egypt, was called by the Hebrew writers the desert of Shur. It was thinly peopled by a race of Arabs named Amalekites.

The country has been intimately associated with the history of several races, and since the middle of the 19th century, a society in Great Britain has employed Captains Warren and Conder, and Colonel Wilson, R.E., in its exploration. East of the Jordan, Captain Conder found among the numerous stone circles, dolmens, and menhirs, already known to exist in Moab, four undoubted great centres round which the monuments are disposed. These are Mushibiyeh, at El Mareighet, also at Minyeh, south of Heshbon, and in the Ghor, near Kefrein. The first of these Captain Conder identified with Bamoth Baal, the second with Baal Peor, the third with 'the top of Baal Peor which looketh towards Jeshimon,' and the fourth with the 'sanctuary of Baal Peor,' in the Jordan valley, where the Israelites worshipped while in Shittim. Also at Ain Heshbon or old Heshbon are an immense quantity of cromlechs. The monuments, which still stand as they stood in the days of Balak, illustrate the religion of the people whom the Israelites were to dispossess. In Palestine itself, Ptolemais, Diospolis, Antipatris, Ælia have all completely disappeared as names, and the old designations, Akka (Acre), Lydd, Kefer-saba, Jerusalem, etc., have re-established themselves. Sebaste and Neapolis have, however, succeeded in maintaining themselves, and preventing the return of Samaria and Shechem. Round about Jerusalem lies a circle of interesting sites,—the Mount of Olives, with the Garden of Gethsemane; the Kedron, with its bold ravine; Jericho, with Elisha's picturesque fountain; and the abrupt fall of Ayun Musa, under Mount Nebo.

The tall massive building known as the Haram, which overshadows the city, for 3000 years has covered the patriarchal tombs, sacred to Hebrew and Muhammadan alike, never disturbed since the mummy of Jacob was laid by the side of those of Abraham and Isaac. Jabal Fureid is the huge fortress and burial-place of Herod, the most conspicuous features in the whole landscape of Southern Judea, whence are to be seen the hills of the wide wilderness, rolling in long succession towards the Dead Sea, with the red wall of Moab beyond. In Bethlehem, the church erected over the birthplace of Christianity may lay claim to be the oldest church of Christ in the world, prayer and praise having risen from it without interruption from the day when Helena built it. The simple tomb of Rachel has remained undisturbed, reverenced, and undisputed, from age to age for more than 3500 years.

Palestine was conquered by the Fatimite Khalifs of Egypt, A.D. 969, and in consequence of the persecution of the Christians by Hakim, between A.D. 996 and 1021, Peter the Hermit, A.D. 1094, began preaching to the nations of Europe a crusade against the Saracens. Crusades followed on this. The eighth and last, under St. Louis, was concluded A.D. 1274.

Palestine shows a total Jewish population of only 15,293 souls. Of these, more than half live in Jerusalem, about 4000 in Safet, 2000 in Tiberias, and 900 in Hebron. The remainder, about 400, are divided between Akka, Haifa, Jaffa, Sichem, and Shefa-Amar.

PALGHATCHERRY, a town in the Malabar district of the Madras Presidency, in lat. 10° 45′ 49″ N., and long. 76° 41′ 48″ E., and 800 feet above the sea. It is in the only break in the line of the mountains from the Tapti to Cape Comorin. It is 25 miles broad at the town of Palghat, and from 35 to 40 miles long, and has an area of 695¼ square miles. It connects the low country on the E. and W., the highest point in its centre being 400 or 500 feet above the sea, and it is traversed by the Madras railway. The mountain on the north, called Vellya Karu Mala, rises 6700 feet. The chiefs are of the Atchen race, and are said to have been Kshatriya Hindus, but to have become degraded below Sudras. They follow descent from the females. There are other chiefs, termed Nair and Naadvalli. The chief rainfall is in June to October. The S.W. monsoon blows through and does not deposit its moisture, though the atmosphere is humid, and the Salem hills intercept the N.E. monsoon. The Palghat ghats are in length about 200 miles, from the gap of Palghatcherry nearly to Cape Comorin. Elevation, from 4000 to 7000 feet, with a spacious table-land 4740 feet; a peaked summit, 6000 feet; another, 7000; Varragherry mountains, 5000 to 6000 feet; near Cape Comorin, in the extreme S., 2000 feet. The west brow of the ghats is, with little exception, abrupt; on the east side the declivity is gradual.

PALI. TAM. Irambu in Malabar, Palari in Portuguese, is the Ceylon iron-wood. Its tree grows to about 30 feet in height, and 20 inches in diameter. It is very useful for stocks of anchors, piles for jetty-heads, beams in storehouses and places where strength is required; for such purposes it is found useful and durable. It may be obtained in great quantities at a very moderate rate.—*Edye, Ceylon.*

PALI, an ancient language in India, which has long ceased to be spoken, but is still used in the Buddhist scriptures of Ceylon, Burma, and Siam. The Pali tongue in Singhalese is called Magadha and Mungata, and in Burmese, Magada-basa. Pali was the mother-tongue of and used by Buddha. The Rupasiddhi is the oldest Pali grammar now extant, and its author, Buddha-Priya, compiled it from the ancient work of Kachhyayana. A quotation from the latter is given in the Rupasiddhi, apparently in the original words. According to this account, Kachhyayana was one of the principal disciples of Sakya, by whom he was selected for the important office of compiling the first Pali grammar, the rules of which are said to have been propounded by Tathagata himself. This statement seems highly probable; for that teacher must have soon found the difficulty of making himself clearly understood, when each petty district had a provincial dialect of its own, unsettled both in its spelling and its pronunciation. A difficulty of this kind could only be overcome by the publication of some established rules of speech, which should fix the wavering pronunciation and loose orthography of a common language. This was accomplished by the Pali grammar of Kachhyayana, compiled under Sakya's instruction; and the language, thus firmly established, was used throughout India by the Buddhist teachers for the promulgation and extension of the practical doctrines of their faith. In the Buddhist works of Ceylon, this language is expressly called Magadhi, or the speech of Magadha; and as this district was the principal scene of Sakya's labours, as well as the native country of himself and of his principal disciples, the selection of Magadhi for the publication of his doctrines was both natural and obvious. Learned men have, however, entertained diverse opinions as to the Pali. Professor H. H. Wilson has remarked that there are several differences between the language of existing Buddhist inscriptions and the Magadhi of Pali grammars; but these differences are not such as to render them unintelligible to those whom Priyadasi (Asoka) addressed in his pillar edicts in the middle of the 3d century B.C. Professor Wilson admits that the Pali was most likely selected for his edicts by Priyadasi, 'that they might be intelligible to the people,' but he is of opinion that the language of the inscriptions was rather the common tongue of the inhabitants of Upper India than a form of speech peculiar to a class of religionists; and he argues that the use of the Pali language in the inscriptions is not a conclusive proof of their Buddhistical origin. But, as opposed to this view, it is a well-known fact that the Brahmans have never used any language but Sanskrit for their religious writings, and have stigmatized the Magadhi as the speech of men of low tribes. In their dramas, also, the heroes and Brahmans always speak Sanskrit, while the use of Magadhi is confined to the attendants of royalty. Professor Wilson has, however, identified the Magadhi with Prakrit, the use of which, though more honourable, was still confined to the principal female characters; but the extensive employment in the dramatic works of the Brahmans of various dialects, all derived from one common stock, seems to prove that they were the vernacular language of the people. In this vernacular language, whatever it was, whether the high Prakrit of the Saurasenas, or the low Prakrit of the Magadhas, we know certainly that

the Vinaya and Sutra, or the practical doctrines of Sakya, were compiled, and therefore also promulgated. Cosma, in Prinsep's Journal, p. 503, has used the term Prakrit as comprehending all the written and cultivated dialects of Northern India. Prakrit means 'common' or 'natural,' in contradistinction to the 'artificial' or 'refined' Sanskrit. In the opinion, however, of Turnour, the celebrated Ceylon scholar, the Pali is a 'rich and poetical language, which had already attained its present refinement at the time of Gotama Buddha's advent' (B.C. 588). According to Sir William Jones, it is 'little more than the language of the Brahmans, melted down by a delicate articulation to the softness of Italian.' To General Cunningham it seems to bear the same relation to Sanskrit that Italian does to Latin, and a much nearer one than modern English does to Anglo-Saxon. The nasal sounds are melted down, the compounds are softened to double and even simple consonants, and the open vowels are more numerous. It is the opinion of many European scholars that the Pali language is derived almost entirely from the Sanskrit, and in this opinion General Cunningham fully coincides. Messrs. Burnouf and Lassen, who jointly formed a Pali grammar, state, as the result of their labours, that Pali is almost identical with Sanskrit; and Professor Lassen, at a later date, when more conversant with the Pali books, states authoritatively that the whole of the Prakrit language is derived from the Sanskrit. Turnour also declares his conviction that all researches tend to prove the great antiquity of Sanskrit. Professor Wilson and James Prinsep are likewise of the same opinion. This conclusion seems self-evident, for there is a tendency in all spoken languages to suppress dissimilar consonants, and to soften hard ones; as in the Latin Camillus for the Tuscan Cadmilus, and the English farthing for the Anglo-Saxon feorthing; or, as in the Pali assa, a horse, for the Sanskrit aswa, and the Pali majha, middle, for the Sanskrit madhya. There is also a natural inclination to clear away the semi-vowels and weaker consonants, as in the English king for the Anglo-Saxon kyning, or as in the Pali Olakita, the seen (*i.e.* Buddha), for the Sanskrit Avalakita; and in the Pali Ujeniya, a man of Ujain, for the Sanskrit Ujajayaniya. It is always, therefore, easy to determine between any written languages that resemble each other, which of the two is the original, and which the borrowed; because letters or syllables are never added, but, on the contrary, are always suppressed or curtailed in the process of time. The Pali is therefore without doubt derived from the Sanskrit, and must, moreover, have been a spoken language for many centuries. For the publication of his esoteric theories regarding the origin of the world and the creation of mankind, Sakya made use of the Sanskrit language only. But the perfect language of our day perhaps owes much of its refinement to the care and sagacity of that great reformer, for it seems highly probable that Katyayana, the inspired saint and lawgiver who corrected the inaccuracies of Panini's Sanskrit grammar, is the same as the Kachhyayana who compiled the Pali grammar during the lifetime of Sakya. Katyayana's annotations on Panini, called Nartika, restrict his vague rules, enlarge his limited ones, and mark numerous exceptions to others. These amended rules of Sanskrit grammar were formed into memorial verses by Bhartrihari, whose metrical aphorisms, entitled Karika, have almost equal authority with the precepts of Panini, and emendations of Katyayana. According to popular tradition, Bhartrihari was the brother of Vikramaditya, the founder of the Hindu Samvat, which dates from 57 B.C. The age of Katyayana is unknown; but as he flourished between the date of Panini, in about 1100 B.C., and that of Bhartrihari, in 57 B.C., there is every probability in favour of the opinion that he was one of the disciples of Buddha. But this identification of the two greatest grammarians of the Sanskrit and Pali languages rests upon other grounds besides those mentioned above. Colebrooke, Wilson, and Lassen have all identified the commentator on Panini with Vararuchi, the author of the Prakrit grammar called Prakrita Prakassa, or Chandrika. Of Vararuchi, nothing more is known than that his work is the oldest Prakrit grammar extant, and that his body of rules includes all that had been laid down by earlier grammarians regarding the vernacular dialects. The identification is still more strikingly confirmed by the fact that Kachhyayana is not a name but only a patronymic, which signifies the son of Kachho, and was first assumed by the grammarian himself. If, therefore, Vararuchi Katyayana is not the same person as Kachhyayana, he must be posterior to him and of the same family. We shall thus have two Katyayanas of the same family living much about the same time, each of whom compiled a grammar, which is much more improbable than that the two were one and the same person. The probable identity of the two great grammarians seems to offer an additional reason for considering Sakya Muni as one of the chief benefactors of his country. For we must not look upon Sakya Muni simply as the founder of a new religious system, but as a great social reformer who dared to preach the perfect equality of all mankind, and the consequent abolition of caste, in spite of the menaces of the most powerful and arrogant priesthood in the world. We must regard him also as a patriot, who, in spite of tyrannical kings and princes, had the courage to incite his countrymen to resist the forcible abduction of their wives and daughters by great men. To him the Indians were indebted for a code of pure and practical morality, which inculcated charity and chastity, performance of good works, and abstinence from evil, and general kindness to all living things. To him, also, they owe the early refinement and systematic arrangement of their language, in the selection of the learned Katyayana as the compiler of the Sanskrit and Pali grammars. The Pali books examined and abstracted by Mr. Turnour consist of the Pitakattayan, the Atthakatha, and the Mahawansa. The first is quasi the gospel of Buddhists. It is stated in the Mahawansa that the Pitakattayan was brought to Ceylon by Mahinda, the son of Asoka, in the 18th year of his father's reign, that is, in 306 B.C., in the exact Pali form in which it now exists.—*Prinsep's Tibet*, p. 148; *Cunningham's Bhilsa Topes; Weber; Hardy.*

PALI. The Scythic Pali are supposed to have been the shepherd invaders of Egypt.

PALI, a small town in the Jodhpur state in Rajputana. Plague broke out here, and spread over Marwar, between 1830 and 1840.

PALIAR or Puliar, a race of herdsmen on the Animallay hills in Coimbatore.

PALIBOTHRA, the ancient Greek name of Pataliputra city, near the confluence of the Sone river with the Ganges. Few old places in India recall to mind so many associations as the Pataliputra of the Hindus, the Palibothra of the Greeks, and the Po-to-li-tse of the Chinese, all referring to the city which is known in our day under the name of Patna. Rennell says (Memoir, pp. 52-54) Pliny's Palibothra is clearly Patna, and as Strabo placed it 425 miles, or so many parts in 1063 of the distance from the confluence of the Jumna to the mouth of the Ganges, he probably meant the same place. The name of Pataliputra does not occur either in Menu or the Mahabharata, the capital of ancient Magadha having in those ages been Rajagriha. It was in the middle of the 6th century B.C. that Ajata Satru founded the city of Pataliputra. This prince, says Lassen, appears to have long had the intention of conquering Vasali, for it is recorded that his two ministers, Sunitha and Vasyankara, founded, in the village of Patali, a fortress against the Vrijji. This took place a short time before the death of Buddha. Under the ancient name of Pataliputra, the place stands before the eyes of the modern traveller as the capital of the Nanda dynasty, of Chandragupta, and of Asoka, as the scene where were played those outwitting Machiavellian policies between Rakshasa and Chanakya, which form the subject of the drama of Mudra Rakshasa and Chanakya; where Megasthenes had arrived on an embassy from Seleucus, and resided several years, leaving behind a record that possesses no ordinary claims upon our attention; whence Asoka issued his famous edicts about Buddhism, identified by General Cunningham with the modern Besarh, 20 miles north of Hajipur. It is from the writings of Megasthenes that we learn that Palibothra was 8 miles long, and 1½ broad, defended by a deep ditch and a high rampart with 570 towers and 64 gates, a state of grandeur of which not a tithe is possessed by the present city. In the time of the Muhammadan conquest, the capital of Behar is said to have been removed to the town of that name, and its raja to have become so degenerated as to abscond from his capital. As described by Ralph Fitch, Patna, in the end of the 16th century, was a large city, but contained only houses of earth and straw. Of the towers and gateways spoken of by Megasthenes, or of the lofty pillars, columns, and turrets of the Suganga palace, mentioned by the Hindu dramatist, not a trace exists surviving the ravages of time and war. Muhammadans now form a large part of the population of Patna, 40,000, and from the district 100,000 of them assemble at the Imambarah to celebrate the Maharram. At Patna is a monument over 150 Englishmen massacred (1763) in cold blood by Sumru (Reinhardt), under the orders of Mir Cassim. It is a tall, slender column of alternate black and yellow stone, that lifts its head about 30 feet high in the old English burial-ground at Patna.—*Bunsen*, iii. 520; *Tr. of Hind.* i. 113; *As. Res.* v. 273, viii. 333, xiv. 380.

PALINURUS of Fabricius, a genus of crustacea which forms the tribe of Langoustiens of Milne-Edwards, being the fourth of his family of cuirassed macrurians, and characterized by the existence of antennæ of the ordinary form, and the absence of didactylous pincers. It is the type of the family Palinuridæ. The Palinuri, or sea-crawfish, have the body nearly cylindrical. Their carapace is nearly straight from before backwards, very convex transversely, and presents about its anterior third part a deep transverse furrow, which is directed forward on each side, and separates the stomachal from the cardial and bronchial regions, the only ones which can be well distinguished. P. fasciatus, of the Indian Ocean, has the antennular ring armed above with two conical rather large teeth situated near its anterior border; carapace armed with a small number of spines, and slightly granular, or only dotted on its posterior half; lateral tooth of the anterior border of the carapace small; no spines on the median line of the stomachal region; median tooth of the anterior border of the epistome very large; length about a foot. P. vulgaris, the common sea-crawfish or spiny lobster, Langouste of the French, inhabits the seas of Europe. —*Milne-Edwards in Eng. Cyc.* See Crustacea.

PALITANA, a native state within the British Political Agency of Kattyawar, in the Bombay Presidency, lying between lat. 21° 23′ 30″ and 21° 42′ 30″ N., and long. 71° 31′ and 72° 0′ 30″ E.; area, 99 square miles. Satrunjaya hill, which rises above the town of Palitana, is covered with Jain temples, and is the resort of innumerable pilgrims, for whom a fixed sum is paid yearly by the Srawak community to the Palitana chief. It is sacred to Adinath, and each temple contains images in marble of Adinath, or of some of the Tirthankara; and perhaps no fabric of human workmanship in India is more calculated to arouse wonder, admiration, and lasting remembrance, than Palitana in its unique and mysterious perfection. Satrunjaya rises nearly 2000 feet, and is between 2 and 3 miles in ascent, taking the sinuosities of the route into account. At the foot of the ascent there are steps with many little canopies or cells, a foot and a half to three feet square, open only in front, and each having in its floor a marble slab carved with the representation of the soles of two feet (charan). Higher up is a small temple of the Hindu monkey god, Hanuman. Still higher is the shrine of Hengar, a Musalman pir. The top of the hill consists of two ridges, each about 350 yards long. The buildings on both ridges, again, are divided into separate enclosures, called tuk, generally containing one principal temple, with varying numbers of smaller ones. Each of these enclosures is protected by strong gates and walls, and all gates are carefully closed at sundown. The principal temple of the Khartarvasi tuk is that of the Chaumukh or 'four-faced' Jaina, occupying the centre. It stands on a platform 2 feet above the level of the court, and 57 feet wide by about 67 in length. Over this rises the tower or vimana to a height of 96 feet from the level of the pavement.—*Imp. Gaz.* See Architecture; Pagoda; Sculpture.

PALIURUS RAMOSISSIMUS, *Poiret*, of China and Japan, and P. spinachristi, *Muller* (P. aculeatus, *Lambert*), from the Mediterranean to Nepal, are useful for hedge plants.—*Von Mueller.*

PALKAR-PAL, a Toda dairyman; lit. milkman.

PALK BAY and Palk Strait are between Ceylon and the Peninsula of India, and separate the northern part of Ceylon from the mainland.

The strait is formed between Point Calimere and Point Pedro. It is 35 miles wide at its entrance. —*Findlay.*

PALKONDA, a range of mountains in Cuddapah district, Madras Presidency, lying between lat. 13° 43′ 30″ and 14° 27′ N., and between long. 78° 56′ and 79° 28′ 30″ E., and 2500 feet above the sea.

PALLA, a measure of capacity of 30 payali or 120 seers; also a measure of weight of 120 seers, for groceries, betel-nut, oils, etc., the same as the Pala of Madras.

PALLADIUS, a European traveller in Persia, a few years before the Chinese Fa Hian. He was the author of a tract, De Moribus Brachmanorum. It was embodied in the Pseudo-Callisthenes, published by Muller (Script. de Alex. Magno, pp. 103, 104). In it there is a fanciful account of the Bisadæ, the gatherers of pepper. They are described as a dwarfish and imbecile race, with big heads, and long, straight, unclipped hair, who dwell in rocky caves, and from the nature of their country are expert at climbing cliffs, and thus able to gather the pepper from the thickets.—*Yule, Cathay,* i. pp. 144, 145.

PALLAN, Pallar, or Puller are a slave race attached to the Vellala agriculturists of the south of India. The Mallar are the agricultural labourers of the Pallar tribe. Pallan is applied specially to one who works in the fields. Their tribal title is Kudumpan, which means a headman or chief.—*Wils. Glossary.*

PALLAS, an author who wrote on the Natural History of Central Asia. His travels in different parts of the Russian empire and in Central Asia were translated into French, and published in Paris in 1788–93.

PALLEGOIX. The Right Rev. J. P. Pallegoix, Vicar-apostolic of Siam, Bishop of Mallos, died on the 18th of July 1862. He had been long resident in the Malay Peninsula and Siam, and wrote on Siam.

PALLE-SATTERAM. TAM. The lizard science. Lizards are supposed to give warning by chirping of approaching good or evil.—*Hardy.*

PALLI, a servile tribe in the south of India, bondsmen or slaves of Brahman proprietors.—*Wilson.*

PALLI. BENG., CAN., MALEAL., TAM., TEL. A hamlet, a village, a town, as Tri-sira-palli (Trichinopoly), the city of the giant Trisira. It is the equivalent of the Canarese Halli in Harpanhully, and is written polly, palle, palliya, pally, and pilly. See Palliam.

PALLI, an ancient shepherd race dwelling near the river Cali. They seem to have been a branch of the Kirata. A Palli race or Pala seem to be the Siripala of Ptolemy. In the Puranas, the Palla, Kirata, and Ahira are all classed as shepherds. The Palla are represented as in all parts of India. The Palla south of the Nerbadda, on being overthrown by the Chalukya in the 4th century, turned to the south, and found refuge in the Chola kingdom. The Tondaman Raja of Puducottah takes the title of Pallawa. The Pallava or Palli were in the Dekhan in the 4th and 5th centuries, and in the Carnatic in the 5th or 6th. A Palli shepherd dynasty reigned in Bengal up to A.D. 1100, and are supposed by Sir Henry Elliot to have been Ahir. Mr. Colebrooke concludes that the Pal or Palla reigned from the 9th to the latter part of the 11th century. The shepherd Kurumbar (Kuru, a sheep), in the south of India, were dominant in several places till the 12th century.—*As. Res.* iii. pp. 303-459.

PALLIA. HIND. A monumental pillar amongst the Rajputs.

PALLIAM, Pale, Palevu, Paleya, Paleiyam, Pollam, Pollem, Pallim, Polemu,—Tamil, Telugu, and Carnatic words signifying a tract of country subject to a petty chieftain. In Madras town, a district occupied by particular races, as the Upara-palliam, Wadara-palliam, the wards of the Upara and Wadara races.

PALLIWAL. Next to the Rajputs of Jeysulmir, equalling them in numbers and far surpassing them in wealth, are the Palliwal. They are Brahmans, and denominated Palliwal from having been temporal proprietors of Palli, and all its lands, long before the Rahtor colonized Marwar. Tradition is silent as to the manner in which they became possessed of this domain, but it is connected with the history of the Palli or pastoral tribes, who from the town of Palli to Palit'hana, in Saurashtra, have left traces of their existence. The Palliwal Brahmans, as appears by the annals of Marwar, held the domain of Palli when Seoji, at the end of the 12th century, invaded that land from Kanouj, and by an act of treachery first established his power. Their subsequent migration to the desert of Jeysulmir is attributed to a period of a Muhammadan invasion of Marwar, when, a general war contribution (dind) being imposed on the inhabitants, the Palliwal pleaded caste and refused. This exasperated the raja, for as their habits were almost exclusively mercantile, their stake was greater than that of the rest of the community, and he threw their principal men into prison. In order to avenge this, they had recourse to a grand 'chandi,' or immolation, on which he issued a manifesto of banishment to every Palliwal in his dominions. The greater part took refuge in Jeysulmir, though many settled in Bikanir, Dhat, and the valley of Sind. In the early part of the 19th century almost all the internal trade of the country passed through their hands, and it was chiefly with their capital that its merchants traded in foreign parts. They were the Metayer of the desert, advancing money to the cultivators, taking the security of the crop, and buying up all the wool and ghi (clarified butter), which they exported to foreign parts. They also rear and keep flocks. They were then subject to the visits of the Maldote, Tejmalote, and other plunderers. The Palliwal never marry out of their own tribe, and, directly contrary to the laws of Menu, the bridegroom gives a sum of money to the bride. There is little doubt that the Palliwal Brahmans are the remains of the priests of the Palli race, who, in their pastoral and commercial pursuits, have lost their spiritual power.

PALLONARUA. In Ceylon, Anaradhapura is a deserted city. It seems to have become the capital of Ceylon about B.C. 400. About B.C. 250 it became one of the principal capitals of Buddhism in the east, which it continued to be till about A.D. 750, when the repeated invasions of the Tamil races led to its abandonment for Pallonarua, which continued to be the capital for some centuries. Anaradhapura has within its limits ruins of topes or dhagobas, the Lowa Maha Paya, Abhayagiri, Jetawana, Thuparamaya, Lankaramya, Saila, and Ruanwelli. It was erected B.C. 250, to

hold the right jawbone of Buddha. Subsequently, at the beginning of the 4th century, a tooth was brought from India, and deposited in a small building erected for the purpose on one of the angles of the platform of this building. The Lowa Maha Paya, or Great Brazen Monastery, was erected B.C. 161, by king Duttagaimuni. It is 225 feet square, and with 9 storeys, and 100 cells for priests. In A.D. 285, Mahasena destroyed it, but it was re-erected of 5 storeys by his son. It never regained its previous fame, and fell into decay, and the 1600 pillars which once supported it alone remain; they are unhewn blocks of granite. The quadrupeds sculptured on the Anaradhapura city, also at Hullabid in Mysore, and at Amravati, are the elephant, lion, horse, and bull; the birds are the hansa or sacred goose, or pigeons. Besides these, there is at Anaradhapura a temple called Iswaramunya, partly cut in the rock, partly structural. But to Buddhists the most sacred object there is the Bo Tree, which was brought there by Mahinda and Sangamitta, son and daughter of Asoka, who introduced Buddhism into Ceylon.

The Pallonarua temples were mostly built A.D. 1153-1186, by Prakrama Bahu. Its rock-cut structure, called Gál Vihara, has a seated figure of Buddha 16 feet in height, one standing figure 25 feet, and one recumbent 45 feet long, in the conventional attitude of his attaining Nirvan. In front is the Jetawana Rama temple, 170 by 70 feet, with an erect statue of Buddha 58 feet in height. The Rankot Dhagoba and the Mahal Prasada are also of interest, the last being a representative of the seven-storeyed temples of Assyria. See Architecture.

PALM, the term applied in Southern India to the bars of iron manufactured from Cutties.

PALMA BRAVA, the Nibong of the Tagala of Mindoro, used by the wild tribes of Mindoro to form their bows and point their arrows.

PALMA CHRISTI, Castor-oil palm.

Ricinus communis, LAT.	Jarak, ... MALAY.
Kaliki, MADURESE, SUNDA.	Tangan-Tangan, . . TAG.

Called Christ's palm, because where the true palms are not found, it is carried on Palm Sundays.

PALMANAIR, in lat. 13° 11½′ N., long. 78° 47′ 17″ E., in the Carnatic, a small town on an open plateau west of Chitore. The dak bungalow is 2618 feet above the sea. It is 25 miles N. of the railway station of Goriattum. Occasional instances of fever have given it a bad name. The thermometer at Palmanair in December 1861 ranged from a minimum of 54° to a maximum of 74°.

PALM BOOKS. The books and separate leaves employed for writing on in Asia, with an iron style, are made from the leaves of the talipat tree, Corypha umbraculifera, also from the Tara, Tareet, or Tallier of the Bengalese, C. taliera, *Roxb.*, and from the leaves of the palmyra palm. All the Burman books are made of the leaf of a species of Corypha; but the orders that are issued from the Burmese courts are written on strips of the palmyra palm leaf. Those used in Southern India for school-boys' books, for the accounts of shopkeepers, the orders of collectors, and village accounts, are also made of the leaf of the palmyra. The Ola of the Tamil people is the dried palmyra leaf prepared for writing on with a style.—*Mason.*

PALMER, a term applied to the pilgrims from Palestine, from the staff of the date-palm branch which each brought back.

PALMINE may be prepared from the castor-oil, and possibly from other oils also, by treating them with nitric or nitrous acids. A process is given in Brande's Manual of Chemistry, xi. p. 1257, and is supposed to be the substance which was, about A.D. 1857, patented for the use of railway carriages in British India; and whether as regards its origin, the facility of making it, the abundance of the castor-oil plant in India, its consistence and cheapness, it well deserves attention. When nitrous or nitric acid is made to act upon castor-oil, it is converted into a solid wax-like substance; and a similar, though much more rapid, result takes place when this oil or olive oil are similarly treated with nitrate of mercury. Castor-oil is the only one of the drying oils which is susceptible of this species of solidification. On adding nitrous acid to castor-oil, a yellow liquid is at first formed, and the time required for its solidification varies with the quantity of acid employed; when about a twentieth part of acid is used, it solidifies in seven or eight hours, and this or somewhat less is the best proportion. If too much acid be used, a third part, for instance, or a half, the temperature rises to 130° or 140°; effervescence ensues, and the oil becomes opaque, and instead of indurating remains viscid. Palmine thus obtained is yellow, but when purified by solution in boiling alcohol, it is white, of a waxy fracture, and requires a temperature of about 150° for its fusion. When this is kept for some months, it occasionally acquires a resinous appearance, and presents an almost vitreous fracture. A large and profitable trade might be had in palmine made from the cheap oils of Southern Asia, the difficulty of transporting which while fluid is well known.

PALM OIL.

Huile de palme, . . FR.	Aceeite de palma, . SP.
Huile de senegal, . ,,	Panam yenne, . . TAM.
Palmol, ... GER.	Thati nuna, . . . TEL.
Olio di palma, . . IT.	

This is a fatty substance, obtained from the fruit of several species of palms; that of the Elæis Guineensis, growing on the western coast of Africa, has the consistence of butter, a yellowish colour, and scarcely any particular taste, and becomes rancid on being kept for any length of time. It is chiefly used in Britain for the manufacture of toilet soap, pomade perfumery; also in medicine and surgery. In 1880, 90,219 cwt. of palm oil were imported into Britain, valued at £1,026,378; and of cocoanut oil, 64,059 cwt., value £317,828. Elæis melanococca, *Gærtn.*, is a native of America; both species might be profitably introduced into India. The Cocos butyracea and C. nucifera also yield palm oils.—*Seeman; M'C. Comm. Dict.*

PALMS.

Nakhlah, . . . ARAB.	Palmier, ... FR.
Palme, . . DAN., GER.	Tar, Narel, Send, . HIND.
Palm, ... DUT., SW.	Palma, IT., PORT., RUS., SP.

The palm trees or palm tribe of plants belong to the order Cocoaceæ or Palmæ, the Palmaceæ of Lindley. They grow alike in the eastern and in the western hemispheres. Particular species are confined to their own peculiar localities, but Cocos nucifera, Acrocomia, Sclerocarpa, and Borassus flabelliformis are spread over many lands. The number of known species scattered over the world amount to over 1000. Of these, not a few love

the humid banks of rivulets and streams; others cling to the sea-shores, and some ascend into alpine regions. Some collect into dense forests, others spring up singly or in clusters over the plains. Writers of systematic botany have arranged them differently, one of the most recent arrangements being into seven tribes,—Borassineæ, Coryphineæ, Phœnicineæ, Arecineæ, Cocoineæ, Lepidocaryineæ, and Nipineæ.

i. Borassineæ—
Borassus flabelliformis, *Linn.*, all India.

ii. Coryphineæ—
Corypha elata, *Roxb.*, Bengal.
C. gebanga, *Bl.*, Burma, Java.
C. macropoda, *Kurz*, Andamans.
C. rotundifolia, *Lam.*, Moluccas, Cochin-China.
C. taliera, *Roxb.*, Bengal.
C. umbraculifera, *Linn.*, Ceylon, Malabar, Bengal, Burma.
Chamærops Khassiana, *Griff.*, Khassya.
C. Martiana, *Wall.*, Kamaon, Nepal.
C. Ritchieana, *Griff.*, Trans-Indus.
Licuala acutifida, *Mart.*, Malay Peninsula.
L. longipes, *Griff.*, Mergui.
L. paludosa, *Griff.*, Andamans.
L. peltata, *Roxb.*, Assam.
L. pumila, *Bl.*, Java.
L. rotundifolia, *Bl.*, Java.
Livistona Jenkinsia, *Griff.*, Sikkim, Assam.
L. speciosa, *Kurz*, Chittagong, Pegu, Tenasserim.

iii. Phœnicineæ—
Phœnix acaulis, *L.*, Behar, Burma, Central India.
P. dactylifera, *Linn.*, S. Panjab, Sind.
P. farinifera, *Willde*, Coringa.
P. Ousleyana, Chutia Nagpur, Assam.
P. paludosa, *Roxb.*, Sunderbans, Burma, Andamans.
P. pedunculata, Neilgherries.
P. sylvestris, *Roxb.*, all India.

iv. Arecineæ—
Areca catechu, *Linn.*, all India.
A. costata, *Bl.*, Andamans.
A. Dicksoni, *Roxb.*, Malabar.
A. disticha, *Roxb.*, Khassya.
A. gracilis, *Roxb.*, Sikkim, Assam, Bengal, Burma.
A. hexasticha, *Kurz*, Burma.
A. humilis, *Willd.*, Amboyna.
A. laxa, *Buch.*, Andamans.
A. Nagensis, *Griff.*, Naga hills.
A. triandra, *Roxb.*, Chittagong, Burma, Andamans.
Arenga saccharifera, *Labill*, Burma, Malaya.
A. Westerhoutii, *Griff.*, Malay Peninsula.
A. Wightii, *Griff.*, Coimbatore.
Bentinckia coddapanna, *Berry*, Travancore.
Caryota obtusa, *Griff.*, Mishmi hills.
C. sobolifera, *Wall.*, Arakan, Pegu, Andaman.
C. urens, *Linn.*, W. Ghats.
Wallichia caryotoides, *Roxb.*, Chittagong.
W. densiflora, *Martins*, Kamaon, Himalaya.
W. disticha, *T. And.*, Sikkim.
W. nana, *Griff.*, Assam.
W. Yomæ, *Kurz*, Yoma mountains.

v. Cocoineæ—
Cocos nucifera, *Linn.*, all East Indies.

vi. Lepidocaryineæ—
Calamus acanthospathus, *Griff.*, Khassya.
C. Andamanicus, *Kurz*, Andamans.
C. arborescens, *Griff.*, Pegu.
C. collinus, *Griff.*, Khassya.
C. concinnus.
C. erectus, *Roxb.*, Sylhet, Pegu.
C. extensus, *Roxb.*, Sylhet.
C. fasciculatus, *Roxb.*, Bengal, Burma, Andamans.
C. flagellum, *Griff.*, Sikkim.
C. floribundus, *Griff.*, Assam.
C. gracilis, *Roxb.*, Assam, Chittagong.
C. grandis, *Griff.*, Andamans.
C. Guruba, *Mait.*
C. Helferianus, *Kurz*, Tenasserim, Andamans.
C. humilis, *Roxb.*, Chittagong.
C. hypolencus, *Kurz*, Tenasserim.

C. inermis, *T. And.*, Sikkim, Bhutan.
C. Jenkinsianus, *Griff.*, Sikkim.
C. latifolius, *Roxb.*, Andamans.
C. leptospadix, *Griff.*, Sikkim.
C. longipes, *Griff.*
C. macrocanthus, *T. And.*, Sikkim, Bhutan
C. macrocarpus, *Griff.*, Bhutan.
C. Mastersianus, *Griff.*, Assam.
C. melanacanthus.
C. Mishmiensis, *Griff.*, Mishmi hills.
C. montanus, *T. And.*, Sikkim, Bhutan.
C. nitidus.
C. nutantiflorus, *Griff.*
C. palustris, *Griff.*, Mergui.
C. paradoxus, *Kurz*, Martaban.
C. platyspathus.
C. polygamus, *Roxb.*, Chittagong.
C. quinquenervius, *Roxb.*, Sylhet.
C. rotang, *Roxb.*, E. Indies.
C. Royleanus, *Griff.*, Dehra.
C. schizospathus, *Griff.*, Sikkim.
C. tenuis, *Roxb.*, Assam, Pegu.
C. tigrinus, *Kurz*, Burma, Andamans.
Korthalsia laciniosa, *Mart.*, Tenasserim.
K. scaphigera, *Mart.*, Andamans.
Plectocomia Assamica, *Griff.*, Assam.
P. elongata, *Mart.*, Java.
P. Himalayana, *Griff.*, Sikkim.
P. Khassiana, *Griff.*, Khassya.
P. macrostachya, *Kurz*, Tenasserim.
Zalacca edulis.
Z. Wallichiana, *Mart.*, Burma.

vii. Nipineæ.
Nipa fruticans, *Roxb.*, Malayana.

Others, mostly of the E. and W. Indies, meriting notice are—

Acrocomia sclerocarpa, Macaw palm, W. Indies, Brazil.
Astrocaryon murumuru, and A. tucuma.
Calamosagus harinæfolius, laciniosus, and ohriger.
Carludovica palmata of Panama.
Ceratolobus glaucescens, *Bl.*, Java.
Dæmonorops melanochœtes, *Bl.*, Java.
Eugeissonia truncata, *Griffiths*, Malacca, Penang.
Euterpe montana of Venezuela.
Hyphæne Thebaica, Doum-palm of Egypt.
Iriartea ventricosa or Pashiuba barriguda.
Jubæa spectabilis, Chili palm.
Leopoldinia pulchra, Java.
Lodoicea Sechellarum, *Labill*, Seychelles.
Macrocladus sylvicolia, *Gr.*
Phytelephas macrocarpa, vegetable ivory palm.
Pritchardia Pacifica of Polynesia.
Ptychosperma Alexandræ, *Von Mueller*, Australia.
Slackia geonoformis.
Stevensonia of the Seychelles.
Thrinax argentea, Cuban palm.
Tucuma vulgare, Brazil, Rio Nigro, Upper Amazon.
Verschaffeltia of Seychelles.

Many of the palms in tropical countries are conspicuous for their lofty pillar-like stems, surmounted by apparently inaccessible fruit or gigantic foliage. Palms appear to prefer a soil in some measure saline, although many species are inhabitants altogether of inland districts, and even of high mountains. Their geographical limits appear to be within lat. 36° N. in America, lat. 44° N. in Europe, lat. 34° N. in Asia, and lat. 38° S. in the southern hemisphere. Their powers of migration are extremely small; few of them have been able to cross the ocean without the aid of man. This remark, however, is not applicable so far as regards the cocoanut, which with its keeled fruit sails to the most distant shores. Their favourite stations are on the banks of rivers and watercourses, and the sea-shore, some species scattered singly, and others collected together into large forests. In general they adhere to the soil by clusters of strong simple roots, which not uncommonly form a hillock elevated above the surface

of the ground. Their trunks are solid, harder on the outside than the centre, and are sometimes, as in the cane-palms, coated by a layer of silicious matter; they are usually quite simple, growing exclusively by a single terminal bud, called in the oreodoxa and areca its cabbage, and eaten as a delicacy when boiled; but in the hyphæne, or doum-palm, they are regularly forked. In the majority of the order the stem is cylindrical, but in some it is thickest at the base, and in others swollen in the middle; occasionally it is defended by strong hard spines, but is more frequently unarmed, and marked by rings which indicate the places whence the leaves fell off. The leaves, called fronds by Linnæus, are alternate, with a very hard epidermis and a distinct petiole, from the base of which a coarse network, called reticulum, sometimes separates next the trunk; they are usually either pinnated or fan-shaped, but are occasionally nearly split in two; their veins are parallel, the spaces between them plaited, and the whole size sometimes very great, as in the fan-palm, in which specimens have been seen as much as 18 or 20 feet in breadth. The flowers appear in panicled spikes from the inside of hard dry spathes, which are often boat-shaped, and, although small, they are sometimes so extremely numerous that each panicle will weigh many pounds. They are generally hermaphrodite, but often monœcious, dicecious, or polygamous. The calyx and corolla consist each of three pieces, which are either distinct or more or less united. The stamens vary in number, from three to a large multiple of that number, and bear two-celled linear anthers, which open along their inner face. The ovary consists of three carpels, which are sometimes distinct, sometimes consolidated, and occasionally in part abortive, so that the ovary is only one-celled. The ovaries are almost always solitary, and erect in each cell, but sometimes two are present, which in that case stand side by side; they are orthotropous in some genera, and anatropous in others. The styles are very short, the stigmas simple. The fruit varies extremely in its consistence and appearance. Sometimes it is three-celled, often one-celled. In some species, as the cocoanut, it is a kind of drupe covered by a coarse fibrous rind; in others it is a soft, sweet, eatable pericarp, as in the date; in others its surface is broken up into lozenge-shaped spaces, as in the sagus, whose fruit looks as if covered with scale armour. The seed is single, either solid or hollow, and consists principally of albumen of a fleshy, oily, horny, or cartilaginous texture, within which is lodged a very small cylindrical embryo at some part of the surface distant from the hilum.

'This natural order of plants is one of the largest, the most beautiful, as well as the most useful, of the whole vegetable kingdom. Palms are associated with the most sublime truths of Christianity. In everyday life we speak of our "palmy days," and "carrying off the palm," as happy and excellent times and seasons of rejoicing. In the Old Testament, the palm-tree is first mentioned as the tamar, in Exodus xv. 27, but afterwards frequently. Psalm xcii. 12, 13, and 14, says the righteous shall flourish like a palm-tree; and in Canticles vii. 7, the erect and slender form of woman is compared to the palm: "Lo, thy stature is like a palm-tree, and thy bosom like clusters of dates."

In the temple of Solomon were pilasters made in the form of palm-trees. A branch of a palm was a signal of victory, and was carried before conquerors in the triumphs. They were borne before Christ in his way to Jerusalem, as in John xii. 13; and allusion is made to this in Revelation vii. 9.

'They are remarkable for the many useful purposes they are calculated to fulfil. They furnish many of the necessaries, comforts, and luxuries of life. In household economy, parts of them are formed into spoons, and cups, and ladles, and lamps, and hats, and clothes, and combs, hammocks, bowstrings, fishing lines, and fish hooks. The light rafters of the houses are obtained from the straight cylindrical trunks of the Java palm (Leopoldinia pulchra), the date, and the palmyra tree. The sweeper of the crossings of London holds in his hand a broom, the fibrous portion of which was cut by the wild Indians of Brazil from the stems of a palm. The gentleman who prides himself on his Penang Lawyer is but carrying a young plant of the Licuala acutifida. The knob of the lady's parasol is formed from a Coquilla nut turned into that shape. The chip hats, so extensively worn on fine summer days, are made of the leaves of a Cuban palm (Thrinax argentea). Heaps of dates are to be seen in all the shops of Europe, which were gathered by the Bedouin Arabs, or on the borders of the great desert of Sahara; and cocoanuts, grown on the shores of the Indian Ocean, in the myriads of islands which form its archipelago, or on the shores of the Caribbean Sea, are sold in every city of the colder regions of the world, where they are ever beheld with unabated curiosity. The cordage and rigging of the ships, and the thick mattings used on staircases in Britain, spun and woven, are from the husk of the cocoanut, and many articles of furniture are made from the woods of palms. Toys and ornaments are made from the kernels of the vegetable ivory palm. The stearic candles, so well known, are composed of the fatty substance extracted from the oil-palm and the cocoanut. The sago, which is so useful a food in the treatment of the sick, and which is seen in such varied guise on our tables, is the pith of palms that flourish in many tropical regions; the famous betel-nut dentifrice, formed of the charcoal of that nut, coloured with dragon's blood, is the produce of two palms; and the toilet soaps of Europe are made from palm oils. The roof is thatched with the leaves of palms. In one region, the door of the house is made of the split stems of the Pashiuba palm (Iriartea exorhiza). The harpoon for catching the cow-fish is formed of the black-wood of the Pashiuba barriguda (Iriartea ventricosa), and in another region the thickly matted leaves of the cocoanut and palmyra serve as a door for the gardens and parterres.'

The palm oils from the Elæis Guineensis, and from the cocoanut palm of the East Indies, are extensively used in the west and east. The Elæis Guineensis also yields an excellent palm wine. The numerous uses to which the cocoanut palm are applied are familiar even to all who have not seen it. It grows on all the shores of the East and West Indies, and the leaves furnish thatch for dwellings, materials for buckets, baskets, and fences, and make excellent torches. The juice of the flower stem is fermented into palm wine, distilled into arrack, or made into sugar,

The fruit, when green, is filled with a liquid albumen, which is largely drunk as a refreshing liquid; when ripe the albumen solidifies, and is used in cooking, and affords an abundance of oil, which is used in lamps, and in Europe is manufactured into candles. The fibrous rind forms the coir of commerce, made into cordage and cables. The cocoanut, the date, and others are valued for their fruit; the fan-palm and many more for their foliage, whose hardness and durability render it an excellent material for thatching; the sweet juices of the palmyra, the date, the cocoanut, and Arenga palms, when fermented yield wine; the centre of the sago-palm abounds in nutritive starch; the trunk of an Iriartea or Ceroxylon exudes a valuable vegetable wax; an astringent matter resembling dragon's blood is produced by Calamus draco; many of the species contain within their leaves so hard a kind of fibrous matter, that it is employed instead of needles, or so tough that it is manufactured into cordage; and their trunks are in some cases valued for their strength, and used as timber, or, as in the cane-palm, for their elasticity or their flexibility. The fruit of some is edible, of others abounding in oil. The stems of some species are gorged with farinaceous matter, which may be separated as a starch-like powder, or granulated into sago. The broad leaves, from their great size and hard surface, are useful for thatching the cottages of the poor, or for making umbrellas for the rich. The narrow-leaved kinds are plaited into mats and baskets, or smoothed so as to be fit for writing on; while the leaves of several, when in a young and tender state, are eaten both raw and in a cooked state, and are hence called cabbage-palms. Some abound in strong unyielding fibre, while others form wood which is applicable to all the purposes of timber. Hence several are valuable articles of culture in the countries where they are indigenous, or where the soil and climate are suitable for their growth —as for instance the date-palm in Arabia and Africa, the oil-palm in the west of Africa, the cocoanut in India and its islands, together with the betel-nut, palmyra, and talipat palms; while the sago, the eju, and the betel-nut palms flourish in the moist warm climates of the Malay Peninsula, and of the Indian Archipelago. The palms abound chiefly in the tropical parts of the Old World, as well as of South America, but a few species extend to rather high latitudes, as an areca to lat. 38° S. in New Zealand, and a sabal (Chamærops, *Auct.*) to lat. 40° N. in North America; while the dwarf-palm, a native of the North of Africa, is now at home in the south of Europe, where even the date-palm is grown in a few sheltered situations, though it is in the hot and dry soil of Arabia and Africa that it attains the greatest perfection, and furnishes a principal part of the diet of its inhabitants, as well as an article of commerce. Phœnix sylvestris, a variety or species of the same genus, is common in most parts of India. A Chamærops is found in Nepal, and one on the Khassya hills, at elevations of 5000 to 8000 feet; while C. Ritchieana is found in the Khaibar pass, and probably all along the mountainous range from Afghanistan to Sind. In southern latitudes the cocoa and the betel-nut palms are objects of extensive culture, as well as the sago-palms, of which the eju or gomuti of the Malays, the Arenga saccharifera of botanists, is one abounding in sap, which can be used as palm wine or converted into sugar, also yielding at all times strong and durable fibre. The older trees when cut down yield sago, as do Sagus Rumphii and S. lævis, especially abundant in and near Sumatra, the latter being remarkable among palms for throwing up young plants around it in the same manner as the plantain, Musa paradisiaca. It is no doubt to some one of these sago trees that Sir John Maundeville alludes when he says, 'In that land grow trees that bear meal, of which men make bread, white and of good savour; and it seemeth as it were of wheat, but it is not quite of such savour. And there are other trees that bear good and sweet honey, and others that bear poison. And if you like to hear how the meal comes out of the trees,—men hew the trees with a hatchet, all about the foot, till the bark be separated in many parts, and then comes out a thick liquor, which they receive in vessels, and dry it in the sun, and then carry it to a mill to grind, and it becomes fair and white meal; and the honey, and the wine, and the poison are drawn out of other trees in the same manner, and put in vessels to keep.' The leaves of many palms are employed for thatching, for making chattas or umbrellas, punkahs, and hats. The stems of Licuala peltata, the Chatta-pat of Assam, are in universal demand in that valley. Scarcely a single ploughman, cowkeeper, or coolie, but has his jhapi or chatta made of chatta-pat. But the leaves of this palm are coarser than those of the toka-pat of the Assamese, which was named Livistona Jenkinsiana by Griffith. Colonel Jenkins says that this species of palm is an indispensable accompaniment of every native gentleman's house; but in some parts it is rare, and the trees are then of great value. The leaves are in universal use throughout Assam for covering the tops of dhoolies or palkees, and the roofs of khel boats; also for making the umbrella hats (jhapi) of the Assamese. For all these purposes the leaves are admirably adapted, from their lightness, toughness, and durability. To the above list of useful Indian palms might be added the Zalacca macrostachya, used for making baskets and for tying Nipa leaves. The Chinese make cables of the rattan. The Areca vestiaria is so called from clothing being made from its fibres, and Rhapis Cochin-Chinensis is employed for thatching, etc. Lodoicea Sechellarum is the palm yielding the much famed Cocos de Mer, or double cocoanut,—for one of which, in the Mauritius collection, a prize medal was awarded at the Exhibition of 1851; its leaves are formed into baskets and flowers, and the nut, formed into a dish, is largely used as a scallop by the Muhammadan fakirs.

The Chamærops Khassiana, fan-palm, the Pakha of the Khassya, grows on the cliffs near Mamloo, on the Khassya hills. It may be seen on looking over the edge of the plateau, its long curved trunk rising out of the naked rocks, but its site is generally inaccessible; while near it grows the Saxifraga ciliaris of English gardens, a common plant in the N.W. Himalaya, but extremely scarce in Sikkim and the Khassya mountains. This species of Chamærops is very closely allied to, if not identical with, Ch. Martiana of Nepal, which ascends to 8000 feet in the Western Himalaya, where it is annually covered with snow; it is not

found in Sikkim, but an allied species occurs in Afghanistan, called Ch. Ritchieana. There are upwards of twenty kinds of palm in the Khassya district, including Chamærops, three species of Areca, two of Wallichia, Arenga, Caryota, three of Phœnix, Plectocomia, Licuala, and many species of Calamus.

The betel-nut palm, Areca catechu, grows throughout the East Indies, and produces the betel-nut, which the people largely use, along with the betel leaf, as a masticatory, and its nut also yields a kind of catechu, and in the mountains of Malabar the poorer people use the nut of the Areca Dicksonii as a substitute. The Arenga, the gomuti palm of the Eastern Archipelago, yields sago, sugar, palm wine, and black horsehair-like fibres, from which cordage and cables are made. A single tree yields about 150 lbs. of good sago meal, and its sap is largely used as a palm wine, or is boiled down into a thick syrup, and allowed to concrete. Horsehair-like fibres surround the petioles of its leaves. The palm wine from the Caryota urens of the Peninsula of India and the Moluccas is a valuable product. It is fermented and drunk as an intoxicating beverage, or is distilled to obtain a spirituous liquid. The best trees, during the hot season, will yield 100 pints of sap in 24 hours. The pith of the trunk in old caryota trees is made into sago, and baked as bread, or boiled in the form of a thick gruel. The different species of Calamus furnish the canes and rattans of commerce. They are largely used in the East Indies as the linings of bedsteads and chairs, as screens, and to form ladders and cables. Sagus lævis, *Rumph.*, of the Eastern Archipelago, and S. farinifera, *Gærtn.*, of the Malay Peninsula and the Archipelago, both yield the sago of commerce. The people of the Moluccas live to a large extent on the pith of the latter tree. The leaves of the tali tree of Ceylon and the Moluccas, the talipat or great fan-palm of Ceylon, the Corypha umbraculifera, are of great value as a thatching material; and the leaves of the tara-palm of Bengal, the Corypha taliera, and those of the palmyra, are used as book leaves to write on, with iron styles, and they are also used to tie the rafters of their houses. The species of the date-palms, the genus Phœnix, yield several useful products. P. sylvestris, the wild date-palm, grows abundantly throughout British India. Its fruit is of no value, but its juice is largely used as a palm wine, and is boiled into sugar, which is to some extent exported to other countries. This wild date tree is met with in almost every part of British India. It flourishes in the alluvial soils which cover the south-eastern portion of Bengal proper, excepting only such tracts as suffer entire submersion annually from the overflow of their rivers, as is common in portions of the Dacca, Mymensing, and Sunderbun districts. The extent of country best suited for its growth is an area stretching east and west about 200 miles, and north and south about 100 miles, and comprehending by a rough estimate about 9000 square miles within an irregular triangular space. When not stunted in its growth by the extraction of its juice or sap for toddy drinking or for sugar, it is a very handsome tree, rising in Bengal from 30 to 40 feet in height, with a dense crown of leaves spreading in a hemispherical form from its summit. These leaves are from 10 to 15 feet long, and composed of numerous leaflets or pinnules about 18 inches long. The trunk is rough, from the adherence of the bases of the falling leaves; this serves to distinguish it at a glance from the smooth-trunked cocoanut palm, which in its leaves only it resembles. The fruit consists more of seed than of pulp, and altogether is only about one-fourth the size of that of the true date of Arabia. For its palm wine, the stem is notched and sloped, and a spout made of its frond. The toddy of the cocoanut, the palmyra, and the gomuti palms, is obtained from the spathe. In the gomuti, palmyra, and cocoanut, the spathe is cut across, and the juice flows into a pot.

The people of Nejid believe that the more their date-palms, Phœnix dactylifera, are watered, the more syrup will the fruit produce; they therefore inundate the ground as often as possible. At El Jauf, where the date is peculiarly good, the trees are watered regularly every third or fourth day. The stem of Phœnix farinifera contains fecula, which is used as food in times of scarcity, its leaflets are wrought into mats, and the common petioles are split into three or four, and used to make baskets. Its fruit is edible. Walking-sticks are made of the trunks of the P. paludosa, and the trunks are used as rafters and the leaves for thatch.

The Stevensonia and Verschaffeltia of the Seychelles are eminently suited for decorative purposes. The former is spoken of as Roi de la Famille, the latter as its worthy rival, from its grand shape and its rich foliage.

The Pritchardia Pacifica palm of Polynesia is the exclusive property of the aristocracy, and not allowed to be used for common purposes.

The Chinese make overcoats of the leaves and fibres of Chamærops excelsa, *Thunberg*. In the western hemisphere, the Chili palm, Jubæa spectabilis, *Darwin*, is felled to obtain its syrup-like sap, called palm honey, of which a good tree will yield ninety gallons. The costly Panama hats are made of the leaves of the Carludovica palmata. A useful oil is obtained from the hard-shelled nuts of the Acrocomia sclerocarpa of the West Indies and Brazil. The vegetable ivory nuts of the Phytelephas macrocarpa are extensively used. Species of the genus Astrocaryon of the Upper Amazon yield several commercial products; the kernel of A. murumura nearly approaches to vegetable ivory in hardness; the stony seeds of A. tucuma are turned into rings; and the beautiful hammocks of the Upper Amazon are made of tucum thread, prepared from the A. vulgare. The detailed account of the more important of these palms will be found under their respective names in the alphabetical arrangement.—*Burton's Mecca*, ii. p. 175; *Powell's Handbook*, i. p. 512; *Hartwig; Griffith's Palms of British East India; Roxb. Fl. Indica; Seeman on Palms; Hooker, Him. Journ.* ii. pp. 267, 280, 281; *Schow in Jameson's Edinburgh Philosophical Journal; Mr. H. Robinson in Cal. Cat. Ex. of* 1862; *Voigt, Hortus Suburbanus Calcuttensis; Royle, Ill. Him. Botany; Birdwood's Bombay Products; Hogg's Vegetable Kingdom; Gamble's Manual; Von Mueller's Select Plants.*

PALM-TREE WOODS is a commercial name in Britain given to the stems or trunks of palms from the East and West Indies, and imported to

a small extent for fancy use. The palms furnish black, brown, prickly brown, and speckled woods, principally from the Areca catechu, Borassus flabelliformis, species of Calamus, Cocos nucifera, and species of Corypha, which are largely used in India. In structure, the wood of the palms appears formed of a series of hard, stiff, longitudinal fibres not interlaced or twisted, but crossed at considerable intervals at various angles by similar fibres. The palm woods are sparingly employed in England for cabinet and marquetry work, sometimes for billiard cues, which are considered to stand remarkably well, and they are also turned into snuff-boxes, etc. The smaller kinds are imported under the names of partridge canes (called also Chinese or fishing canes), Penang canes, from the island of that name, together with some other small palms which are used for walking-sticks, the roots serving to form the knobs or handles. The knobs exhibit irregular dots, something like the scales of snakes; these arise from the small roots proceeding from the principal stem; which latter shows dotted fibres at each end of the stick, and streaks along the side of the same. Twisted palm sticks are the central stems or mid-ribs of the date-palm; they are twisted when green, and stretched with heavy weights until they are thoroughly dry. They are imported from the Neapolitan coast, but are considered to be produced in Egypt. The shells of the cocoanut and coquilla-nut, and the kernels of the areca or betel-nut, and those of the corosos or ivory-nut, have likewise their uses in British workshops. The varieties of the several hundred species imported into Great Britain from the East and West Indies are known there by the names, palm, palmetto, palmyra, nutmeg, leopard, and porcupine woods, etc., from their fancied resemblances; for when they are cut horizontally, they exhibit dots like the spice, and when obliquely, the markings assimilate to the quills of the porcupine. The trunks of the palms are invariably soft and spongy in the centre, but are gradually harder towards the outside. They do not possess the medullary rays of the proper woods, but only the vertical fibres, which are held together by a much softer substance, like pith or cement, so that the horizontal section is always dotted, by which they may be readily distinguished from all true woods. The colours and hardness of the two parts differ very materially. Areca catechu, the betel-nut palm, is remarkably straight; it grows to the height of about 30 feet, and rarely exceeds 4 or 5 in circumference. The general colour of its wood is a light yellow brown, the fibres are large, hard, and only a few shades darker than the cementitious portions. Cocos nucifera, the cocoanut palm, sometimes grows to 90 feet in height and 3 feet in diameter, but is generally less. The upper part of its trunk is soft and stringy, but the lower supplies a useful wood, the fibres of which are of chesnut brown, and several shades darker than the intermediate substance. The wood is employed for joists, troughs for water, and many purposes of general carpentry. The wood of Caryota urens is much darker than either of the preceding, the fibres are nearly black and quite straight, and the cement is of a dark-brown; but in either varieties with these black fibres, the softer part is very light coloured, and so friable that it may be picked out with the fingers. Palmyra wood, Borassus flabelliformis, is largely used in Ceylon and the Peninsula of India for the construction of roofs, the joists of which consist of two slabs, the third or fourth part of the tree, bolted together by their flat sides so as to constitute elliptical rafters. For flat roofs they are covered first with flat tiles, and then with a white concrete called chunam, consisting of shell-lime, yolks of eggs, and jagari (sugar), beaten together with water in which the husks of cocoanuts have been steeped.

The Picly pole, the Cocos Guineensis of Jamaica, etc., a palm growing 40 feet high, and of small diameter. Its wood is said to be very elastic, and fit for bows and rammers.—*Simmonds; Tredgold.* See Palmyra and Porcupine Wood.

PALM WINE, or toddy, is the fermented sap of several palms of the E. Indies,—Arenga saccharifera, Borassus flabelliformis, Caryota urens, Cocos nucifera, Phœnix dactylifera, P. sylvestris, and species of Caryota.

Palmyra wine.

Dom? Tafi, . . ARAB.	Pannang-kalloo, . TAM.
Tali, Tari, BENG., HIND.	Pattoo-toadi, . . ,,
Lontar, ... MALAY.	Tati-kalloo, . . . TEL.
Tal-gaha, . . . SINGH.	

Caryota urens.

Bherli, ... MAHR.	Kittul, ... SINGH.

Cocoanut tree.

Narjil, ... ARAB.	Narikela, . . . SANSK.
Narikel, ... BENG.	Tenga, ... TAM.
Nareli, ... HIND.	Ten-kaia, ... TEL.
Nur-kalapa, . . MALAY.	Nari-kadam, . . . ,,
Tenga, . . . MALEAL.	Kobbari kalloo, . . ,,

Wild date-palm (Phœnix sylvestris).

Send'hi, ... HIND.	Eetchum pannay, . TAM.
Khajoori, . . . SANSK.	Eeto, ... TEL.

Palm wine is mentioned in Exodus xxix. 40 and Numbers xxviii. 7, and its spirit seems to be the same as the strong drink of Isaiah v. 11 and xxiv. 9. The Hebrew name is Siker, the Sikers of the Greeks, from which seemingly comes the Saccharum of the Romans. According to Jerome, in Hebrew any intoxicating liquor was Sikera, whether obtained from grain, the juice of apples, honey, dates, or any other fruit.

When first drawn, palm wine is refreshing, but in a short time passes on to the vinous or acetous fermentation, and in these stages spirits are distilled, sugars are made, or vinegar obtained. In the languages of the E. Indies, the spirit is called arrack; it is the cha of the Chinese, the sagwire of the Philippines, the tuba of Manilla and Mindoro, and the tuac of Timor and the Moluccas. The palm wines are obtained from the date trees by tapping or notching the trunk, and from the arenga, palmyra, cocoanut, caryota, by cutting the fruit-bearing spathe.

With the wild date tree, Phœnix sylvestris, in Bengal, the process of tapping and extracting the juice commences about the 1st of November and terminates about the 15th of February. Some days previously, the lower leaves of the crown are stripped off all round, and a few extra leaves from the side of the tree intended to be tapped. On the part thus denuded, a triangular incision is made with a knife, about an inch deep, so as to penetrate through the cortex, and divide the sap vessels; each side of the triangle measures about 6 inches, with one point downwards, in which is inserted a piece of grooved bamboo, along which the sap trickles, and from thence drops into an

earthen pot suspended underneath it by a string. The pots are suspended in the evening, and removed very early the following morning, ere the sun has sufficient power to warm the juice, which would cause it immediately to ferment, and destroy its quality of crystallizing into sugar. The cutting being made in the afternoon, next morning the pot is found to contain, from a full-grown tree, 10 seers of juice, the second morning 4 seers, and the third morning 2 seers of juice; the quantity exuding afterwards is so small, that no pot is suspended for the next four days. Daily, at sunrise, throughout the gur or sugar-making season, the toddy-drawer may be seen climbing the trees, and collecting at a convenient spot beneath them, the earthen pots containing the juice yielded during the past night. Under a rude shed, covered with the leaves of the date tree itself, and erected under the shade of the plantation, is prepared the boiling apparatus to serve for the gur season. It consists of a hole of about 3 feet in diameter, sunk about 2 feet in the ground, over which are supported by mud arches four thin earthen pans of a semi-globular shape, and 18 inches in diameter; the hole itself is the furnace, and has two apertures on opposite sides for feeding in the fuel, and for escape of the smoke. The fire is lit as soon as the juice is collected, and poured into the four pans, which are kept constantly supplied with fresh juice as the water evaporates, until the whole produce of the morning is boiled down to the required density. As the contents of each pan become sufficiently boiled, they are ladled out into other earthen pots or jars of various sizes, from 5 to 20 seers of contents, according to local custom, and in these the boiled extract cools, crystallizes into a hard compound of granulated sugar and molasses, and is brought to market for sale as gur. By subsequent processes the gur is deprived more or less of its molasses and impurities.

The process of obtaining it from the spathes is as follows:—When the spathes, for instance, of the fruit-bearing palmyra trees appear, the toddy-drawer, climbing to the top of the tree, binds the spathes tightly with thongs to prevent their further expansion, and thoroughly bruises the embryo flowers within to facilitate the exit of the juice. For several succeeding mornings, this operation of crushing is repeated, and each day a thin slice is taken off the end of the racemes, to facilitate the exit of the sap and prevent it bursting the spathe. About the morning of the eighth day, the sap begins to exude, when the toddy-drawer again trims this truncated spathe, and inserts its extremity into an earthen pot to collect the juice. These vessels are emptied morning and evening, and the palmyra will continue for four or five months to pour forth its sap at the rate of three or four quarts a day; but once in every three years the operation is omitted, and the fruit is permitted to form, without which the natives assert that the tree would pine and die.

With the Arenga saccharifera, one of the spathes or shoots of fructification is beaten for three successive days with a small stick, with a view of determining the sap to the wounded part. The shoot is then cut off, and the liquor which pours out is received in pots of earthenware, in bamboos, or other vessels. This palm is fit to yield toddy at seven or eight years old, and continues to yield it for two years at the average rate of three quarts a day. When newly dawn, the liquor is clear, and in taste resembles fresh must. In an hour or two it becomes turbid, whitish, and somewhat acrid, and quickly runs into the vinous fermentation, acquiring an intoxicating quality, and much of it is drunk in that state. A still larger quantity is immediately applied to the purpose of yielding sugar. With this view the liquor is boiled to a syrup, and cooled in small vessels, the form of which it takes; and in this shape it is sold in the markets. The sugar is of a dark colour and greasy consistence, with a peculiar flavour. It is the only sugar used by the native population of Java. The wine of the palm is also used in the preparation of arrack.—*Walton's State*, p. 116.

PALMYRA, also called Tadmor, a ruined city in the desert, to the S.E. of Jerusalem, three days' journey from the Euphrates. We read in 1 Kings ix. 18, and 2 Chronicles viii. 4, that Solomon built 'Tadmor in the wilderness;' and Josephus assures us that the city, which was subsequently known under the name of Palmyra by the Greeks and Romans, was one and the same place. It has again recovered its original appellation, being known to the wandering Arabs under that of Tadmor. The first mention of it in Roman history is under Mark Anthony (see Appian, De Bello Civil. lib. 5), at which time it appears the inhabitants were noted for their riches and their commerce with the eastern nations. Pliny described Palmyra as remarkable on account of its situation, the richness of its soil, and its agreeable streams. It is now encompassed on every side by a vast desert of sand, which completely separates it from the rest of the world. It always maintained its independence between the two great empires of Rome and Parthia, whose constant endeavour it was, during their wars, to bring it over to their respective interests. It is distant 337 miles from Seleucia on the Tigris, 203 to the nearest part of the coast, and 176 from Damascus. The entire ruins of Palmyra, when seen at a certain distance, are infinitely more striking than those of Balbek; but there is not any one spot so imposing as the interior view of the temple of Balbek. The temple of the sun at Tadmur is upon a grander scale than that of Balbek, but it is choked with Arab houses, which admit only a view of the building in detail. The architecture of Balbek is richer than that of Tadmor. From the time of Solomon till after the captivity of the Roman emperor Valerian by the Persians, but little is known of it. It rose to the highest opulence and splendour under Odenatus, whose dominions extended from the Euphrates to the Mediterranean. But its chief interest is connected with the wife of Odenatus, Zenobia, queen of the east. Her increasing power attracted the notice and jealously of Aurelian, who, having defeated her in two pitched battles, laid siege to Palmyra. Soon after the surrender of the city, the Palmyrenes revolted against the emperor, who in consequence entirely destroyed the city, and put the greater part of the inhabitants to death, though he afterwards restored the temple of the sun, and gave permission to the remnants of the Palmyrenes to rebuild and inhabit their city. The temple of the sun consists of an immense court, of which the ruins are spread over a space of 220 yards. It is surrounded by a stately wall, adorned with pilasters within and without. Two rows of

marble columns, of which about sixty remain entire, formed a colonnade within the court, which is now occupied by the Arab huts. The great colonnade extends more than half a mile in length, and probably was the main street in the city, from which others branched out laterally; it was entered by an archway, and terminated by a large building, of which the portico alone remains. Innumerable columns and ruins of temples are scattered over the plain. Lord Lindsay says, 'An awful stillness—a lifelessness—pervades the ruins; they stand as lonely and silent as when the last of the Palmyrenes departed and left the city of Zenobia to silence and decay.'

Palmyra is a Sanskrit word corrupted, and affords the etymology of Solomon's city of the desert, Tadmor. The p, by the retrenchment of a single diacritical point, becomes t; and the l and d being permutable, Pal becomes Tad or Tar or Tal, the palmyra, which is the mor or chief of trees; hence Tadmor from its date trees. In British India there are more than one 'city of palms' (Talpur); and the tribe last ruling in Hyderabad, on the Indus, was called Talpuri, from the place whence they originated. — *Robinson's Travels; Tod's Rajasthan.*

PALMYRAS POINT, a headland in Cuttack, in the N.W. side of Bay of Bengal, in lat. 20° 44′ 40″ N., and long. 87° 2′ E. Vessels making for the Hoogly from the south endeavour to sight it.

PALMYRA TREE, Borassus flabelliformis.

Dom? Tafi, . .	Arab.	Ampana, . . .	Maleal.
Tal-gach'h, . . .	Beng.	Karimpana, . .	,,
Pei-shu, ...	Chin.	Tala, ...	Sansk.
Brab tree, . . .	Eng.	Tal-gaha, . . .	Singh.
Tal, Tar, . . .	Hind.	Panna maram, . .	Tam.
Lontar, ...	Malay.	Tatti chettu, . . .	Tel.

This tree is very abundant, especially in all the sandy tracts near the sea. It is to be seen in almost all parts of India, and occasionally as far as lat. 30° N. It is, next to Caryota urens, the largest palm in the Peninsula, and it seems to thrive equally well in all soils and situations. The palmyra forests of Tinnevelly form a distinctive feature in the scenery of the province; it extends along the Malabar coast, and is almost the only tree seen in the flatter alluvium near the sea at Gujerat. It is common on the islands of the Indian Archipelago. After the cocoanut tree, this is the most useful of the palms. The fruit and the fusiform roots of the young trees are used in the Northern Circars as articles of food by the poorer classes. The leaves are used for thatching and coarse fibre. Toddy is extracted from the sap of the tree, and is extensively used in the manufacture of sugar in Vizianagram and Rajamundry. Very neat baskets of palmyra leaf are manufactured at Tinnevelly. The seeds when young are eaten by the natives, being jelly-like and palatable. The Poonatoo of the Singhalese is the pulp of the fruit dried in the sun, then smoked in their houses, and eaten as cakes, for soup, or in curry; its young root is as edible and nutritious as a carrot; from its leaves are manufactured mats, fans, beautiful basket-work of every description, sandals, hats, umbrellas, sieves, thatch, water buckets, and the most lasting substitute for paper used by the natives, and are largely used for writing upon with an iron style. The sap is a pleasant nutritious drink, and from it is produced an excellent sugar, and superior sugar-candy. The fruit when roasted is a wholesome food, and in hot weather the pulp is a most grateful refreshment. The timber of the trunk supplies the natives with a durable wood for building purposes, the refuse of the leaves is their ordinary firing, and the huge root of the old tree, when covered with a sheepskin, forms an excellent drum. The dried prepared leaves are also employed for thatching houses, for making small baskets, mats, etc., and some also are formed into large fans. The fibres of the leaf-stalk are employed on the Madras side for making twine and small rope. They are about two feet in length, strong, wiry, and not unlike those of the esparto of Spain. The wood, near the circumference of old trees, is very hard, black, heavy, and durable. Its wood is used chiefly for rafters, joists, and reepers; when of good age, the timber is very valuable for this purpose; the timber is split into four for rafters, into eight for reepers,—these are dressed with an adze. Those of the Jaffna palmyras are famous, and were largely imported into the Peninsula in former times. From the structure of the fibres, it splits easily in the direction of its length, but supports a greater cross strain than any other wood; iron nails, however, rust rapidly in it. As a fancy wood it is known in Europe as porcupine wood and as nutmeg wood. Near the base of the leaves is a fine down, which is used for straining liquids through, and also for stopping bleeding from wounds. The tree, during the first part of the season, yields a pretty large quantity of toddy or palm wine. This is either drunk fresh drawn from the tree, or boiled down into a coarse kind of syrup called jagari, or it is fermented for distillation. One-fourth of the population of the northern provinces of Ceylon are supported by the produce of this tree. In Tinnevelly thousands subsist on the products of this palm; a considerable portion of the revenue of the province is derived from the tax upon it, and no small portion of the time of the magistrates is wasted upon the quarrels and disputes of which it is a most fruitful source. There are about five millions of palmyras bearing tax, and the sum thus realized by Government grants is one lakh and a half of rupees, or about one rupee per thirty trees. Proprietorship in palmyras consists of four classes, viz. 1. The ryot who is owner of the trees and the lands upon which they grow; 2. The palmyra-climber who holds a puttah for trees growing on the land of another; 3. The climber who holds a puttah for trees growing on land belonging to Government, lying waste, but capable of being cultivated; and 4. Climbers who hold puttahs for trees on land belonging to Government, but which cannot be cultivated, such as road-sides, etc. From this diverse proprietorship, from the manner in which the tax is assessed, oftentimes being in excess of the land tax, and from the practice of inspecting and assessing the tax once in three years, the proprietors are subjected to considerable inconvenience, and the collector and his assistants to very much labour. Palmyra leaf fibres are obtained by bruising and beating the leaf-stalks, which are then dried in the sun for a couple of days, when they are taken up, the fibres separated by the fingers, and gently scraped with a knife to remove any pulp adhering to the fibres. — *Tennant's Ceylon, M.E.J.R.; Royle's Fib. Plants*, p. 39; *Mason.*

PALNAUD, the N.W. corner of the Guntur collectorate, grows cotton.

PALNI, commonly written Pulney; also called Varahagiri, Vadagiri, and Kannandenan, is an isolated mountain range in the Madura district of the Madras Presidency, between lat. 10° and 10° 15′ N., and long. 77° 20′ and 77° 55′ E. It extends in a north-easterly direction from the Western Ghats, with which they are connected by a ridge of hills about 8 miles in width. The range is divided into two groups, the higher and lower, or the west and east ranges. The mean elevation of the former is about 7000 feet, of the latter from 3000 to 4000 feet. The total population of the hills is about 13,200 souls,—4800 on the higher ranges, and 8400 on the lower. The inhabitants are the Puliyar race.—*Imp. Gaz.*

PALO. HIND. The starchy extract of root and stem of Tinospora cordifolia, *Miers*, the stem of which is macerated, and the solution evaporated to dryness.—*Simmonds' Dict.*

PALODHERI. The Pol-u Sha of Hiwen Thsang has been identified with Palodheri, or the village of Pali, which is situated on a dheri, or 'mound of ruins,' the remains of some early town.—*Cunningham's India*, p. 51.

PALOGPONG IKAN, or Ari-ari-ikan of the Malay, Loo-pa of the Chinese, is isinglass. Since the Chinese settled in the Straits, they collect fish-maws at Penang, Malacca, and Singapore, also from Bombay, Ceylon, Madras, Bengal, Tenasserim, and most of the Malayan islands, and export to China. —*Jour. As. So. of Bengal*, p. 445.

PALOLO, the name given to Balti by the Dard race. See Balti; Bolor; India.

PALOLO VIRIDIS. *Gray.* A small sea-worm, one of the Annelides, occurs in some parts of Samoa (the Navigator Islands), in the South Pacific. They appear for two days monthly, the day before and the day on which the moon is in her last quarter. They resemble a very fine straw, and are largely eaten.

PALONG. The Pa-long, Po-loa, Pa-on, or Za-baing tribe are partially subject to, and located to the east of, the Mo-Meit (Mung Myit, Moung-m-ri) beyond the Ka-ren-ni, and along the Chinese frontier, as far as the latitude of Bamo (Mang-mo). They are civilised and remarkably industrious, being good carpenters, dyers, and blacksmiths. Their dha or swords are exclusively used in and around Bamo. Between Yunnan and Burma, by Bamo, the route passes across a range of hills inhabited by Ka-khyeng and Palong, and then enters a Shan country, the Ko-pyi-doung of the Burmans. The Palong inhabit the valley south-east of Bamo, beyond the first mountain range. They approximate to the Shan, of whom they are probably an offshoot; they wear the same dress, and are Buddhist, but they have affinities with the Ka-khyeng. They seem to resemble the Anamese in some respects. A race of the same name (Panong), but to which the Siamese apply the generic name of Ka or Kha, inhabit the mountains of Laos, bordering on Kambojia. They are a coarse and debased variety of the Annam and the Kambojian type. The Palong tribe have Shan and Ka-khyeng on the north, with Burmans on the south, between lat. 97° and 98° N., and in long. 23¼° N. The Palong tribe are kindred to the Shan, and inhabit the hills east and north-east of the ruby mines, on the border of Burma and China. They are short athletic men, with fair skins; many of them have large grey eyes, and all have a small flat nose, much distended towards the nostrils. They wear a dark jacket and short breeches in the Shan style.—*Yule*, p. 169.

PALOO, SINGH., Mimusops hexandra, *Roxb.*, has a hard, fine, close-grained, heavy Ceylon wood; heart-wood deep red-brown; recent layers reddish-yellow; its compact, even structure, admirably adapt it for turning wood.—*Exh.* 1851.

PALSAMUDRAM, in lat. 13° 57′ N., and long. 77° 41′ E., in Mysore, 4 miles west of the Chitore. The dak bungalow is 2279 feet above the sea.

PALUDINIDÆ, a family of prosobranchiate gasteropodous mollusca, inhabitants of fresh water. The genera included in it are paludina, valvata, ampullaria, amphibola, and bithinia. The genus Paludina, *Lam.*, is found in Europe, Asia, Africa, and America. The number of recent species of Paludinæ given by Woodward is 60, and of fossil species 50.

PALUMBUS ELPHINSTONEI, P. torquatus, P. pulchricollis, P. Torringtonii, of British India and Ceylon, are wood-pigeons.

PALUNG. BENG. Beta Bengalensis, native variety of beet-root cultivated for food.

PALWAH, a fish of Sind, called Pullah or Pullar in Bombay, and Hilsa of Bengal; in the Bombay market it is only eaten by natives, and its name is written Palo.

PALWAR. HIND. A boat on the Hoogly and Ganges, of 15 to 20 tons burden, employed for goods traffic.

PAMBAM, written also Paumben, a small town in the extreme south of the Peninsula of India, giving its name to the passage between the island of Rameswaram and the mainland, in Madura district, Madras; situated in lat. 9° 17′ 20″ N., and long. 79° 15′ 31″ E., at the western extremity of the island commanding the channel.

PAMBAN MANCHE. TAM. Snake-boat of Cochin. See Boat.

PAMBOO KALOO. TAM. Literally snake-stone. In Ceylon, a substance used by the people to apply to a snake-bite to extract the poison. It was examined by Faraday, who declared it to be a piece of charred bone which has been filled with blood, perhaps several times, and then carefully charred again.

PAMBU PRANDU. TAM. Circætus gallicus, *Gmel.* It is the common serpent-eagle of India. It generally circles in the air, but often flying along the ground like a harrier; its chief food is snakes and lizards.

PAMIDI PATTI. TEL. Gossypium, *sp.* Pamidi means valuable. Pamidi tangedu, TEL., Poinciana pulcherrima, *L.*

PAMIR, the Upa Meru of the Vedic Aryans, which Europeans have changed to Bam-i-Danya, or the roof of the world. Lieutenant Wood, of the Indian navy, early in the 19th century encamped on its summit, and traced the Oxus to its source. The ascent from Yarkand and Kashgar, westward to the table-land of Pamir, is almost imperceptible; and when that lofty position is gained, where the average elevation is probably as much as 15,000 feet above the sea, a vast open plain is seen, which stretches from the valley of the Jaxartes in one direction, across the head-streams of the Oxus, to the top of the Kashgar or Chitral valley in another. This plateau may be 700 or 800 miles in extent.

Pamir is a very mountainous country: the peak of Kaufmann is 22,580 feet; Mount Gurunda, from which many of the rivers of Central Asia flow, is 20,900 feet; Mount Mustag, 25,800 feet. The summits of all these are covered with eternal snow, the limit whereof on the northern slope is at 14,000 feet high; on the southern, at 19,000 feet. The valleys of the Pamir are barren, only a few of them being covered with fertile meadows. From this plateau, the Oxus, Jaxartes, rivers of Yarkand and Kashgar, and the Gilghit branch of the Indus, derive their head-waters. The Pamir, to the height of some 12,000 feet, has no steppe region. There are valleys along the rivers up to a height of 14,000 feet, but the widest is only 20 versts. This peculiar feature the Pamir has in common with the Tian Shan and Tibet, where similar valleys of narrow width at considerable heights are found. Real lofty plateaux are not to be found on the Pamir. The mountains rise in lofty ridges to 6000 feet and 7000 feet above the valleys. The absolute height of the mountains of the Pamir reaches often to 19,000 feet, and three groups of great altitude reach as high as 25,000 feet. It is studded throughout with lakes, and from it descend four great river systems. The Narym, which is the main stream of the Jaxartes, runs through a long, luxuriant valley, between the culminating ridge and outer range of the Tian Shan, and drains all the northern face of the plateau. The Oxus, rising in the Sari Kul or Yellow Lake of Pamir, at least 300 miles to the south of the Jaxartes, receives from its right bank a multitude of small streams, which run to the south through rugged valleys, on the south-western face of the Pamir uplands. The western face of Pamir, between the Jaxartes and the Oxus, is far more precipitous than the eastern. Ridges run out as far as Samarcand and Karshi, and the streams from the upland which twine amongst these ridges form the Zar-afshan and Karshi part of the water system of the Oxus, though before they reach that river they are entirely consumed in irrigation.

Pamir Kul, in lat. 37° 14′ N., and long. 74° 18′ E., also called Burkut Yasin, a small lake, 13,300 above the sea, close to the crest of the Pamir steppe, and 102 miles east from Panja in Wakhan. From its western end flows the more southern of the two known branches of the Oxus. In summer, the neighbourhood is infested by Kirghiz and Kunjuti robbers.

Peschel rejects the view that these highlands were the primitive homes of the Indo-Europeans. He regards Bactria and Turkestan as likely to find more favour with students of the Indian and Iranian tongues. But he considers that it lay eastward of Nestus, now Kara-su, occupying both slopes of the Caucasus and the gorge of Dariel.

PAN, a race of the Kandh country, procurers for the Meriah sacrifices, numerous in Boad. In the Chutia Nagpur tributary states this class are regarded both by Hindus and aborigines as vile. The Kandhs associate with them on a more equal footing, allowing them to hold lands and to share in the village festivals. They also ply their trade as weavers, and the poorest of them work as farm labourers, cultivating land belonging to Kandhs, and making over to their landlords half the produce as rent.—*Dalton, Ethnol. of Bengal*, p. 299.

PAN. HIND. Betel-leaf, Piper betle, used as a masticatory, which takes the place of opium and tobacco in many Asiatic countries. Slices of the areca nut are wrapped in the fresh leaves of the betel-pepper vine, with a small quantity of quick-lime. This masticatory has a herbaceous and aromatic but astringent taste. Some of all classes, male and female, chew it, and allege that it strengthens the stomach, sweetens the breath, and preserves the teeth. It gives the lips, tongue, and teeth a reddish tinge. The Piper betle is cultivated in spots by itself; it requires much water and care.—*Simmonds' Dict.; Riddell.*

PAN or Pun. HIND. An ancient Indian currency, the fifth part of an anna. A sum of 80 cowry shells; also a land measure of 3¾ cubits. It is the source of the Anglo-Indian coin, Fanam, and seems to be derived from the Sanskrit Pana, money in general.—*Wilson.*

PAN and Pat are Sanskrit names for a leaf; and hence Panna, a leaf or sheet or paper, and Patera, a plate of metal or sacrificial cup, because these vessels were first made of leaves. There is a coincidence between the Sanskrit and Tuscan Panna. The Madonna Impannata, by Raphael, in the Pitti palace at Florence, is so called from the subdued light admitted through the window, the panes of which are of paper.—*Tod's Rajasthan*, i. p. 661.

PANA. URIYA. A wild predatory tribe, on the south borders of Orissa.

PANAK. HIND. A painted stick for extending a web during weaving.

PANALA. This, with its sister fort of Pawungarh, stands on a ridge about 12 miles to the N.W. of Kolhapur, forming part of a range of hills that runs nearly due east from the ghats. Its elevation above the plain of Kolhapur is 975 feet, and above the level of the sea at 2772 feet. In the Buddhist period, Panala and the neighbouring hills seem to have been favourite seats for recluses.

PANAMPARANAR, one of the twelve disciples of Agastiya, so called from the town where he lived. A treatise on grammar, Panamparanar Sutiram, and the preface to the Tolkappiyam, are attributed to him.

PANAX, a genus of the ivy tribe of plants, of the natural order Hederaceæ, viz.—

Aculeata, *Ait.*, China.	Fruticosum, *L.*, Java.
Arboreum, N. Zealand.	Longissomum, N. Zealand.
Cochleata, *D.C.*, Java.	Palmatum, *R.*, Chittagong.
Digitatum, *R.*, Sylhet.	Quinquefolium, China?
Fragrans, *R.*, Khassya.	

The species of Panax are herbs, shrubs, and trees, having the leaves and inflorescence variable. The plants of this family are not possessed of very decided medical properties, though the roots of all are said to possess medicinal qualities, and are much esteemed by the Chinese for their beneficial influence on the nerves.

Panax fragrans, *Roxb.*, Gooti-soonā, HIND., a shrub, with fragrant flowers of a green colour, a native of Nepal.

Panax fruticosum, *Linn.*, is used in China and Cochin-China as a febrifuge, and as an astringent tonic. It has a shrubby, unarmed stem. It is a native of the Moluccas, the islands of Ternate, Java, and Amboyna, and is commonly grown in Indian gardens, and easily propagated from cuttings.

Panax pseudo-ginseng. Dr. Wallich has

discovered this species in Nepal; it is closely allied to P. quinquefolius.

Panax quinquifolium.

Aureliana Canadensis. | Ginseng, ... CHIN.

This plant is about a foot high, with glabrous, straight, simple stalks, terminating in three leaves, each composed of six uneven leaflets, a little pedicelled, oval, lanceolate, acute, and toothed at the edge. The flowers are borne on a central peduncle, and disposed in an umbel. The berries are kidney-shaped, red, compressed, crowned with the calyx and stones, and containing two semicircular seeds. It is a well-known plant. The roots are about the thickness of the finger, like those of parsley, of a whitish-yellow colour externally, white within, two to three inches long, wrinkled, or with rings, often divided into two branches, rarely into three or four, and these presenting a slight likeness to the human form, whence the Chinese name is derived; the parenchyme is formed of a horny and compact tissue, displaying some resinous points. Above the neck is a knotty twisted tissue formed by the remains of the old stalks. The odour is sweet and weakly aromatic, the taste saccharine, somewhat like that of liquorice, subsequently bitter, and rather aromatic. The root of an umbelliferous plant, the Sium ninsi, is often mixed in the druggists' shops, or mistaken otherwise for the ginseng; the essential difference consists in the ginseng having the neck covered with fibrous threads, the remnants of the cortical part of the stalk. The root abounds in gum and starch, and has a little resin and essential oil. The root, without any obvious cause, has attained the highest celebrity and esteem among Chinese for its alleged medicinal virtues. The Dutch brought it from Japan in 1640, but the Japanese themselves were indebted for it to China. The plant grows in the great forests of Tartary between lat. 39° and 47° N., but has also been found in abundance in Virginia and Canada, and the roots are now cheap in China. The Chinese name the root 'the pure spirit of the earth,' the 'recipe of immortality,' the 'queen of plants,' etc., and regard it as a panacea for all diseases. In A.D. 1709 the emperor of China commissioned 10,000 Tartars to go in quest of as much of this root as they could find; each one was to give two pounds of the best of it to the emperor, and to sell the rest for its own weight in fine silver. The roots enter into the composition of every Chinese medicine. It is reckoned a stimulant and restorative. By Europeans and Americans, however, it is looked upon as a mere succulent, similar in its qualities to liquorice.—*Eng. Cyc.; Royle's Ill. Him. Bot.; O'Sh.* p. 373; *Smith, Mat. Med.; Tr. Med. Soc. Cal.; Pl. As. Rar.* ii. p. 30; *Eng. Cyc.; Riddell; Voigt.*

PANCH, HIND., five; from the Sanskrit Pancam, PANJ., PERSIAN; hence Pani, the hand; Pente, GR., Quinque, LAT., Cinq, FR. Panch is a frequently occurring word in compounds.

Panch, five, is said to be the origin of Punch, who has himself, Judy, the dog, the devil, and the child; also of the drinking punch with its five ingredients,—spirits, water, sugar, the lemon, and spice, or, according to another account, spirits, tea, sugar, lemons, and water.

Pancha Ganga Ghat, the five rivers to which Hindu pilgrimages are made.

Panchayat or Panchait, a native court of arbitration, originally consisting of, as the name implies, five members, but which may consist of any number. The Panchayat of India is identical with the Hebrew and Roman custom of elders sitting at the gate, the γερουσια of the Greeks; in Ceylon, it is the Gam-sabawa.—*Tennant's Ceylon.*

Panchajanya or Panchaganya, the Sanchasura conch or shank shell trumpet of Krishna. It was formed from that of the sea-demon Panchajana.—*As. Res.* iii. 399, viii. 301.

Pancha karatta, the five great gods or lords, also the five faces of Siva.

Panchal, Panchala, or Pancham bandam, the five artisan castes of the Hindus, viz. :—

	Canarese.	Hindustani.
Goldsmith, . . .	Aksala.	Sonar.
Blacksmith, . .	Kambara.	Lohar.
Coppersmith, . .	Kantsagara.	Tambagar.
Stone-cutter, . .	Kassigara.	Sangtrash.
Carpenter, . . .	Bargia.	Barhai.

	Mahratta.	Tamil.	Telugu.
Goldsmith, .	Sonar.	Tattan.	Aosal ura.
Blacksmith,	Lohar.	Karuman.	Kamr uru.
Coppersmith,	Tambatgar.	Kannan.	Kantsar uru.
Stone-cutter,	Gondi.	Kul-tachan.	Kassi uru.
Carpenter, .	Sutar.	Tatchan.	Wad'l oru.

The Panchala wear the Brahmanical thread, and some of those amongst the Mahrattas and Tamils claim to be Brahmans.

Pancha-linga, he who has five linga, a name of Siva, probably from the five places celebrated for his symbol, viz. :—(1) Conjeveram, where there is the Prithivi-linga, or linga made of earth; (2) Jambukeswara, where the Ab-linga is said to exude water perpetually; (3) Tirunamale, where the tejo-linga sparkles with light; (4) Kalahasti, where there is the Vayu-linga, the lamp of which is said to be in constant vibration with the wind; and (5) Chidambara, where there is the Akasa-linga or ethereal linga, an imaginary linga worshipped without any material form of it being kept in the temple.

The Sankhya philosophy reckons five organs of sense and five organs of actions; also five elements produced from the five subtle particles, ether, air, fire, water, and earth.

Pancha-gavya or Pancha-kavya, the five products of the cow,—cow-dung, urine, curds, milk, and ghi, sacred to the Hindu.

Pancharatna, five precious articles, gold, silver, pearls, crystal, and the emerald.

Pancha —? The five sweet juices, curds, milk, ghi, sugar, and honey.

Pancha —? The twigs of five trees, Ficus Indica, F. religiosa, F. glomerata, Mangifera Indica, and Mimusops elengi.

Pancha —? The five astringent juices from macerating in water the barks of Eugenia jambolana, Bombax heptaphyllum, Sida rhomboidea, Zizyphus jujuba, and Sesbania grandiflora.

Panchanga, SANSK., a form of salutation with Hindus. An almanac; a calendar.

Pancham, HIND., the dominant fifth in the musical scale.

Panchama, the fifth lunar day of the bright or dark half of each month.

Pancha-maha-patika, in Hinduism, the five

heinous sins, viz. killing a Brahman, stealing gold, drinking spirits, intercourse with the wife of a spiritual preceptor, and association with a person who has committed these sins.

Pancha-maha-sabda, the martial drum, one of the insignia of royalty of the Chalukya dynasty when ruling at Kalyan.

Panchamaras, Mahomed and his four confidential associates.—*As. Res.* ix. p. 143, x. p. 96.

Panchakki of Nepal, a water-wheel, a water-mill on the bank of a river.

Pancha Shegam, a Hindu ceremony, which consists of pouring milk on the lingam. It is afterwards very carefully preserved, and some drops of it are given in the Panch Shegam office to dying people, that they may merit the delights of their heaven.

Pancham Bandham, five servile tribes in Karnata, of whom are the Pareya, Bulwan, Chakili, and Toty.

Panch Mukhi, five-faced, a name of Mahadeva.

Pancha Vaddium, five musical instruments of Malabar, viz., Jenta, Chengalam, Ilatalom, etc., sounded three times daily, before Hindu princes.

Pancha-Vriksha, the five trees of Swarga, the heaven of Indra. Their names were Hari-Chandana, Kalpa Vriksha, Mandara, Parijataka, and Santana.

Panch-Chulia, five fireplaces, the kitchen of the goddess Nanda, in a mountain in Kamaon; its two east peaks are 22,673 and 21,114 feet above the sea.

Panch Dravid and Panch Gaur are usually taken to indicate the Hindu arrangement of the Dravida and Gaur tongues, also the Dravida and Gaur Brahmans. The pandits named the five Dravida tongues, the Telinga, Kanatika, Mahrati, Gurjara, and Dravida or Tamil proper; but at present Dr. Caldwell displaces the Gurjara or Gujerati and the Mahrati, and considers the Dravida proper or Tamil, the Telinga, and the Karnataka (Kannada or Canarese) to be the three principal languages of the Dravidian family; and he adds thereto the Malealam, the Tulu, and the uncultivated Toda, Kota, Gond, and Ku, making altogether nine Dravidian or Tamilian tongues. The five Gaur Brahmans are Kanya-Kubhya, Gaur, Saraswat, Maithal, and Ut-Kala.

Panch-patta, HIND., a striped silk of Ahmadabad.

Panch-Pira also Panch-tan, a place in Ulwar or Mewat, consecrated to five Muhammadan saints.

Panchrangi of Dharwar has a warp of silk and weft of cotton; worn ordinarily by dancing women, not considered fit for respectable women.

PANCHALA, the country north and west of Dehli between the foot of the Himalaya and the Chambal. It was in the dominion of a race who were ruling in India at the time of the Kuru and Pandava strife. Their sway extended through the whole Southern Doab beyond Benares, as far as the river Karmanvati, which was for a time considered the frontier line of the two tribes. Canyacubya, the modern Canouj, appears in early times to have been called Panchala. It seems to have been a long but narrow territory, extending on the east to Nepal (which it included), and on the west along the Chambal and Banas as far as Ajmir. Little else is known of its early history, except through the Rajput writings and traditions collected by Colonel Tod, and the inscriptions examined by Professor Wilson, with those translated and discussed by Principal Mill. The former relate that it was taken from another Hindu dynasty, A.D. 470, by the Rahtor Rajputs, who retained it until its conquest by the Muhammadans in A.D. 1193, when they withdrew to their present seats in Marwar. The identity of Canouj and Panchala is assumed in Menu 11, 19. Its limits, as assigned in the Mahabharata are made out by connecting notes in the Oriental Magazine, iii. 135, iv. 142. These boundaries, enlarged a little on the south and on the west, are the same as those assigned by Colonel Tod to the same kingdom at the time of the Muhammadan invasion. According to the Mahabharata, the great kingdom of Panchala extended from the Himalaya mountains to the Chambal river. The capital of North Panchala, or Rohilkhand, was Ahi-Chhatra, and that of South Panchala, the Central Gangetic Doab, was Kampilya, now Kampil, on the old Ganges between Budaon and Farkhabad. Just before the great war, or about 1430 B.C., the king of Panchala, named Drupada, was conquered by Drona, the preceptor of the five Pandu. Drona retained North Panchala for himself, but restored the southern half of the kingdom to Drupada. According to this account, the name of Ahi-Chhatra, and consequently also the Buddhist legend of Adi-Raja and the serpent, are many centuries anterior to the rise of Buddhism. It would appear, however, that the Buddhists must have adopted and altered the legend to do honour to their great teacher, for Hiwen Thsang records that outside the town there was a Naga-hrada or 'serpent tank' near which Buddha had preached the law for seven days in favour of the serpent king, and that the spot was marked by a st'hupa of king Asoka. In A.D. 1870, the only existing st'hupa at this place was called Chattr, and General Cunningham infers that the Buddhist legend represented the Naga king after his conversion as forming a canopy over Buddha with his expanded hood. He thinks also that the st'hupa erected on the spot where conversion took place would naturally have been called Ahi-Chhatra, or the 'serpent canopy.' A similar story is told at Buddha Gaya of the Naga king Muchalinda, who with his expanded hood sheltered Buddha from the shower of rain produced by the malignant demon Mara. The great mound of ruins called Atranji-Khera is situated on the right or west bank of the Kali Nadi, four miles to the south of Karsana, and eight miles to the north of Egta, on the Grand Trunk Road. The Panchali-Kudu in Telugu is a native of Panchala.—*Bunsen*, iii. p. 554; *Elphinstone*, i. p. 402; *Cunningham's India*, p. 360; *As. Res.* viii. pp. 336–341.

PANCHAM, a Lingaet layman; also one of the eighty-four Gachchas of the Jains.—*As. Res.* xvii. p. 293.

PANCHAMI. See Naga; Serpent; Snake.

PANCHAMI RISHI, a Hindu festival, held about the beginning of September, and is supposed to be in honour of seven Rishi or sages, represented by the seven stars of Ursa major or the Pleiades.

PANCHANGA, a Hindu almanac. The Hindu almanacs are all so complicated, and so few persons are able to understand them, that in every Indian town astrological professors, called Joshi, Jotisi, or Jotisaru, earn a livelihood by going in

the early morning from house to house to mention the circumstances by which the religions observances of the Hindus are to be guided. The Hindu year is solar or sidereal, but the religious life of the Hindu follows the lunar calendar. A very complicated method has been devised for keeping the two concurrent, and the result is the Hindu 'luni-solar year,' a mode of reckoning time which has no parallel in any age or in any country. The solar year begins with the entrance of the sun into the sign Aries, and is of the same length as that of Europe; but the Hindu allows for the precession of the equinoxes, so that his year is gradually getting a little behind the Europe year. The luni-solar year begins with the new moon which immediately precedes the commencement of the solar year. The lunar month consists of thirty tithi or lunar days, which vary slightly in length according to the varying motion of the moon. These lunar months and days have to be kept concurrent with solar time, and this is effected by intercalation and omission. The lunar months are named from the solar month in which the new moon falls; and when two new moons occur in one solar month, the name of that month is repeated in the luni-solar calendar. It happens, at long intervals, that there is no new moon in one of the solar months, and when this occurs the name of that month is expunged. The same principle applies to the days. When two tithi or lunar days end in one solar day, that day is repeated, and when it happens that no tithi ends in a solar day, that day is expunged. The intercalated months and days are known as adhika, excessive, and the expunged as kshaya, destroyed. Each lunar month is divided into two halves, or fortnights, that of the increasing moon called sudi, and the waning half called badi; and the days are numbered from one to fifteen.

It will be seen from this how indispensable an almanac is to a Hindu. In his public and private accounts, and in his usual daily occupations, a Hindu keeps to civil reckoning of time. In his religious ceremonies he must keep his attention to astronomical aspects, and in his festivities and other occupations, to the astrological aspects of the planets. In business matters a solar year and months are generally used, as in the era of Salivahana and others; but the Samvat, or era of Vikramaditya, which follows the luni-solar reckoning, is also extensively employed in the ordinary affairs of life. The almanac being thus a necessity, great numbers of almanacs are published in all the principal languages, varying of course in accuracy and completeness, but all showing a considerable amount of scientific knowledge. The Hindu almanac is everywhere called Panchanga, because it must exhibit five (pancha) distinct matters:— 1. the tithi or lunar day; 2. the vara or solar day of the week; 3. the nakshatra or lunar asterism for each day; 4. the yoga, the conjunctions and transits of the planets, eclipses, etc.; 5. the karanas or subdivisions of the lunar day. These are essentials, and to them must be added the sankranti or entrance of the sun into the different signs of the zodiac. The corresponding dates of different eras current in the country are generally given,—the Christian era, the Muhammadan era of the Hijira, and the Parsee era of Yezdejird. The table for each fortnight must show also the exact time of the rise, culmination, and setting of the sun, and the position of the moon and the planets, and may give illustrative diagrams. The amount of the accumulated precession of the equinoxes at the beginning of the year is assumed to be 18° 11′ 10″, and the annual variation 50′ 2″. There is also in the Panchanga almanac a table of latitudes and longitudes of important places in India, the approximate declination of the sun for each day of the year, and the ascensional difference. The various eclipses are carefully described, and many have diagrams exhibiting the phases as visible. There are lists of the names of the nakshatras, the tithi, the yogas, and the karanas, the signs of the zodiac, the days of the week, and the six seasons of the year, etc.

The ceremonial calendar of fasts and festivals is an important matter to every Hindu. Religious observances of greater or less importance are constantly occurring. These are entered against their respective dates in the calendar, and in some versions short accounts are given of the most important of them. Of New Year's Day, we are told that in the morning a Hindu rubs his body with scented oil, and then bathes with warm water. Flags are raised on poles by each family to represent the banner of Indra, king of the gods. The leaves of the bitter nim tree are eaten, which secures health to the body. The almanac for the New Year is worshipped, and its predictions for the year are heard from one versed in astronomy and astrology, who is remunerated handsomely. The Brahmans also receive liberal gifts from the people. Gifts or feasts to Brahmans are universal on all festivals, and it is impressed upon the celebrants that without these the observance is ineffectual. On the 3d Vaisakha sudi (24th April) 'earthen water-pots and fans are given to Brahmans for the coming summer season, that the pitri or manes of deceased ancestors may feel comfortable during this season in the heavens.' On the 15th Jyaishtha sudi, 'women fast and go to worship at the foot of the Indian fig-tree to preserve them from widowhood.' On the last day of Asarha badi, all the lamps in the house are washed, cleaned, 'and placed in a row, and offerings of incense and flowers are made to them. Sweetmeats are prepared in honour of the lamps, and are eaten by the whole household.' The 5th Srawan sudi is held sacred to the serpent gods. 'Ceremonies are performed on this day to ensure against the bites of snakes.' On the last day of the same month, 'the 64 Yogini, or female attendants of the goddess Durga, are worshipped, particularly by women, with the hope of obtaining issue.' The 10th Aswin sudi, at the autumnal equinox, is the Dasahra, 'the victorious tenth,' in honour of the victory of Durga over a monstrous demon. This is a great holiday, lasting ten days; but it is only the last of the ten days that is properly called Dasahra. The image of the goddess is worshipped with various observances throughout the ten days, and on the last day it is borne with ceremony and thrown into the water. The 13th of the sudi or light half of the same month is the Dewali or Dipawali, a great festival in honour of Kali, another form of the goddess Durga. This is the great 'feast of illumination, during which houses are cleaned, whitewashed, and illuminated.' Fireworks are displayed, and 'playing with dice is the chief recreation of the well-to-do people.' The Makara-sankranti is a solar festival, held in honour of the sun, on the day

of his entrance into Capricorn. The Holi, also, or spring festival, is held in Phalguna, the last month of the year, in honour of Krishna, but is essentially a spring festival. Many of its observances have reference to that season, and some of them find their counterparts in other regions of the world. This feast lasts fifteen days, and resembles the Roman Saturnalia or the modern Carnival. People throw red powder at each other, and females are saluted with very impure exclamations and jests. On the day of full moon a pile is lighted before every house and in parts of the city, and cakes and cocoanuts are offered. In Bengal, Madras, and other parts, swinging was a great feature in this festival, but it has been prohibited by the British Government.

A third portion of the almanac is the astrological, and by no means the least important in the eyes of the great mass of Hindus. Lucky and unlucky days and seasons, and the influence of the planets and astronomical phenomena, are to the Hindu settled articles of belief which are beyond question. No matter of importance can be entered upon without consulting the Brahmans, and the Brahmans consult the Panchanga. There is merit even in referring to the almanac; and those who on New Year's Day hear what are the celestial influences of the year, thrive well in this world, free from sickness, calamity, or poverty, and become possessed of stores of corn and treasure. From the tithi a man derives good and weal; from the days of the week, long life; from the nakshatras, liberation from sin; from the yoga, liberation from disease; from the karanas, success in a desired work. There is a table of auspicious days for the investiture of Brahmans with the sacred thread, and another table of auspicious days for marriages. Hindus must of course be aware that they often fail in obtaining the good things promised upon astrological authority, but none would venture to brave the dangers of unlucky days and inauspicious conjunctions. They may be disappointed by the past, but they cannot venture to challenge the future. Another table enables a person to calculate his luck for the year, by the sign of the zodiac the moon was in at his birth. Absurd as all these are, they are not set down at haphazard, but are the results of certain rules and calculations. The influence of the planets during a recent year was thus predicted:—'The sun will be king. The minister is Mars. The lord of the first harvest is Jupiter. The lord of the clouds is the moon. The lord of the waters is Saturn. The lord of the last harvest, Mercury. When the sun is king, there is destruction to corn, flowers, fruits, and roots; fear from robbers; no water; disagreements among the rulers of the world, and disease to the inhabitants. When Mars is prime minister, there will be scarcity of rain, destruction to corn, fear from fire and robbers, pain from diseases, and the rulers of the land will fight against each other.' Happily for the world, and happily also for astrology, there are countervailing influences. When Jupiter is lord of the first harvest, the indication is that there will be plenty of rain, corn, water, wealth, and fruit, and gladness among the people; and under the influence of the moon, the lord of the clouds, there will be plenty of corn, flowers, and fruits; the learned will be happy, and the rivers and wells will overflow with water. Among the many other portents of the year, there is one which foretells success to robbers, impostors, and wicked people; another foretells victories to kings with small armies over those with large ones. One most desirable portent indicates moderation in all things, and another happiness to all mankind, and plenty of corn and fruit. Some of the portents are very incongruous and amusing in their association of things. One indicates destruction to potentates, asses, and earthen-pot makers; another bodes ill to black beetles, but happiness to the worshippers of Siva.

Such is the mixture of wisdom and folly presented by a Hindu almanac. The science which Hindus display in the preparation of their ephemeris is worthy of admiration, and the care they take in fixing the proper times for their religious festivals is deserving of all respect. Such things, in Great Britain, are not dead even now. Old Moore still flourishes; the Vox Stellarum, as declared by him, is yet listened to. Zadkiel is not yet defunct; and more than one low-class publication puts forth pretended astrological predictions. Even among educated people are to be found some who have faith in astrology. If astrology has been able to maintain a precarious stand against the overpowering attacks of western science, what expectation or hope can there be of its extinction in India? There it has for ages mingled with every man's daily and religious life, and will last as long as, and probably even survive, the religion with which it is associated.

PANCHA-TANTRA; literally five books; a famous collection of tales by Vishnu-Sarman, a Brahman, about the end of the 5th century of the Christian era, for the edification of King Dabishlim's sons. They were translated into Pehlavi, in the 6th century, in the time of Nushirwan; from that into Arabic by Abdallah bin Mokaffah about the middle of the 8th century; then into Persian by Rudaki, about the close of the 9th century, who received 80,000 dirhams for his labour. About the middle of the 12th century (A.D. 1150), in the time of Bahram Shah, a Persian prose translation was made; and a subsequent version was made by Kashifi, and named the Anwar-i-Suhaili. It is the basis of the Iyar-i-Danish in modern Persian, and the latter has appeared in Urdu as the Khird-Afroz. A Greek version was made by Simeon Seth at the command of Alexis Commenes, and they appeared in Hebrew and Aramaic, Italian, Spanish, and German. The first English edition was in the 16th century, then in French in 1644 and 1709. A Latin version was made by order of John of Capua, from the Hebrew, in the 13th century, and from it translations were made into all the languages of modern Europe, until it became universally known as Pilpay's Fables. It has been translated into the Tamil, Canarese, and all the spoken languages of India. Pilpay is evidently derived from Bidpai, but in the original Sanskrit no name similar to this occurs. The Arabic translation is called Kalila-wa-Damna, the names of two jackals which take a conspicuous part in the first story, their names in the original Arabic being Karataka and Damanaka. The later Persian translation is called Anwar-i-Suhaili, or Lights of Canopus, and the Turkish rendering of it is the Humayun Namah. With the exception of the

Bible and the Pilgrim's Progress, there is probably no work that has been translated into so many languages as the Pancha-Tantra. There is great diversity in the manuscript copies of the Pancha-Tantra. In some versions the residence of the king is in Mahilaropya, a city of the south of India, which Professor Wilson identifies with St. Thomé. The Canarese and Sanskrit versions make it to be Pataliputra on the Ganges. Ward says it is the only original work on ethics in the Sanskrit language.—*Garrett; Ward.*

PANCHGHAR has ten small towns. It is celebrated for its groves of date trees; is occupied by the Gitchki tribe of Brahui, of peaceful and agricultural habits.

PANCH MAHAL, a British district on the eastern frontier of Gujerat, between lat. 22° 30′ and 23° 10′ N., and long. 73° 35′ and 74° 10′ E.; area, 1731 square miles; population in 1872, 240,743 souls,—89,624 being Koli, 68,710 Bhil, and 5966 Naikra. Naikra are the lowest and poorest, and until the middle of the 19th century were turbulent and unsettled. The Bhil and Koli are bad cultivators, thriftless, idle, and fond of strong drink. To check the thieving tendencies of Bhil and Koli, and to prevent any renewal of Naikra risings, the Panch Mahals are provided, in addition to the unarmed police, with a regiment called the Gujerat Bhil Corps, 530 strong. Of the 14,921 Musalman, 4461 are Ghanchi, generally oil-pressers, but formerly carriers of merchandise between Malwa and the coast.—*Imp. Gaz.*

PANCHWAI. BENG. A passage boat on the Lower Ganges.

PANDA or Punda, the proprietary or presiding priest of a Hindu temple of Siva, usually, though not invariably, a Brahman. The office is hereditary; and in some places, as at Benares, the panda officiates only on particular occasions, the duties of daily worship being performed by inferior priests or pujari in his employ. The term Panda is also applied to a priest who is stationary at any particular place or shrine. It is also described as properly applicable to a particular tribe, a branch of the Bharadwaja line (Gotra), one of the chief sections of the Canouj Brahmans, with such names as Bakhtawar Pandy. Up to the Mutiny, many of them entered the Indian army, and the word has been multiplied by the British, since the revolt of 1857–58–59, Pandy being applied to all the rebels, from the circumstance of the first one who was executed at Barrackpur being of the name of Mungul Pandy.

PANDAL. ANGLO-TAM. From Payal, TAM. An awning formed of grass, leaves, branches, or cloth; a platform, a canopy, a stage, a booth, a shed.

PANDANACEÆ. *Lindl.* An order of plants comprising 2 genera, 16 species, viz. 12 Pandanus, 4 Freycinetia. The Pandanaceæ or screw-pines abound in the Mauritius, Bourbon, India, the Straits, and Burma. The following species of the Pandanus genus are known in S.E. Asia:—

P. amaryllifolius, *Roxb.*, Amboyna.
P. Andamanensium, *Kurz*, Andamans.
P. candelabrum, *Pal., Beauv.*, N. Guinea.
P. caricus, *Rumph.*, Moluccas.
P. drupaceus, *Pet. Th.*, Mauritius.
P. edulis, *Pet. Th.*, Madagascar.
P. elegans, *Pet. Th.*, Mascarenhas.
P. fascicularis, *Lam.*, Moluccas.
P. fœtidus, *Roxb.*, Bengal.
P. furcatus, *Roxb.*, Malabar, Chittagong, Pegu.
P. graminifolius, *Kurz*, Burma.
P. humilis, *Rumph.*, Moluccas.
P. leram, *Jones*, Nicobar.
P. lævis, *Rumph.*, Burma.
P. marginatus, *Roxb.*, Mauritius.
P. moscatus, *Rumph.*, Amboyna.
P. odoratissimus, *L. fil.*, all S. Asia.
P. utilis, *Bory.*, Madagascar, Mauritius.

The name is derived from the Malay Pandang, and called screw-pine from their leaves, which resemble those of the pine-apple, and are inserted spirally along the stem. Species are found also in Mauritius, Bourbon, and Australia. The leaves are composed of tough, longitudinal fibres, white and glossy, which enable them to be employed for covering huts, making matting, as well as for cordage; and in the Mauritius, for making sacks for coffee, sugar, and grain. The species which is best known in India is P. odoratissimus, on account of the exquisite perfume of its flowers. This plant, as well as some of the other species in the Mauritius, are known by the name Vacoa or Baquois, said to be P. sativus. On many of the Burmese boats, sails are made of the large narrow leaves sewed together of a species that has a trunk like a palm, and the fruit is used by the Karens to hackle their thread. The smaller and finer mats in common use are fabricated from the leaves of this species, which grows in Tenasserim above tide waters.

According to De Candolle, one species of pandanus, when opening in flowers, emits an electric spark, accompanied by a noise.

The fruit of a pandanus is an article of food among the natives of the north coast of Australia, where it is prepared by steeping in an embanked puddle. Dr. Leichhardt found the pandanus fruit in extensive use among the natives of the Gulf of Carpentaria, and was inclined to believe that they obtain a fermented liquor by this process of soaking. The practice is more probably adopted for the purpose of removing some deleterious substance, similar in its nature to the heart of the manioc. The fruit of the cycas palm is sliced up and dried in the sun with the same object.—*G. W. Earl, Papuans*, p. 171; *Marius*, p. 121; *Jour. Agric. Soc. of India*, 1843, p. 92; *Royle, Fib. Pl.* p. 35; *Royle, Ill. Him. Bot.* p. 408; *Roxb. Fl. Ind.* iii. p. 741; *Mason.*

PANDANUS FURCATUS. *Roxb.* Tha-bau, also Ta-gyet, also Tau-ta-kyet, BURM. Lowland screw-pine. The large coarse mats in universal use in Tenasserim are made from the leaf of a species of screw-pine that grows abundantly on the lowlands near tide waters. H-sat shwa gyee, Yæ ta kyet, are other Burmese species.—*Mason.*

PANDANUS ODORATISSIMUS. *Linn.*

Anthrodactylis spinosa, *Forst.*	Kildaro, *Rheede.*
P. sativa, *Petit Thouars.*	P. vacoa, *Henley.*
Keder, Kadhi, . . ARAB.	Wharra tree, OTAHEITE.
Keori, Kea kaida, BENG.	Gul-i-kivea, . . . PERS.
H'sat-ta-phu, . . BURM.	Kavondi, . . . „
Screw-pine, Caldera bush.	Keteka, ... SANSK.
Pandan odoriferante, FR.	Wœti-keyiya, . . SINGH.
Pandanus wohlreich, GER.	Talam, Talay, . . TAM.
Keora, Gaganphool, HIND.	Mogili (male) , . TEL.
Pandan, Pandang, MALAY.	Gedangi mogali (fem.), „
Thala, Kaida, . MALEAL.	Gojjangi mogali, . „
Leram, . . NICOBARS.	Ketaki, ... „

This grows along the coasts and in moist parts of all the Peninsula of India, and its leaves are

extensively manufactured into mats, baskets, and hats. The fibre of the leaf is white, soft, glossy, ill suited for cordage, but it has been found well adapted for the preparation of a good quality of paper, also for good sacking. Its fibrous aerial roots are much employed as paint brushes. The people of the Mulgrave Archipelago are said to use the juicy pulp and the pleasant kernels of the fruit. The wood is hard and durable; the flowers are used in garlands, and the red and yellow nuts as ornaments. All soils and situations seem to suit it equally well, and it flowers chiefly during the rainy season. It is much employed to make hedges, for which it answers well, but requires too much room. The lower yellow pulpy part of the drupes, and also the tender white base of the leaves, are eaten raw or boiled during scarcity.

The fusiform roots are composed of tough fibres, which basket-makers split and use to tie their work with; they are also so soft and spongy as to serve the natives for corks. In the Mauritius, its leaves are employed for package bags for the transport of coffee, sugar, and grain. As soon as gathered, the spines on their edges and dorsal nerve are stripped off, and the leaf divided into slips of the breadth proper for the use they are required for; this operation is performed with the blade of a common straight knife; they are then laid in the sun for a few hours to dry. When required for working into mats, the slips are passed under the blade of a knife, applied with moderate pressure, to remove all asperities on their surface, which gives them a polish, and makes them plain and more convenient to the hands. With the leaves, the natives of Southern India and the inhabitants of the Friendly Islands make a fine kind of sleeping mat, which they stain yellow and red with cassia leaves and Vatinga cottay. They are also used to make the common kind of umbrellas, called by the Tamils Talay elley kedri. The fine furnitures of Madras are packed in mats of these leaves. The natives of India are fond of the scent of the flower, which they place among their clothes. In the district of Ganjam, the flowers are said to be frequently tenanted by a small and very venomous snake. The male flowers are exceedingly fragrant, and great favourities with the Burmese. The flower is constantly referred to by the Sanskrit poets by the name Ketaki, and is the Keora and Ketgi of the Hindus. The Arabs call it Kazi, and Avicenna described it under the name of Armak. Oil impregnated with the odour of its male flowers, called Keore-ka-atr, costs two rupees the tola; and the distilled waters are highly esteemed both for their odour and their medicinal use as stimulants. This tree is often alluded to in the Hindu drama. In 'Malati and Madhava' the latter says,—

'Night, ever friend to love, now spreads its shade;
Faint in the east the gentle moonlight gleams,
Pale as the palm's sear leaf, and through the air
The slowly rising breezes spread around
The grateful fragrance of the ketaki.'

The Hindus use the flowers in all the ceremonies made in honour of Pulliar, Subramaniar, Mariamma, and Vishnu, but never in those of Siva.—*Eng. Cyc.; Graham's Cat. of Plants*, p. 227; *Chow-Chow*, p. 299; *Cal. Cat. Ex.*, 1862; *Mad. Ex. Jur. Rep.; Singapore Cat. Ex.*, 1862; *Sonnerat's Voyage*, p. 9; *Roxb.; Rohde, MSS.; M. E. of* 1857; *Ains.; Mason.*

PANDANUS UTILIS. *Borr.* The mats in which Mauritius sugar is imported are made of the leaves of P. utilis, *Borr.*

PANDARAM, a Saiva devotee; the officiating priest at the temples of Siva. This word seems to be Panduranga, or pale complexioned, from these individuals smearing themselves with ashes. Pam also means song. In the south of India they are Hindus of the Sudra section, worshippers of Siva, of whom many are professed mendicants, but many are learned men. These are not Vira Saiva, nor do they wear the lingam or adore Basava.—*Brown, Jangams*, p. 7.

PANDARPUR. A town of the Sholapur district, Bombay Presidency, situated in lat. 17° 40′ 40″ N., and long. 75° 22′ 40″ E., on the left bank of the Krishna, and 1378 feet above the sea. Pandarpur contains a celebrated temple, dedicated to the god Vithoba, regarded as an incarnation of Vishnu. In honour of this god, three fairs are annually held.

PANDHRI, a local tax levied on the non-agricultural classes, on shops, in the Madras presidency.

PANDION HALIÆTUS. *L.* The osprey.

P. Indicus, *Hodg.*	P. fluvialis, *Savi.*
Mach-moral, Bala, BENG.	Verali-addi-pong, . TAM.
Mach-manga, . . ,,	Kora-min-gedda, . TEL.
Pantiang, . . LEPCH.	Hegguli . of YERKALA.
Macha rang, . NEPAL.	

The osprey or fish-hawk is spread over all Europe, Asia, and Africa. It is common along all the large rivers of India, and at most of the large lakes and tanks even far inland. It plunges from a great height into the water, and can take up a fish of considerable size, but the Haliætus leucogaster frequently robs it of its prey. A northern poet says,—

'Soon as the sun, great ruler of the year,
Bends to our northern climes his bright career,
And from the caves of ocean calls from sleep
The finny shoals and myriads of the deep;
When freezing tempests back to Greenland ride,
And day and night the equal hours divide;
True to the season, o'er our sea-beat shore,
The sailing osprey high is seen to soar,
With broad, unmoving wing; and circling slow,
Marks each loose straggler in the deep below;
Sweeps down like lightning! plunges, with a roar!
And bears his struggling victim to the shore.
The long housed fisherman beholds with joy
The well-known signals of his rough employ,
And as he bears his net and oars along,
Thus hails the welcome season with a song:—

'The osprey sails above the sound,
The geese are gone, the gulls are flying;
The herring shoals swarm thick around;
The nets are launched, the boats are plying:
Yo ho, my hearts! let's seek the deep,
Raise high the song, and cheerily wish her,
Still as the bending net we sweep,
"God bless the fish-hawk and the fisher!"

'She brings us fish, she brings us spring,
Good times, fair weather, warmth, and plenty;
Fine stores of chad, trout, herring, ling,
Sheepshead, and drum, and old wives dainty.
Yo ho, my hearts! etc.

'She rears her young on yonder tree,
She leaves her faithful mate to mind 'em;
Like us, for fish, she sails to sea,
And plunging, shows us where to find 'em.
Yo ho, my hearts! etc.'

PANDIT, a Brahman learned in the Sanskrit. It is to the Hindus what hakim is to the Muhammadans, but it is a term applied to all Kashmiri Hindus. They are mostly of the Brahman-

ical caste, wonderfully fair, and have no objection to flesh-eating. Numbers of them are now settled in India.—*Calcutta Review.*

PANDO. HIND. Artificial whiting, or plaster of paris.

PANDRAKARA, a race who rear silkworms.

PANDRETHAN, a temple in Kashmir, built between A.D. 913 and 921. It is supposed to have been a Vaishnava temple.

PANDU, from whom the Pandava princes of Hastinapur were named, was a descendant through Bharata from Puru, the great ancestor of one branch of the Chandravansa or Lunar race. A descendant of Bharata was king Santana, who married a widow named Satyavati, and two sons, Chitrāngada and Vichitra-virya, were born. Chitrāngada fell in battle, and Vichitra-virya succeeded to the throne, but he died without a son, leaving two widows, Amba and Ambalika, daughters of the king of Kasi; and Satyavati, who had had a son, Krishna Dwaipayana or Vyasa, by her former husband, called on him to raise up seed to his half-brother. The elder widow bore a son, blind Dhritarashtra. The younger widow bore Pandu; and a slave girl bore a third son, named Viduru; and because of Dhritarashtra's blindness, Pandu came to the throne. Pandu had two wives, Kunti and Madri, with whom, however, he did not, as the legend says, consort; and he and his wives retired to the Himalaya, where he died. But Kunti had three sons, Yudishthra, Arjuna, and Bhima, begotten respectively by the deities Dharma, Vayu, and Indra; and the two sons of Madri, Nakula and Sahadeva, by the twin Aswini gods. These were the five Pandava.

On Pandu abdicating, his half-brother, the blind Dhritarashtra, re-ascended the throne, and his sons took the title of Kaurava, from their ancestor Kuru. The Pandava lads and the Kaurava lads were brought up together at Dhritarashtra's court, but they were constantly quarrelling, and their enmity reached a height on Dhritarashtra passing by his own children and nominating Yudishthra to be his successor. For the sake of peace, the five Pandava retired to Vāranāvatu, and, being followed there by the active enmity of their cousin Duryōdhana, they escaped to the forest disguised as Brahmans.

Virat, the capital of Matsya, is celebrated in Hindu legends as the abode of the five Pandu during their exile of twelve years from Dilli or Indraprastha. The country was famous for the valour of its people, as Menu directs that the van of an army should be composed of 'men born in Kurukshetra near Indraprastha, in Matsya or Virata, in Panchala or Kanya Kubja, and in Surasena, of the district of Mathura.' The residence of Bhim Pandu is still shown on the top of a long, low rocky hill about one mile to the north of the town. The hill is formed of enormous blocks of coarse gritty quartz, which are much weather-worn and rounded on all the exposed sides; some of these blocks have a simple, straight face passing onwards, the result of a natural split, of which advantage has been taken to form small dwellings, by the addition of rough stone walls plastered with mud. Such is the Bhim-gupha or Bhim's cave, which is formed by rough walls added to the overhanging face of a huge rock about 60 feet in diameter and 15 feet in height. Similar rooms, but of smaller size, are said to have been the dwellings of Bhim's brothers. They sought shelter in various countries near the Indus; and while at the court of king Drupdeva in Kampil-nagara of Panchalika kingdom, Arjuna's skill in archery carried off his daughter Draupadi, who became the bride of the five brothers. After being won by Arjuna at her Swayamvara or tournament, she was taken to the house of their mother Kunti, who desired the brothers to retain her as their wife. Between that time and the interval of her marriage, Draupadi performed the usual household duties; and ultimately, with Kunti and Draupadi in one car, and Yudishthra and his brothers in another, the family proceeded to the town of Kampila, where the marriage ceremony was performed. The five brothers had each a house and garden of his own, and Draupadi dwelt with each of them in turn for two days at a time; and it was agreed upon that another brother, under pain of being exiled for twelve years, should not enter where Draupadi was staying. But Arjuna broke the rule, and became exiled.

On the occasion of Krishna visiting his Pandava relatives at Hastinapur, accompanied by his wives and singing and playing women, Satyabhama, speaking with Draupadi, the polyandric wife of the Pandava, remarked to Draupadi, We, who are so many thousands in number, have all but one and the same husband in Krishna, and we are all happy with him: how comes it then that you have five husbands, and are not ashamed before men? To this Draupadi replied, You are every one jealous of each other, and are always talking of your suspicions one of another. But I never speak one word which all my five husbands may not hear alike, and which would give to either the smallest offence. Descended from the ancient sovereigns of the countries of Hindustan bordering upon the Jumna, thus called Panduan Raj, or the kingdom of the Pandu, in Hindu mythology, the five Pandu are regarded by the present Hindus as five demigods.

The strife between the cousins ultimately led to the destruction of the Kaurava in a great war, described in the Mahabharata.

These legends show customs of ancient India, some of which are still in force. As one of these still recognised, Menu, regarding the choice of a husband, enjoins parents to select a handsome son-in-law; and adds, 'Three years let a damsel wait, though she be marriageable, but after that term let her choose for herself a husband of equal rank.' But in the days of the Pandu, one mode of selecting a husband was the Swayamvara or self-choice, where a girl chose her own husband. In the Mahabharata, the cases are mentioned of Pandu with Pritha, Yudishthra with Devika, Sahadeva with Vijaya, Sivi and Devaki, Nala and Damayanti, Draupadi and Arjuna. Menu describes eight modes of marriage, viz. Brahma, Deva, Arsha, Prajapatya, Asura, Gandharva, Rakshasa, and the eighth and worst, Paisacha; the first six for a Brahman, the four last for a warrior, and the same four, the Rakshasa excepted, for the third and fourth of the Hindu castes.

The practice of a relative raising children for a deceased childless relative is sanctioned by Menu, who says: 'On failure of issue by the husband, the desired offspring may be procreated either by his brother or some other near relative, called

Sapinda, on the wife, who had been duly authorized.' Pandu, also, when lamenting his childlessness, says to Pritha, 'In distress men desire a son from their oldest brother-in-law.'

The Gujar race, many of the Jat clans, and others in the north of India, still take to wife the widow of a deceased brother by the Karao ceremony. It is still a popular Hindu belief that the gods visit women. According to the legend, Kunti was the sister of a prince of Mathura, who was the father of Heri and Baldiva, the Indian Hercules (Hericula). Kunti, in consequence of the sins of the ancestors of herself and her husband, was doomed to experience the greatest curse that can befall a Hindu female, sterility. However, by a charm, she enticed the gods to her bed. Thus, says Colonel Tod, she had by Dharmaraja (Yama, or the Minos of the Greeks), Yudishthra; by Pavana (Eolus), Bhima; by Indra (Jupiter Cœlus), Arjuna; and Madri had Nakula and Sahadeva by Aswini Kumara (the Hindu Esculapius, or the sons of Surya, the twins of the Hindu zodiac).—*Cunningham's Ancient Geog.; Garrett; Mahabharata in Wheeler's Hist. of India*, p. 228; *Westminster Review*, April 1868; *Tod's Rajasthan*, i. p. 31; *Cole.'s Myth. Hind.* p. 248.

PANDU-KURI or Pandu-kuli, the popular Tamil term applied to ancient cairns, tumuli, or tombs found all over S. India. Hindus know nothing of the race to which these remains belonged, and neither in Sanskrit literature nor in that of the Dravidian languages is there any tradition on the subject. Kuri means a pit or grave, and Pandu denotes anything connected with the Pandava brothers. To call anything a work of the Pandu is equivalent to terming it Cyclopean in Greece, a work of the Picts in Scotland, or a work of Nimrud in Asiatic Turkey, and means only that the structure to which the name is applied was erected in some remote age, by a people of whom nothing is now known. When the Tamil people are asked, By whom were these Pandu-kuri built and used? they sometimes reply, By the people who lived here long ago; sometimes that the people were a race of dwarfs only a span or a cubit high, but possessed of the strength of giants.

Near the village of Chavadi Paleiyam, in Coimbatore, one of them, opened in September 1807, contained a hoard of the flat silver coins—pieces found in all parts of India, and amongst them a silver denarius of Augustus. The cairns of Coimbatore are called Mandaver Kuli, which Dr. Shortt thinks is a dialectal change from Panda Kurzi, the ordinary Tamil name. In some opened in 1873 by Mr. Wedderburn were found an earthen jar containing human bones.—*Dravid. Grammar*, pp. 326, 327.

PANDUNG-TOUNG-YO-THA, sons of the mountain range, a barbarous race in the interior, east of Ava.

PANDYA. MAHR. The writer or accountant of a village or district; an officer employed in the customs. In the Madras Presidency the term is sometimes applied to the headman of a district.—*Wilson.*

PANDYA, a kingdom in the south of the Peninsula of India, supposed to have been founded five or six centuries before the Christian era. Their first capitals seem to have been Kukhi near Ramnad, the Kolkhi of the Periplus, and Kalyana near Cape Comorin. Up to the rise of the great Chola dynasty in the 10th and 11th centuries, the Pandya dynasty seems to have had a long career of prosperity and power. After that, for a while, they appear to have been subject to the Bellala dynasty of Mysore, but they had had several epochs of great brilliancy and power. Augustus, emperor of Rome, when at Antioch, received an embassy with letters from king Pandyon of ancient Dravira. The embassy gave valuable and curious presents, amongst others a man without arms, and a serpent ten cubits long. In the letter, the king described himself as holding sway over six hundred kings, and he asked the friendship of Augustus. In the embassy was an Indian named Zarmanochegus, from Baragoza or Broach, who accompanied Augustus to Athens, and there, as Calanus had done, committed self-immolation before the emperor. His tomb, known as the Indian's tomb, was to be seen as late as Plutarch's time. Their country, Pandya (Παυδαία of Megasthenes), Pandi Mandala of the Periplus, Pandionis Mediterranea and Modura Regia Pandionis of Ptolemy, was one of three ancient divisions of the Dravida country of Southern India, the other two being Chola and Chera. And an early legend runs that the three kingdoms were founded by three brothers. Pandya kingdom seems to have been founded in the 5th century B.C. by Pandya, a person of the agricultural class.

Strabo mentions an ambassador from king Pandion to Augustus Cæsar, and, from the Periplus and Ptolemy, Pandion seems to have been the hereditary appellation of the descendants of Pandya. Ptolemy notices Pandion, and the author of the Periplus of the Erythræan Sea mentions Comari (Comorin) and other places as under a king Pandion. At the time of the Periplus the principality extended to the Malabar coast, but in general the ghats formed the western limit of the kingdom, which occupied what are now the revenue districts of Madura and Tinnevelly. The seat of government, after being twice changed, was fixed at Madura, where it was in the time of Ptolemy, and where it remained till the early part of the 18th century (A.D. 1736). Their wars and rivalries were with the adjoining kingdom of Chola, with which they seem, in the first centuries of the Christian era, to have formed a union which lasted some time. They, however, resumed their separate sovereignty, and were a considerable state until the 9th century, when they lost their consequence, and were often tributary, though sometimes quite independent, till it ended under the Naik dynasty, which was conquered by the Nawab of Arcot, A.D. 1736. A wall is said to mark the boundary between the Chola and Pandya kingdoms in Madura, remains of which have been traced near Ramagiri, the Cuddanags of Coorg, etc. Professor Wilson supposes the appearance of Pandya as an organized state and the foundation of Madura to have happened B.C. 500. At the beginning of the Christian era, the Pandya dynasty seems to have held sway over the greater part of the southern portion of the Peninsula on the Coromandel coast, westward to Canara and Malabar, and southward to the sea. Adi Vira reigned about the year 1040. He was a literary prince, and some of his aphorisms are in common circulation in a small collection called Vetty Verkay. Pandya is still the general term used in

Travancore for the Madras revenue districts of Tinnevelly and Madura. Chola with Tanjore, and Chera with Salem, known as Kerala, comprised the tract from Gokarna in N. Canara to Cape Comorin. The fish was the ensign of the Pandyan dynasty, who were thence called Minavar (Min, TAM., a fish), and their standard Minkodi.

Two embassies were sent by the Pandyan king to Augustus, the first of which he received at Tarragona, the second is mentioned by Strabo. The friendship of the Romans was sought by only one other Hindu prince, O Kerobothros, the king of Chera or Kerala, who also was a Dravidian.

The Pandyan capitals were at Kurkhi (Korkoi), Kalyanapura, Kulasekara-pattanam, and Madura. The site of Kurkhi or Korkai is still a matter of dispute. It has been considered to be the Kolkhi of the Periplus, identified by D'Anville with Kilakarai near Ramisseram, and by others with Korkai or Gorkai near the mouth of the Tamrapurni.

The Chera was an ancient dynasty in the south of the Indian Peninsula, the rise and fall of which, as also the extent of their dominions, are only vaguely known. They seem to have risen on the fall of the Pandya sovereignty, and to have ruled over Travancore and Coimbatore, and parts of Salem. The Chera princes seem to have been first established at Scandapura on the Malabar coast, and subsequently at Talcad or Dalavanpura on the Cauvery and Mudugonda-patnam, perhaps the same as the modern village of Mudugondur on the road from Seringapatam to Kunghal. The site of Scandapura is unknown. Talcad is described by Buchanan as a place of some extent, containing many buildings nearly covered with sand. The Carura regio Cerebothri, one of the earliest sites, has been supposed to indicate Carur in Coimbatore.

The ancient kingdom of Kerala on the Malabar coast was for some time subject to the Chera princes.

The several capitals of the Chola were at Conjeveram, Wori-ur, Combaconum, Gangondaram, and Tanjore. The whole history of this for some time the most important power of the Peninsula, is involved in great obscurity. There is no reliable information anterior to the 9th century, yet they must have been exercising sovereignty anterior to the time of Ptolemy, who makes mention of Arcati Soren; and, in the Mahawanso, there are frequent references to transactions with the Chola during the earliest periods of the Singhalese annals. The Tamil traditions also abound with stories of Adonda Chakravarti, who appears to have been a soldier of the prior Kurumbar tribes; but there are no trustworthy records forthcoming of his origin and actions, neither have there been obtained any authentic accounts of the overthrow and extinction of any of the great southern states.—*Mr. W. Elliot; Elphinstone's History of India*, p. 412.

PANEJITA. SANSK. A form of Hindu slavery.

PANEKKAR, a title in Travancore.

PANEL. SIND. The leaves and stalks of the Pogostemon patchouli, *Lepellitier*, used as a perfume.—*Simmonds' Dict.*

PANE LOYE. TEL.? URIYA. A fibrous plant, much employed by the Uriya fishermen in making their fishing baskets, and as lines for their nets; also used for tying fences and making sieves. It is cheap, and when tarred and stretched, makes a good fence, and lasts for three or four years.

PA-NGAN. BURM. A compact white wood of Amherst, used for boats and oars, and for making musical instruments. It seems to be Gmelina arborea.—*Captain Dance.*

PANGLIMA GAJAH. MALAY. The first word means a governor or superintendent, and the other elephant. The office of superintendent of elephants at a Malay court was one of considerable dignity.—*Journ. Ind. Arch.*

PANGOLIN, ant-eater; manis.

Badjar-kita, . . BENG.	Tarang-giling, . . MALAY.
Ling-li, ... CHIN.	Pang-giling, . . ,,
Tanggilin, . . . MALAY.	Arialer, ... TEL.

The pangolin of India, belonging to the order Edentata, gets its Indian name from its Malay designation. The genus is common to Africa and S.E. Asia, and in India is not rare, though, from their habit of appearing abroad after sunset, they are not often seen. Manis Javanica of Desmarest inhabits the Malayan Peninsula, Penang, Borneo, and Java. M. pentadactyla, *Linn.*, is found in several parts of India. This species has been known ever since the expedition of Alexander the Great, and is mentioned by Ælian under the name *φατταγη*.

Manis pentadactyla, *Linn., Blyth.*

Pholidotus Indicus, *Gray.*	M. brachyura, *Erxleb.*
Manis crassicaudata, *Gray, Gr.*	M. laticaudata, *Illiger.*
	M. inaurita, *Hodgson.*
M. Macroura, *Desmarest.*	Pangolinus typus, *Less.*
Shalma, . . . BAORI.	Kaulimah, . . MAHR.
Keyot-mach, . . BENG.	Kowli-manjra, . ,,
Kat-pohu, . . . ,,	Kassoli manjur, ,,
Ling-li, ... CHIN.	Alangu, ... MAL.
Ban-rohu, . . . DUKH.	Bajar-kit, SANSK., HIND.
Sillu, Sal, Salu, . HIND.	Bajrz-kapta, ,, ,,
Sukun-khor, . . ,,	Alawa, ... TEL.
Armoi, ... KOL.	

Indian scaly ant-eater of all India.

Manis aurita, *Hodg., Blyth.*

Pholidotus dalmanni, *Gr.*	M. leucura, *Hodg.*
M. Javanica, *Bly.*	M. dalmanni, *Saunder.*

The Sikkim scaly ant-eater is met with in Harpeh, Kiangnan, and the southern Chinese provinces. It is dark coloured, more than 2 feet long, and covered on the back, limbs, tail, and every part of the body, except the belly, with moveable imbricated scales. The tail is long, and the tongue very mobile. It lives on flies, ants, etc., by catching them upon its outstretched tongue. Sometimes it lies down as if dead, and as the flies collect upon its body, it closes on them with its scales, and, entering the water, feasts upon the prey which floats upon the surface of the water, drowned by the manœuvre. The scales (Chuen-shan-kiah, CHIN.) are roughly triangular, concavo-convex, and marked at the attached end with fine grooves, like those on shell-valves. They are brown and semi-transparent, those of the tail being the finest. They were formerly given in all sorts and conditions of disease, not excluding skin diseases. The principal use at the present time is to scratch itching surfaces, for which purpose they are fixed upon a length of bamboo as a kind of curry-comb. This instrument is largely used amongst the prurient Chinese.—*Tickell; Elliot; Jerdon's Mammals; Wallace's Archipelago; Smith's Chin. Mat. Med.*

PANGONG LAKE, in Ruthog or Rudok, in

lat. 33° 43′ N., is 85 miles long, and about 3 miles in average breadth. The area is 250 square miles. The water is clear and extremely salt, and 142 feet at greatest depth. The Rudok country lies to the east of Ladakh and Rukchu. The lake stretches about 80 miles from east to west, the whole length of the country, at an elevation of 14,200 feet above the sea. The area of Rudok is 4800 square miles, and its mean height 14,500 feet. It seems to have had originally an outlet at its north-west extremity, discharging itself along the valley of Tankatse into the Shayuk. Tso-mo-ri-ri lake appeared to Moorcroft to be deeper and less clear than the lake of Pangong. It contained no fish, and was not much frequented by wild-fowl; the taste of the water was brackish. Gerard afterwards visited this lake, which he calls Chuinonenil; he places it at an elevation above the sea of 15,000 feet, and observes that, whilst it is fed by several considerable streams, it has no efflux, and is kept at its level entirely by evaporation.—*Moorcroft's Travels*, ii. p. 51; *Cunningham; Thomson.*

PANGONG-TSO. The Changpa is a semi-nomade tribe near the Pangong-tso pass. They dwell in their grazing grounds under huts (gal-kol) made of yak's hair. The people there call themselves Bhot.

PANGSHURA, a genus of fresh-water tortoises, family Emydidæ. P. tecta, P. flaviventer, and P. Smithii occur in Bengal, and P. tentoria in the Indus. See Chelonia; Reptiles.

PANIANI, a river on the Malabar coast, in lat. 10° 46¾′ N., navigable for small vessels.

PANICACEÆ, the grass tribe of plants; the Graminaceæ of Lindley, an exceedingly numerous order, comprising both land and water plants, but no marine ones. They occur in every soil, alone or along with other plants, and from the frigid zone to the tropics. Many tropical grasses are, like the bamboos, of considerable size, rising 50 or 60 feet high. It was estimated by Voigt that the grasses in the East Indies are 1300 in number. The grasses at the foot of the Himalaya form a jungle sufficiently high to conceal the elephant and the rhinoceros, and, in ascending the Himalaya, species of plants are met with of the same genera as found in proceeding from the equator to the poles, and many of the pasture grasses of Europe form the grassy sward of the Himalaya. The temperature of the cold-weather months of the East Indies is the most favourable for the growth of the cereal grasses, and cattle are fed on the green or dry stalks of the Paspalum stoloniferum; Panicum miliaceum, helopus, miliare, Italicum, setigerum, repens, colonum; Penicillaria spicata; Sorghum vulgare, cernuum, saccharatum; Andropogon Martini; Rotböllа glabra; Hordeum hexastichon; Triticum æstivum.

As a rule, however, the horses are fed on the creeping stems and leaves of the durba grass, Cynodon dactylon. The principal of the Paniceæ of Eastern and Southern Asia are as under:—

B. Paniceæ, *Nees.*

Paspalum stoloniferum, *L.*, cultivated.
Helopus annulatus, *Nees*, Bengal.
H. filiculmis, *Nees*, Bengal.
H. longifolius, *Roxb.*, Sumatra.
H. longiflorus, *Retz*, Bengal.
Coridochloa cimicina, *Nees*, Peninsula of India.
Urochloa panicoides, *Beauv.*, Bengal.
Panicum Ægyptiacum, *Retz*, cultivated.
P. asperatum, *Kth.*, Sumatra.
P. acariferum, *Trim.*, Garrow, Khassya.
P. costatum, *Roxb.*, Mauritius.
P. crus-corvi, *Linn.*, Bengal.
P. curvatum, *Linn.*, Peninsula of India.
P. commutatum, *Nees*, Bengal.
P. corymbosum, *Roxb.*, Coromandel.
P. filiforme, *Roxb.*, China.
P. flavidum, *Retz*, Bengal.
P. fluitans, *Retz*, Bengal.
P. helopus, *Trim.*, Bengal.
P. hispidulum, *Retz*, Bengal.
P. helvolum, *Linn.*, Bengal.
P. Italicum, *Linn.*, cultivated.
P. interruptum, *Willde.*, Bengal.
P. jumentosum, *Pers.*, Guinea grass.
P. lineare, *Linn.*, China.
P. miliaceoides, *Roxb.*, —?
P. miliaceum, *Willde.*, cultivated.
P. miliare, *Lam.*, cultivated.
P. macrochætum, —? Bengal.
P. Nepalense, *Spr.*, Nepal.
P. orthum, —? Bengal.
P. paludosum, *Roxb.*, Bengal, Circars.
P. patens, *Linn.*, Bengal.
P. repens, *Roxb.*, Bengal.
P. Roxburghii, *Spreng*, Bengal.
P. setigerum, *Retz*, Bengal.
P. serrulatum, *Roxb.*, India.
P. sarmentosum, *Roxb.*, Sumatra.
P. sanguinale, *Linn.*, cultivated.
P. stagninum, *Retz*, Bengal.
P. trigonum, *Retz*, Bengal.
P. tomentosum, *Roxb.*, Peninsula of India.
P. uliginosum, *Roxb.*, Bengal.
P. verticillatum, *Linn.*, cultivated.
Setaria Germanica, *Beauv.*
Oplismenus lanceolatus, *Kth.*, Bengal.
O. Burmanni, *Rom. and Sch.*, Bengal.
O. colonus, *Kth.*, Bengal.
O. frumentaceus, *Roxb.*, Bengal.
O. strictus, *Schultz*, Bengal.
Stenotaphrum dimidiatum, *W. and A.*, Pen. of India.
Trachys muricata, *Pers.*, Coromandel.
Penicillaria spicata, *Willde.*, cultivated.
P. involucrata, *Schultz*, Coromandel mountains.
Pennisetum barbatum, *Schultz*, Moluccas.
P. holcoides, *Schultz*, mountains of India.

C. Saccharæ, *Nees.*

Sorghum vulgare, *Pers.*, cultivated.
S. bicolor, *Willde.*, cultivated.
S. cernuum, *Willde.*, cultivated.
S. saccharatum, *Pers.*, cultivated.
Chrysopogon acicularis, *Hort.*, cultivated.
C. filiformis, —? Bengal.
Imperata cylindrica, cultivated.
Saccharum spontaneum, *Linn.*, Arabia, E. Indies.
S. fuscum, *Roxb.*, Bengal.
S. semidecumbens, *Roxb.*, Bengal.
S. officinarum, *Linn.*, cultivated.
S. Sinense, *Roxb.*, cultivated.
S. procerum, *Roxb.*, Bengal.
S. sara, *Roxb.*, Bengal.
S. munja, *Roxb.*, Bengal.
S. canaliculatum, *Roxb.*, Bengal.
S. violaceum, *Tussac*, cultivated.
Batratherium lanceolatum, *Schultz*, Coromandel.
Lipocercis serrata, *Trim.*, Bengal.
Heteropogon contortus, *Beauv.*, Peninsula of India.
H. tenellus, *Schultz*, Bengal.
Spodiopogon semisagittatus, —? Bengal.
S. conjugatus, —? Bengal.
S. geniculatus, —? Bengal.
Vossia procera, *Wall.*, Bengal.
Andropogon muricatus, *Retz*, all India.
A. cymbarius, *Linn.*, Coromandel mountains.
A. prostratus, *Linn.*, Peninsula of India.
A. arundinaceus, —? Bengal.
A. schœnanthus, *L.*, all India.
A. Martini, *Roxb.*, all India.
A. Iwarancusa, *Blane*, North India.
A. nardus, *Rottl.* —? South India, Timevelly.
A. glaber, *Roxb.*, Bengal.

A. punctatus, *Roxb.*, Bengal.
A. Bladhii, *Retz*, Bengal.
A. pertusus, *Willde.*, Bengal.
A. scandens, *Roxb.*, Bengal.
A. trispicatus, *Schultz*, Bengal.
A. Roxburghianus, *Schultz*, Bengal.
A. conjugatus, *Roxb.*, Bengal.
A. binatus, *Retz*, Bengal.
A. miliformis, *Schultz*, Lucknow.
Anthistiria ciliata, *Retz*, Konkans.
A. polystachya, *Roxb.*, Bengal.
A. scandens, *Roxb.*, Bengal.
A. heteroclita, *Roxb.*, Bengal.
Apluda aristata, *Linn.*, Bengal.
A. geniculata, *Roxb.*, Bengal.

D. Rotbölleæ, *Nees.*

Ischæum aristatum, *L.*, Bengal, Peninsula of India.
I. rugosum, *Salis.*, Bengal, Peninsula of India.
Hemarthria compressa, *R. Br.*, Bengal, Pen. of India.
Thyridastachyum perforatum, *Nees*, Bengal, Pen. of Ind.
Ophiurus corymbosus, *Gærtn.*, Peninsula of India.
Rotbölla exaltata, *Linn.*, East Indies.
R. glabra, *Roxb.*, Bengal.
Peltophorus granularis, *Beauv.*, East and West Indies.
P. myurus, *Beauv.*, Coromandel.
Oropetium thomœum, *Trin.*, Peninsula of India.
Zoysia pungens, *Willde.*

E. Olyreæ, *Nees.*

Zea mays, *L.*, cultivated.
Coix lachryma, *Linn.*, East Indies.
C. barbata, *Roxb.*, British India.
C. gigantea, *Kon.*, Circars, Bengal.
C. aquatica, *Roxb.*, Serampur.
C. heteroclita, *Roxb.*, Serampur.
C. pumila, *Roxb.*, Mauritius.

F. Phleæ.

Hygroryza ciliata, *Nees*, Bengal.
Perotis latifolia, *Ait.*, Peninsula of India.
Polypogon maritimus, *D. C. N.*, North India.
Sporobolus diander, *R. Br.*, Bengal.
S. tenacissimus, *E. and W.*, Indies.

H. Stipeæ, *Nees.*

Chætaria hystrix, *Beauv.*, Peninsula of India.

I. Oryzeæ, *Nees.*

Oryza sativa, *Linn.*, cultivated.
Potamochloa Retzii, *Griff.*, Bengal, Peninsula of India.

K. Pappophoreæ, *Kth.*

Pommereulla cornucopiæ, *Linn.*, Coromandel.
Chloris barbata, *Swz.*, Bengal, Peninsula of India.
Cynodon dactylon, *Pers.*, all India, Europe.
C. filiformis,—? Peninsula of India, Bengal.
Microchloa setacea, *R. Br.*, Peninsula of India.
Dactyloctenium Ægyptiacum, *Beauv.*, Tropical America, Africa, all India, Moluccas.
Arachne verticillata, *W. and A.*, Peninsula of India.
Eleusine coracana, *Gærtn.*, cultivated.
E. stricta, *Roxb.*, cultivated.
E. Indica, *Gærtn.*, cultivated.
E. calycina, *Roxb.*, Coromandel.

M. Aveneæ, *Nees.*

Avena sativa, *Linn.*, cultivated.
A. fatua, *Linn.*, North-West India.

N. Arundineæ, *Nees.*

Donax arundinaceus, *Beauv.*, S. Europe.
Ampdidonax Bengalensis, *Nees*, Bengal.
A. karka, *Lindley*, Peninsula of India, Bengal.
A. bifaria, *Lindley*, Peninsula of India, Bengal.

O. Triticeæ, *Nees.*

Hordeum vulgare, *Linn.*, cultivated.
H. hexastichon, *Linn.*, cultivated.
H. distichon, *Linn.*, Tartary.
Triticum vulgare, *Vill.*, cultivated.
T. *var.* α. æstivum, cultivated.
T. β. hybernum, cultivated.
T. campestre, *Kit.*, Hungary.
T. spelta, *Linn.* —?
Secale cereale, *Linn.*, cultivated.

P. Festuceæ, *Nees.*

Poa nutans, *R. and Sch.*, Coromandel, Bengal.
P. diarrhena, *R. and Sch.*, Peninsula of India.
P. viscosa, *Retz*, Peninsula of India.
P. Abyssinica,—? Abyssinia.
P. plumosa, *Retz*, Moluccas, Peninsula of India.

PANICACEÆ.

P. elegantula, *Kth.*, Bengal.
P. unioloides, *Retz*, Bengal, Peninsula of India.
P. Roxburghiana, *Schultz*, Bengal.
P. paniculata, *Roxb.*, Bengal.
P. Gangetica, *Roxb.*, Bengal.
P. annua, *Linn.*, North Africa, Caucasus.
P. pratensis, *Linn.*, Europe, Caucasus.
P. trivialis, *Linn.*, Europe, Caucasus.
P. cylindrica, *Roxb.*, Canton.
P. tenella, *Linn.*, Peninsula of India, Bengal.
P. punctata, *Linn.*, Bengal.
P. multiflora, *Roxb.*, Bengal.
P. cynosuroides, *Retz*, Egypt, Pen. of India, Bengal.
P. Chinensis, *Retz*, Peninsula of India, Bengal.
Briza, *Linn.*, species.
Cynosurus echinatus, *Linn.*, Caucasus, England.
C. cristatus, *Linn.*, Central Provinces.
Festuca, *Linn.*, species.
Bromus, *Linn.*, species.

Q. Bambuseæ, *Nees.*

Arundinaria callosa, *Munro*, Himalaya.
A. debilis, *Thw.*, Ceylon.
A. elegans, *Kurz*, Martaban.
A. Griffithiana, *Munro*, Khassya.
A. falcata, *Nees*, Himalaya.
A. Hookeriana, *Munro*, Sikkim.
A. intermedia, *Munro*, Sikkim.
A. Japonica, *S. and Z.*, Japan.
A. Khassiana, *Munro*, Khassya.
A. racemosa, *Munro*, Sikkim.
A. sub-erecta, *Munro*, Himalaya.
A. Wightiana, *Nees*, Neilgherry.
Thamnocalamus Falconeri, *Hook.*, Nepal.
T. spathiflorus, *Munro*, Himalaya.
Phyllostachys bambusoides, *Sieb.*, Mishmi hills.
P. nigra, *Munro*, China, Japan.
Bambusa affinis, *Munro*, Martaban.
B. arundinacea, *Willde.*, mountains of Asia.
B. balcooa, *Roxb.*, Bengal.
B. Beecheyana, *Munro*, China.
B. Brandisii, *Munro*, Chittagong, Burma.
B. Falconeri, *Munro*, Bengal, Assam.
B. flexuosa, *Munro*, China.
B. gigantea, *Wall.*, Burma.
B. Khassiana, *Munro*, Khassya.
B. marginata, *Munro*, Tenasserim.
B. nana, *Roxb.*, China.
B. nutans, *Wall.*, Nepal.
B. orientalis, *Nees*, S. India.
B. pallida, *Munro*, Bengal, Assam.
B. polymorpha, *Munro*, Burma.
B. regia, *Thompson*, Tenasserim.
B. spinosa, *Roxb.*, Bengal —?
B. teres, *Ham.*, Bengal, Assam.
B. tulda, *Roxb.*, Bengal, Burma.
B. vulgaris, *Wendl.*, cultivated.
Gigantochloa Andamanica, *Kurz.*
G. auriculata, *Kurz.*
G. heterostachya, *Munro*, Malacca.
G. macrostachys, *Kurz.*
Oxytenanthera albociliata, *Munro*, Burma.
O. monostigma, *Beddome*, Animallay.
O. nigro-ciliata, *Munro*, Malabar, Burma.
O. Stocksii, *Munro*, Konkan.
O. Thwaitsii, *Munro*, W. Ghats.
Melocanna bambusoides, *Trin.*, E. Bengal to Tenasserim.
M. humilis, *Kurz*, Arakan, Pegu.
M. Kurzii, *Munro*, Andamans.
Centotheca lappacea, *Desv.*, Coromandel.
Cephalostachyum capitatum, *Munro*, Sikkim.
C. latifolium, *Munro*, Bhutan.
C. pallidum, *Munro*, Mishmi hills.
C. pergracile, *Munro*, Burma, Pegu.
Pseudostachyum compactiflorum, *Kurz*, Martaban.
P. Helferi, *Kurz*, Burma.
P. polymorphum, *Munro*, Sikkim, Assam.
Beesha Rheedii, *Kth.*, Pen. of India, Chittagong mts.
B. stridula, *Munro*, Bombay, Ceylon.
B. Travancorica, *Beddome*, Travancore, Tinnevelly.
Dendrocalamus criticus, *Kurz*, Pegu.
D. flagellifer, *Munro*, Malacca.
D. giganteus, *Munro*, Tenasserim.
D. Hamiltonii, *Nees*, Sikkim.
D. Hookeri, *Munro*, Assam.

D. longispathus, *Kurz*, Burma.
D. membranaceus, *Munro*, Martaban.
D. Parishii, *Munro*, Panjab —?
D. sericeus, *Munro*, Chutia Nagpur.
D. strictus, *Nees*, India, Burma.
Denochloa Andamanica, *Kurz*, Andamans.
D. Maclellandii, *Kurz*, Burma.
D. tjankorreh, *Bueshse*, Java, Philippines.

The structure of the grasses is among the most simple of the perfect forms of vegetation. A stem clothed with alternate leaves whose stalks are thin, and constituting as many sheaths to guard the young and rapidly growing shoots; a few rudimentary leaves collected at the ends of the branches of inflorescence, and constituting flowers; a very small number of stamens, and seed enclosed in a thin pericarp,—are all that nature provides to enable these plants to preserve their race. The floral leaves, called glumes, paleæ, and scales, offer a prodigious number of different appearances, according to the manner in which they are combined or modified.

The distribution of the cultivated grasses is determined not alone by climate, but depends also on the civilisation, industry, and traffic of the people, and often on historical events. Within the northern polar circle, agriculture is found only in a few places. In Siberia grain reaches at the utmost only to 60°, in the eastern parts scarcely above 55°, and in Kamtschatka there is no agriculture even in the most southern parts (51°). The grains which extend farthest to the north in Europe are barley and oats. In the milder climates these are not used for bread, but they afford to the inhabitants of the northern parts of Norway, Sweden, and a part of Siberia their chief vegetable nourishment. Rye is the prevailing grain in the south of Sweden, Norway, and Denmark, and in all the lands bordering on the Baltic, and the north of Germany. In the latter, another very nutritious grain, buckwheat, is very frequently cultivated. In the zone where rye prevails, wheat is generally to be found, barley being here chiefly cultivated for the brewing of beer, and oats supplying food for the horses. To these there follows a zone in Europe and Western Asia where rye disappears, and wheat almost exclusively furnishes bread. The middle and the south of France, England, part of Scotland, a part of Germany, Hungary, the Crimea, and Caucasus, also the lands of Central Asia, where agriculture is followed, belong to this zone. Here the vine is also found; wine supplants the use of beer, and barley is consequently less raised. Next comes a district where wheat still abounds, but no longer exclusively furnishes bread, rice and maize becoming frequent. To this zone belongs Portugal, Spain, part of France, on the Mediterranean, Italy and Greece; further, the countries of the east, Persia, Northern India, Arabia, Egypt, Nubia, Barbary, and the Canary Islands; in these latter countries, however, the culture of maize or rice towards the south is always more considerable, and in some of them several kinds of sorghum and Poa Abyssinica come to be added. In both these regions of heat, rye only occurs at a considerable elevation; oats, however, more seldom, and at last entirely disappear, barley affording food for horses and mules. Wheat is cultivated to great heights in the Himalaya, it being one of the chief crops up to 9500 feet on the Chenab, and occurring to 1500 feet on the Sutlej, good to 11,500 feet, and grown to 13,000 feet in Ladakh. Zea mays grows up to 7500 and 8000 feet on the Chenab and Ravi; Eleusine coracana is frequent up to 6000 and 7000 feet. Hordeum is cultivated on the Sutlej to 13,500 feet and 15,000 feet, and on the Chenab and in Ladakh and Lahoul at 8000 and 14,500 feet. But even rice is abundantly grown throughout the Siwalik tract and up the valleys at an elevation in places of 6000 or even nearly 7000 feet; Paspalum at 6000 feet; and on the plains of India many of these, wheat, sorghum, barley, are cold-weather crops.

Pastures.—Upon the slopes of the Himalaya there are found abundance of good nourishing pastures, admirably adapted to the requirements of cattle and sheep, and upon which many herds and flocks are reared when the dry season forces them from the plains below. Throughout the flat countries, and spread over vast tracts of indifferent soil, we meet with grasses, or rather herbage, in sufficient abundance, but generally either coarse and poor, or rank and distasteful to animals. In swampy or sterile plains these reedy grasses often fail to tempt even the coarse-feeding buffalo and rhinoceros; and it is a common practice amongst all the Indian villagers at the end of the dry season to set fire to such tracts, on which the long withered herbage readily ignites, and after the first monsoon showers furnishes a rapid and abundant supply of young sweet blades. In some parts of India, especially near the larger towns, it is customary to cut grass for hay as fodder for horses during the excessively dry months.

Besides grain, camels and elephants are fed upon the leaves of various trees. The goats, sheep, and cattle are pastured upon what are called the waste land, or the jungles of the villages; the last are fed also upon chopped straw, and the stalks of the joar (Sorghum vulgare), cut into small pieces; while horses, besides pulses, are fed upon grass brought in by men called grass-cutters, but who rather scrape off the ground the creeping stems and young leaves of the grass called Doob or Durba, or Hariali (the Cynodon dactylon of botanists). This grows throughout the year, is fortunately the most common species throughout India, and succeeds particularly well in the northern parts, where lawns and pastures of moderate extent are made by planting pieces of its creeping stems. It is also much used for forming a covering for the banks of rivers, ramparts, and esplanades. A very nourishing grass, possessing a powerful aromatic odour, is met with on the elevated lands above the ghats of the south, as well as in the North-West Provinces. So strong are its aroma and flavour, that the flesh, milk, and butter of the animals feeding upon it become in time sensibly affected both in taste and smell.

Throughout India, the pasture lands are everywhere left to nature; there is generally a right of common pasturage, and there is nothing to prevent the village cattle from roaming at discretion. The first step, therefore, towards the improvement of grass lands must be the establishing and keeping up a strong and sufficient fence.

The principal of the Indian grasses, and perhaps the most generally diffused, is the Doob grass (Cynodon dactylon), a creeping plant possessing much nourishing property in its long stems no

less than in its leaves. This endures the greatest elevation of temperature, as its roots penetrate far below the surface; and although during the dry monsoon giving no signs of life, it puts forth its tender leaves on the first approach of the rains. The Cynodon dactylon or Hariali grass of India is occasionally grown from seed. Root creeping through the loose sand, with strong fibres at the nodes. Stem rarely exceeding 6 inches in height, creeping to a considerable extent, matted, very smooth. Florets, all on one side of the spike-stalk, awnless, purplish, and ranged in two close alternate rows. All the stems which lie near the ground take root, and by this means, though an annual plant, it increases and spreads very wide. It yields abundance of seed, of which small birds are very fond. It has been found a successful plan to allow the seed to ripen before the hay is cut, as it then propagates itself by the seeds, in addition to the runners. This grass is also found in Great Britain, but in that country its produce and nutritive properties are comparatively insignificant, while in India it constitutes three-fourths of the pasture. Respecting this grass, Sir W. Jones observes (As. Res. iv. 242) 'that it is the sweetest and most nutritious pasture for cattle, and its usefulness, added to its beauty, induced the Hindus, in their earliest ages, to believe that it was the mansion of a benevolent nymph.' Even the Veda celebrates it, as in the following text of the A't'harvana: 'May Durva, which rose from the water of life, which has a hundred roots and a hundred stems, efface a hundred of my sins, and prolong my existence on earth a hundred years.'

On the table-lands of the East Indies, most of the food of man is obtained from the millets; but in the low lands, in the eastern parts of the temperate zone of the old continent, in Further India, China, and Japan, northern kinds of grain become unfrequent, and rice is found to predominate. The cause of this difference between the east and the west of the old continent appears to be in the manners and peculiarities of the people. In North America, wheat and rye grow as in Europe, but more sparingly. Maize is more reared in the western than in the old continent, and rice predominates in the southern provinces of the United States. In the torrid zone, maize predominates in America, rice in Asia; and both these grains in nearly equal quantity in Africa. The cause of this distribution is without doubt historical, for Asia is the native country of rice, and America of maize. There are numerous grasses common in India which cattle delight in, but the greater number of these flourish most in the rainy season. Their rapid growth, and the great height they attain, as well as their withered and dry nature towards the close of the year, soon, however, unfit them for pasture grasses. For pasturing sheep, the table-land from Coimbatore to Kandesh, and the provinces from Gujerat to Hurriana and Saharunpur, seem suited. But the Himalayas, enjoying a temperate climate and a European-like vegetation, have also abundant and excellent pasturage. During the rainy season, when the temperature is moist but equable, the Himalayas have many grasses resembling those in the plains. These are associated with others belonging to European genera, which are able to withstand the winter's cold; so that throughout the year, nearly, there is abundant pasturage in the neighbourhood of the Himalayan villages. Of this the inhabitants avail themselves, by driving their herds of cattle and flocks of goats and of sheep to different ranges and elevations, according to the season of the year. The sward upon these mountains is short and thick, and very closely resembles that which is met with on the mountains of Scotland and Wales. Dr. Royle, in his Illustrations of the Botany of the Himalayan Mountains, has mentioned that these grasses belong to such genera as agrostis, fox-tail grass, cat's-tail, meadow grass, fescue, cock's-food, bent grass, oat grass, and others.

Guinea Grass has been cultivated in India and Ceylon. When well manured and kept clear of weeds, it grows most luxuriantly, and admits of being cut every six weeks or two months. A small patch near Colombo, which, beginning with about three-quarters of an acre, gradually extended to above an acre and a half, for seven or eight years supplied three or four milch cows and from five to seven horses continually with all the grass required for their consumption, and latterly left a surplus, which was dried for bedding and hay. When first planted it frequently attains a height of even nine feet; and a stalk taken promiscuously from a small patch planted about the year 1857 in Combaconum, measured 10 feet 4½ inches in length; but when cut two or three times it grows thicker, but not so high. It is exceedingly excellent feeding for horses and cattle, and is generally preferred by them to the ordinary country grass, though horses which are hard worked seem to prefer the Cynodon dactylon grass roots supplied by the grass-cutters.

Sugar is a product of one of the grasses. It exists in great quantities in the sugar-cane (Saccharum officinarum), and species of saccharum are val[illegible]ed in India for rope-making and thatching. The boatmen of the Indus universally employ the moonja (probably Saccharum moonja) as a tow-ing-rope and for the rigging of their vessels, i[illegible]n all places above Sukkur, two-inch ropes, often fifty fathoms in length, made of moonja fibres, l[illegible]eing sufficient for dragging their largest or 1200-m[illegible]aund boats up the Indus, against the full force of the stream. The rope is also light, so advantag[illegible]eous for rigging, and bears without injury alte[illegible]rnate exposure to wet and to subsequent drying,—both qualities being essential for a tow-rope. The upper leaves, about a foot or so in length, are preferred, are collected into bundles, and ke[illegible]pt for use.

The moonja of Hindustan (Saccharum m[illegible]onja) is collected after the rainy season and kept f[illegible]r use, as it is employed in tying up their cattle at night and for ropes for their Persian wheels. It is said also to be one of the grasses employed for making tow-ropes by the boatmen about Benares. The shur or sara of Bengal (Saccharum sara), or the pen-reed grass, is employed by the boatmen about Allahabad and Mirzapore, and esteemed as a tow-line for its strength and durability, even when exposed to the action of water. It is said to be beaten into a rude fibre, and then twisted into a rope. The sacred grass of the Hindus, the dab or koosha of the Brahmans (Poa cynosuroides), is also made into rope in N.W. India.

Several indigenous grasses are employed for making mats, baskets, ropes, sacks, nets, and sails.

Species of the bamboo are numerous, and the inhabitants use them for all the purposes to which in Europe wood is applied, and to many of those for which the metals are utilized.

Closely connected with the subject of the pasture grasses is that of providing green food for horses, camels, and elephants, and one to which little attention has been paid, though the supply has much diminished in the neighbourhood of towns and large stations. To this Dr. Wallich called attention in his evidence before the Committee of the House of Commons in 1832, stating that for any number of animals, either for conveyance or for consumption, any quantity of food might be produced in the utmost possible abundance in India, but suggested that a more ready and plentiful supply of food for elephants and camels should be provided, by planting those trees (such as particular Indian fig-trees) which form the staff of life for them, and which are extremely easily cultivated. In the Madras Presidency, considerable exertions were made about the year 1796, in everywhere planting what was called the bastard cedar (Guazuma ulmifolia) as green food for cattle (Royle's Productive Resources of India). The need for care on this point increases with the extending cultivation; rye-grass and clover grow well in upland districts in India, and when sown fresh have been found to answer admirably on the Shevaroy, Pulney, Baba-Booden, and Neilgherry hills. In Gujerat, the cultivators feed their cattle on the sweet stalks of the joari and bajra.

The Prangos hay plant grass of Tibet was found by Mr. Moorcroft to be employed both as winter fodder for sheep and goats, and frequently for neat cattle. Writing from the neighbourhood of Draz, he described the plant as producing fatness in a space of time singularly short, and likewise as being destructive to the river fluke; he therefore justly concluded that it would be an invaluable acquisition to any country. When once in the possession of the ground, for which the preparation is easy, it requires no subsequent ploughing, weeding, manuring, or other operation, save that of cutting and of converting the foliage into hay. Though abundant in various directions, the Kashmirians do not esteem it of any value, and Dr. Falconer is of opinion that its importance had been much over-estimated, in consequence of its being the only food in many of the bleak and barren tracts of Tibet. In Kashmir, where, far from a deficiency of herbage, there is actually a superabundance of pasture grasses, it is necessarily much less esteemed. The Prangos will therefore most probably be a valuable acquisition only in countries devoid of good natural pasturage, and of which the climate is favourable to its growth.—*Dr. Cleghorn's Grasses; Moorcroft, Tr.* p. 179; *Royle, Pro. Res.; Royle, Ind. Fibres; Schouw in Jameson's Edinburgh Philosophical Journal*, April 1825; *Spry's Suggestions.*

PANICHENKERNY LEWAY, in Corle Pattoo in Ceylon; a bed of salt formed on it by an inroad of the ocean.

PANICKEA, elephant hunters at Eraoor, in Ceylon, who snare them with a noosed rope. They are Muhammadans.—*Tennant.*

PANICUM, the millet genus of grasses of the order of Panicaceæ. Species of the genera Eragrostris, Panicum, Pennisetum, Poa, Rotböllа, Saccharum, and Vilfa are the grasses of the Doab. The seeds of Panicum Italicum, miliaceum, miliare, and sanguinale are used as food for man. Cattle are fond of P. commutatum, helopus, jumentosum, and setigerum, as grasses. The genus contains a very large number of species, which abound in the hot parts of the world, and a few extend to higher latitudes and ascend the cool mountains of hot countries. They are valuable as pasture grasses, and for their seeds, which form a large portion of the food of the poorer classes of many nations. Some of the species of Panicum of the Brazils are of gigantic stature, and yet tender and delicate in their herbage. The Coapim de Angola of Brazil grows 6 or 7 feet high, and other equally gigantic species constitute the field crops on the banks of the Amazon; while P. jumentosum, or Guinea grass, forms the most valuable pasture for cattle in Jamaica.

Panicum brizanthum, *Hochstetter*, from Abyssinia to Nepal, a large-grained perennial millet grass.

Panicum commutatum, *Nees.*

Panicum ciliare, *Roxb.*	Changali gaddi, . TEL.
Makur-jalee, . . . HIND.	Chenggali gaddi, . ,,

Cattle are very fond of this grass.

Panicum compositum, *Linn.*, of S. Asia, E. Australia, Polynesia, and New Zealand, a soft-bladed prolific grass, valuable for forest ground.

Panicum flavidum, *Retz.*

P. brezoides, *Roxb.* .	Burti . . of the DEKHAN.

Cattle are fond of it.

Panicum frumentaceum, *Roxb.*

Shama, ... BENG.	Soak, ... KANGRA.
Kathlee, ... DEKH.	Phyamaka, . . . SANSK.
Sanwa, Bajri, . . HIND.	Saou, Shamoola, . SIND.
Damra-shama, . . ,,	Bonta shama, . . . TEL.

A wholesome and nourishing grain used by the poorer classes. There are several varieties of it, which yield from 50 to 60 fold; it delights in a light, tolerably dry, rich soil; the same ground yields two crops between the first of the rains in June—July and the end of January, in the Circars, but only one crop in the Northern Provinces.

Panicum helopus, *Trin.*

P. hirsutum, *Kon.*	Oplismenus hirsutus, *Sch.*
P. Konigii, *Spr.*	Jalgantee, . . . BENG.

Cattle are very fond of it.

Panicum Italicum, *Linn.*, Italian millet.

Setaria Italica, *Beauv.*	Pennisetum Italicum, *R. B.*
Dokhn, ... ARAB.	Shali, Pingi, . . . KASH.
Kangni, Kunju, BENG., HD.	Tenna, Navaria? MALEAL.
Navanay, ... CAN.	Arzun, Gal, . . . PERS.
Salan, Kauni, Shalu, CHEN.	Prayingu, Kungu, SANSK.
Ralla, ... DUKH.	Kerang, Kora-kang, SIND.
Kang, Kora kang, . GUJ.	Tanahal, . . . SINGH.
Kora, Kala-kangni, HIND.	Kusht, Shak, of SUTLEJ.
Chiurr, Kher, . JHELUM.	Tennay, Kora, TAM., TEL.

This millet is grown in India and Europe. Seeds small, roundish, straw-coloured; pericarp brittle, with a round and partially pellucid grain, alimentary. The grain is prized by the natives of India, who make cakes of it and also prepare it as porridge. For the purposes of pastry it is very little inferior to wheat, and when boiled with milk, forms a light and pleasant meal for invalids. It is grown in abundance in the southern part of Europe, particularly in Portugal, where it is termed Mitho Painco. It is rarely grown in the Panjab plains, but is commonly cultivated in the Himalaya, occasionally up to 6500 feet.

Panicum jumentosum, *Pers.*, the Guinea grass,

has been cultivated to a small extent in India and Ceylon. When well manured and kept clear of weeds, it grows luxuriantly, and admits of being cut every six weeks or two months. A small patch near Colombo, which, beginning with about three-quarters of an acre, was gradually extended to about an acre and a half, for seven or eight years supplied three or four milch cows and from five to seven horses continually with all the grass required for their consumption, and latterly left a surplus, which was dried for bedding and hay. When first planted it frequently attains a height of even 9 feet; and a stalk taken promiscuously from a small patch planted in Combaconum measured 10 feet 4½ inches in length; but when cut two or three times it grows thicker, and not so high. It is excellent feeding for horses and cattle, and is generally preferred by them to the ordinary country grass, though horses which are hard worked seem to prefer the dry grass roots of the Cynodon dactylon supplied by the grass-cutters. It should not be given to cattle fresh, but the supply for one day should be cut the day previous, and it should not be cut too close to the ground, but the stalk ought to be left 7 to 9 inches high. It is a good plan to move the ground between the roots every time the grass is cut, and the ground should be heavily manured after every three or four cuttings. It is very hardy, and may be easily propagated. It requires abundant moisture, but will not live in a soil which is at all marshy. It answers best planted in small tufts 1 foot 9 inches to 2 feet apart, which rapidly spread into stools from 6 inches to 1 foot in diameter.

Panicum miliaceum, *Willde.*, common millet.

Cheena, . . Beng., Hind.	Tsedze . . of Ladakh.
Chamy, Navonay, . Can.	Arzan, ... Pers.
Anne, Cheenee, Chenab.	Shamaka, . . . Sansk.
Salan, ... ,,	Unoo, Veehib heda, ,,
Shu, ... Chin.	Rad . . . of Sutlej.
Waree, Shamakh, Dukh.	Varugu, Wargoo, . Tam.
Kegros, ... Gr.	Varaga, Varagalu, . Tel.
Savee, Cheena-wari, Hind.	Samalu, ... ,,
Cheenwa, . . . Kash.	

This is a well-known millet, cultivated in the south of Europe and in tropical countries. There are two varieties, one brown, the other yellow coloured. In the south of Europe, as well as in India, it forms a portion of the food of the inhabitants. In the latter country it is cultivated in the cold weather with wheat and barley, and it is the only one of the small grains that is so grown at the cold season of the year. It is imported into Britain from Salonica and Kaffa, for feeding cage-birds and poultry; when husked, it is used as food in puddings. In the Sutlej valley, between Rampur and Sungnam, it grows at an elevation of 6000 to 9000 feet. In the middle regions it is one of the chief crops.

Panicum miliare, *Lam.*

Kungoo, . . . Hind.	Nella-shama, . . . Tel.
Kutkee . . of Multan.	Shamaloo, ... ,,

This is cultivated in Europe and S. Asia; seeds oval, slightly compressed, brilliant, about a line in length. In India generally cultivated on an elevated rich soil; the seed is one of the sorts of dry or small grain which forms an article of diet of the Hindus who inhabit the higher lands, and cattle are fond of the straw. Alimentary, but the pericarp is with difficulty separated from the grain; chiefly used in a kind of gruel or bouillie. Does not appear to be common in the Panjab, but Edgeworth mentions it at Multan.

Panicum semiverticillatum, *Rott.*, Lupta, Hind. This grain is inferior to several of those hitherto mentioned, and is eaten by the poor people in the districts in which it is cultivated, such as Coimbatore and other dry grain countries.

Panicum setigerum, *Retz*, Bura galgantee, Hind. Cattle are fond of it.

Panicum spectabile. Indigenous to Adelaide, Australia; grows luxuriantly in dry and stony places, is both sweet and succulent, readily eaten by cattle, and therefore well worthy of introduction into India.—*Ainslie; Cleghorn's Panj. Rep.; Mr. Caldwell, in litteris; O'Sh.; Spry's Suggestions; Stewart's Panjab Plants.*

PANIGRAHANA. Sansk. Hindu marriage; part of the ceremony consisting of the bridegroom taking the bride's hand.

PANINI, a Sanskrit grammarian who founded the present system of Sanskrit. He is the most celebrated of those grammarians whose sutras have come down to us, though he himself mentions many who preceded him. According to Bunsen (iii. p. 565) and Bohtlink, he lived B.C. 350, but Dowson names the 6th or 4th century B.C., and Garrett says no time more definite can be fixed than prior to the era of Sakya (B.C. 543); while Weber thinks that he lived after the date named by Bunsen. Mr. Garrett says that Panini was a native of the village of Salatura, N.W. of Attock, in the country of Gandhara, from which he is sometimes called Salaturiya. He is described as a descendant of Panin and grandson of Devala; his mother's name was Dakshi, and he bears the metronymic of Daksheya. His grammar consists of eight Adhyaya or books, each comprising four Pada or chapters, each chapter containing a number of sutra or aphoristic rules. The sutra amount on the whole to 3996. The rules of Panini were criticised and completed by Katyayana, who seems to have been the teacher and contemporary of Patanjali, who again criticised Katyayana. These three authors are the grammarians of India, and in literary merit their works excel all the grammatical productions of other nations.

The grammar is called Paniniyam. It is the standard authority on Sanskrit grammar, and it is the most original of all the productions of the Hindu mind. It is in the form of sutras. It stands supreme among the grammars of the world, alike for its precision of statement and for its thorough analysis of the roots of the language and of the formative principles of words. By employing an algebraic terminology, it attains a sharp succinctness unrivalled in brevity, but at times enigmatical. It arranges, in logical harmony, the whole phenomena which the Sanskrit language presents, and stands forth as one of the most splendid achievements of human invention and industry.—*Garrett; Dowson; Bunsen*, iii. p. 565; *Imp. Gaz.*

PANIONIUM, says Herodotus, is a sacred place on Mycale, situate towards the north, which, by the universal consent of the Ionians, is consecrated to the Heliconian Neptune. Mycale is a promontory projecting itself towards Samos. On this mountain the Ionians assemble from their different cities to celebrate the Panionia. A bull was usually offered in sacrifice to Neptune, and if he

bellowed during the performance of the rite, it was accounted an auspicious omen, as such a sound, resembling the roaring of the sea, was held to be particularly acceptable to the ocean king.—*Milner's Seven Churches of Asia*, pp. 76, 77.

PANIPAT, an ancient town in lat. 29° 23′ N., long. 77° 1′ 10″ E., in the Kurnool district of the Panjab, 53 miles N.W. from Dehli, with a population in 1868 of 25,276. It has been supposed by some to be one site on which the Kuru and Pandu chiefs contended about 1300 years before the Christian era, and it has repeatedly since then been made the battle-field on which contests have been held for supremacy over India. The emperor Baber, in his fifth and last expedition into India, led an army of 12,000 men from Kābul; he encountered and completely defeated the emperor Ibrahim Khan, Lodi, at Panipat, 20th April 1526; and in May, Dehli yielded to him without resistance, and he soon after reduced to his power all the provinces of the empire. The emperor Akbar, grandson of Baber and son of Humayun, had to defend his claim to India against Hemu, the Hindu general of Sultan Adili. Hemu, on the death of Humayun, advanced with 100,000 men against Akbar, who, at Panipat, met Hemu, completely defeated him, and took him prisoner; and, while bleeding from his wounds in Akbar's tent, Bahram Khan struck off the captive's head, 5th Nov. 1556. The next decisive battle here was fought 6th Jan. 1761, when Ahmad, the Abdalla, king of Kābul, inflicted a crushing blow on the Mahrattas, which indirectly cleared the way for the establishment of British supremacy. The Mahratta power was then at its zenith. Their frontier extended on the north to the Indus and the Himalaya, and on the south nearly to the extremity of the Peninsula; all the territory within those limits that was not their own paid tribute. They had a well-paid and well-disciplined army of cavalry, with 10,000 disciplined infantry, and a good train of artillery. Ragoba, brother of the ruling peshwa, was commanding their forces in the North-West Provinces, and in 1758 he occupied the whole of the Panjab. But in the year 1759, Ahmad Shah returned to Hindustan, and fell on and almost destroyed the detached force of Dataji Sindia, and the force under Mulhar Rao Holkar was overtaken and nearly destroyed by a body of Ahmad's army. These failures led to Ragoba resigning the command to Sedasheo Rao, Bhao, a cousin of Balaji Rao, Peshwa. The Bhao was naturally haughty and overbearing, proud of the new greatness of his family, and puffed up by recent success into an overweening confidence in his own abilities both as a soldier and a statesman. He came to the north of India accompanied by Wiswas Rao, the peshwa's youthful son and heir-apparent, and by all the great Mahratta and Brahman chiefs without exception. Whatever the nation possessed, either of power or magnificence, was brought forth to give weight to Sedasheo Rao, Bhao. Many Rajput detachments were sent to join him as he advanced, and Suraj Mull is said to have reinforced him with a body of 30,000 Jat. The Daurani army had been many months in India, and were occupying Dehli with a small garrison. Sedasheo Rao took this city and its citadel with little difficulty, and he plundered whatever of value the Persians and Afghans had left. Whilst the Mahrattas were advancing and occupying Dehli, Ahmad Shah was forming alliances with Najib-ud-Dowlah and the Rohillas, and with Shuja-ud-Dowlah, viceroy of Oudh. Ahmad Shah remained encamped at Anupshahr, on the frontiers of Oudh, till near the close of the rainy season of 1760, when he set out for Dehli, and, between fording and swimming, crossed the Jumna near Cunjpura (25th October 1760), which made so great an impression on the Mahrattas, that they hastily removed to Panipat, where they threw up works round their camp, encompassed by a broad and deep ditch, and protected by their numerous artillery. The numbers in the two armies are not accurately known. The Bhao's force seems to have consisted of 50,000 cavalry in regular pay, with at least 15,000 predatory Mahratta horse, and 15,000 infantry, of whom 9000 were disciplined sepoys under Ibrahim Khan Gardi, a Muhammadan deserter from the French service. He had 200 guns, with numerous wall pieces, and a great supply of rockets, which was a favourite weapon of the Mahrattas. These troops, with their numerous followers, made the numbers within his lines amount to 300,000 men. Ahmad Shah had about 40,000 Afghans and Persians, 13,000 Indian horse, and a force of Indian infantry estimated at 38,000, partly Rohilla, but the great majority a rabble of foot-soldiers. He had also about 30 pieces of cannon of different calibres, chiefly belonging to his Indian allies, and a number of wall pieces. Ahmad Shah also encamped and threw up lines round his army. Govind Rao Bundela appeared in the rear of the Daurani camp with 10,000 or 12,000 horse, which spread over the country in the Mahratta manner so as to intercept all supplies. But Attai Khan, the grand vizir's nephew, made a march of sixty miles, surprised Govind Rao's camp about daybreak, and completely destroyed his force, Govind Rao himself falling in the action. And now the Mahrattas began to feel the severest want, having entirely eaten up and consumed the town of Panipat, which was within their lines. For two months there were skirmishes, and the Mahrattas thrice made attacks on the Daurani lines. Ahmad Shah had pitched a small red tent in front of his entrenchment, to which he repaired every morning. He was on horseback the whole day, visiting his posts, reconnoitring, and never rode less than fifty or sixty miles a day. At night he placed a picket of 5000 horse as near as he could to the enemy, while other parties went the round of the whole encampment. In the Mahratta camp the distress for supplies became intense. They sent out a foraging party, with innumerable camp followers, to endeavour to bring in some relief; but the helpless crowd was discovered by the Daurani force, and slaughtered in prodigious numbers. On this the chiefs and soldiers surrounded the Bhao's tent in a body, and urged that it was better to run any risk in the field than to perish in misery. The Bhao agreed to their wish for battle; they all partook of the betel-leaf, and swore to fight to the last, and orders were given to make the attack the next morning before daybreak. Early in the morning the Daurani spies brought intelligence that the Mahrattas were getting under arms, and Ahmad was roused. He soon appeared on horseback, and ordered out his own troops, himself advancing till he saw the Mahratta army coming on slowly and regularly,

with their artillery in front. Ahmad Shah drew up his army opposite, and himself took post at his little red tent, which was now in rear of his line. The artillery was not much employed by the Muhammadans, and the practice of the Mahrattas was inefficient. The actual engagement was begun by Ibrahim Khan Gardi, who ordered his battalions to charge with the bayonet. Their attack fell on the Rohillas, who were broken with prodigious slaughter. Their defeat exposed the right of the grand vizir, who commanded the centre of the Daurani line, and who was now charged by the Bhao and Wiswas Rao with the flower of the Mahratta army. In this charge, Attai Khan, the vizir's nephew, was killed by his side, and the Daurani troops were forced to give ground, but he himself dismounted, and, with the few that were near him, determined to die at his post. As the din of battle suddenly ceased, Casi Rao was sent by Shuja-ud-Dowlah to inquire the cause. Casi Rao found the vizir on foot in full armour in an agony of rage, reproaching his troops for quitting him, and endeavouring to reform his ranks. Ride to Shuja-ud-Dowlah, said he to Casi Rao, and tell him if he does not support me immediately I must perish. But Shuja-ud-Dowlah, though he kept his ground, did not venture to take part in the action. Ahmad Shah had observed these transactions, and ordered up a reserve to support the vizir. The advantage remained with the Mahrattas until Ahmad, after rallying the fugitives, and ordering all who refused to return to be cut down, gave orders for an advance of his own line, and at the same time directed a division on his left to wheel up and take the Mahrattas in flank. This manœuvre was decisive; for though the closest combat was raging in the centre where the Bhao and Wiswas Rao were engaged on horseback, and where they fought on both sides with spears, swords, battle-axes, and even daggers, yet 'all at once, as if by enchantment, the whole Mahratta army turned their backs, and fled at full speed, leaving the field of battle covered with heaps of dead.' The victors pursued in every direction for fifteen or twenty miles with the utmost fury, and, as they gave no quarter, the slaughter was immense. A large portion of those who escaped the Daurani arms were cut off by the peasants, and great numbers who fell into the hands of the Daurani were massacred in cold blood. Ahmad Shah, instigated by Najib-ud-Dowlah, ordered a search for Jancoji Sindia, who had been concealed by a Daurani chief, and was made away with to avoid detection. He also compelled Shuja-ud-Dowlah to deliver up Ibrahim Khan Gardi, sent for him into his presence to reproach him, and then gave him over to the grand vizir to be confined, but he died of his wounds within a week. The body of Wiswas Rao was found, and a headless trunk, supposed to be that of the Bhao. The whole number of the slain is said to have amounted to near 200,000. Almost all the great Mahratta chiefs were killed or wounded, except those who had been left with a force at Dehli, and Mulhar Rao Holkar, who was accused of having early left the field. Madhaji Sindia was permanently lamed, and Nana Farnavis narrowly escaped by flight. The battle was fought on the 6th January 1761 (Jamadi-us-Sani, A.H. 1174). Grief and despondency fell on all the Mahratta nation. The wreck of the army retired south of the Nerbadda, evacuating almost all their acquisitions in Hindustan. The Peshwa Balaji Rao retreated slowly to Poona, where he died in a temple that he had erected. From that time the power of the Brahman peshwas never rallied, but was re-transferred to the Mahratta chiefs of the houses of Sindia of Gwalior, Holkar of Indore, the Gaekwar of Baroda, and the Bhonsla rajas of Nagpur.—*Elphinstone's Hist. of India; Cal. Rev.* Jan. 1871; *Malcolm's Cen. India; Wheeler's Hist. of India; Rennell's Memoir; Asiatic Researches.*

PANIR. HIND. Cheese. Panir-gar, a cheese-maker. Panir-maya, rennet.

PANIR or Panirbad. HIND. Withania coagulans, called Akri, a small shrub with light-coloured leathery leaves, which is common west of the Indus and along the Salt Range (to 4500 ft.), and occurs in the Southern Panjab, generally near houses or fields, seldom in the real desert. The Afghans use its berries for curdling milk to make cheese, whence its Persian name Panirbad. The seeds are considered stomachic about Peshawur, and they probably possess anodyne or sedative properties. In home practice they are given to children for colic, are used in veterinary medicine, and are sold in most bazars. Honigberger states that the bitter leaves of this plant are given as a febrifuge by the Lohani.—*Powell; Stewart.*

PANJ. PERS. Five; the five fingers. Panjah, with the Shiah Muhammadans, an alam or standard, the extended hand carried on a pole in the Maharram. Panj-i-Mariam, Cyclamen Europæum. Panj-tan, with Muhammadans, the five holy persons,—Mahomed, Ali, Fatima, Hasan, Husain.

PANJAB, a frontier province in the extreme N.W. of British India, lying between lat. 27° 39′ and 35° 2′ N., and long. 69° 35′ and 78° 35′ E. It is partly British territory, comprising the revenue districts of Dehli, Hissar, Ambala, Jullundhur, Amritsar, Lahore, Rawal Pindi, Multan, the Dehrajat, and Peshawur, and partly Native States, 56 in number, in feudatory alliance, or politically connected with British India. The area of these two divisions is 141,449 square miles, with a gross population in 1881 of 22,712,120.

British Districts, 106,632 sq. m. Pop. 1881, 18,850,437
Native States, . 35,807 ,, ,, 3,861,683

The Imperial Gazetteer enumerates the Native States for 1868 as under. A part only of the Panjab Census Report of 1881 has been received up to the time (August 1883) of this passing through the press:—

	Sq. M.	Pop.		Sq. M.	Pop.
Kashmir and Jammu,	79,784	1,534,972	Keuthal and Ratesh,	116	50,000
Patiala,	5,412	1,586,000	Baghal,	124	22,000
Jind (Jheend),	985	190,475	Baghat,	36	10,000
Nabha,	804	226,155	Jubbal,	288	40,000
Bahawulpur,	15,000	500,000	Kumharsain,	90	10,000
Chamba,	3,216	130,000	Bhajji,	96	19,000
Pataudi,	50	20,990	Mailog,	48	9,000
Loharu,	285	19,800	Balsan,	51	6,000
Dujana,	100	27,000	Dhami,	26	5,500
Maler Kotla,	164	91,650	Kuthar,	20	4,000
Kalsia,	168	68,910	Kunhiar,	8	2,500
Sirmur (Nahan),	1,096	90,000	Mangal,	13	800
Kahlur (Bilaspur),	448	60,000	Bija,	4	800
Bashahr,	3,320	90,000	Darkuti,	8	700
Hindur (Nalagarh),	256	70,000	Taroch,	67	10,000
			Sangri,	16	700
			Kapurthala,	620	258,372
			Mandi,	1,000	145,939
			Suket,	420	41,126
			Faridkot,	600	68,000

The Panjab proper, the country of the Five Rivers, was conquered by the British from the successors of Ranjit Singh. By a treaty with that sovereign of the Panjab, Ranjit Singh, dated 26th April 1809, he undertook not to make or allow any encroachment on the states on the left bank of the Sutlej. The largest of these were Patiala, Jheend, Nabha, Kalsia, Maler Kotla, and Faridkot.

In 1838, Ranjit Singh formed one of the triple alliance with the British and Shah Shuja, but he died in 1839. In 1840, his son and his grandson both died by violence, to be succeeded by Sher Singh, who was assassinated in 1843, after which great anarchy prevailed, which, after two years of desolation, terminated in an invasion of the E.I. Company's territory. On the 11th December 1845, the Sikh army crossed the river Sutlej, and marched on to the British head quarters at Moodkee, where, 18th Dec., an engagement ensued, which lasted from three o'clock in the afternoon until after nightfall, when the Sikhs were driven from the field. Three days afterwards they renewed the attack at Firozshah, fought till the close of the day and all through the night, and were only at length driven back after a frightful sacrifice of life (21st and 22d Dec.). But scarcely had the victors congratulated each other on their success, when a fresh Sikh army advanced, and the British remained masters of the field only after great exertions. The Sikh army had only retired across the river, and they renewed the strife at Aliwal on the 28th January 1846, where they were defeated with an immense loss in killed and wounded; and another sanguinary engagement on the 10th February at Sobraon terminated this eventful war.

Lord Harding acted towards the Panjab ruler with moderation. He might have annexed the entire Panjab, but he contented himself with taking the old Sikh provinces S.E. of the Sutlej, and the hill country lying between the Beas and the Indus; and his successor, Lord Dalhousie, had to do what Lord Harding had left undone, and the Sikhs were defeated, on the Chenab at the close of 1848; at Chillianwalla, January 1849; and at Gujerat, 22d February 1849. The entire dominions were incorporated with those of British India on the 29th March 1849, and on the 1st January 1859 the territory was erected into a separate department under a Lieutenant-Governor.

The Panjab on the north has Kashmir (Cashmere) and the hill states of Swat and Buner; it is bounded on the east by the river Jumna (Jamuna), the North-West Provinces, and the Chinese Empire; on the south by Sind, the river Sutlej (Satlaj), and Rajputana; and on the west by Baluchistan and independent tribes dwelling along the outer face of the north-west Panjab frontier, and inhabiting hills as under:—

Adjoining the frontier of Hazara district, Hasanzai.
Adjoining frontier of Peshawur district, Judun, Bunerwal, Swati, Ranizai, Osman Kheli, Upper Mohmand.
Adjoining frontier of Peshawur and Kohat districts, Afridi.
Adjoining frontier of Kohat district, Buzoti, Sepah, Orakzai, Zymusht Afghan, Turi.
Adjoining frontier of Kohat and Dehra Ismail Khan districts, Waziri.
Adjoining frontier of Dehra Ismail Khan district, Sheorani, Oshterani, Kusrani, Bozdar.
Adjoining frontier of Dehra Ghazi Khan district, Khutran, Kosah, Lughari, Gurchani, Murree, Bugti.

The Muhammadan tribes within the frontier, and British subjects inhabiting partly hills and partly plains, are:—

Hazara district, Turnooli, Gukar, Doond and Sutti, Kaghan, Syuds, and others.
Peshawur district, Yusufzai, Khalil, Mohmand of the plains.
Peshawur and Kohat districts, Khatak.
Kohat district, Bangash.
Dehra Ismail Khan district, Bunnochi, Murwuti, Butani, Chiefs of Tank, Chiefs of Kolachi, Chiefs of Dehra Ismail Khan, Nutkani, Lund.
Dehra Ghazi Khan district, Dreshuk, Mazari.

The Panjab or Five River territory of the Muhammadan administrators comprised only the tract of country enclosed and watered by the confluent streams of the Sutlej, the Beas, the Ravi, the Chenab, and the Jhelum. With the Muhammadans the capital was, as now, Lahore, in the centre of the province; but, under British re-arrangement of the revenue districts, the province now includes Dehli, a more populous city, which was long the ancient metropolis of the Moghul dynasty.

In the extreme west, where the Suliman Hills form a great barrier, the Trans-Indus tract forms the first natural division of the Panjab province. Its northernmost portion consists of the Peshawur valley, encircled by mountains, through which the Kābul river flows down to join the Indus at Attock; together with the hilly district of Kohat, a wild outlying mass of salt-bearing ranges, traversed by minor tributaries of the great river. Its southern half comprises the Dehrajat, a long strip of barren country lying between the Suliman mountains and the Indus, and forming parts of Bannu and Dehra Ismail Khan districts, together with the whole of Dehra Ghazi Khan. The entire length of this narrow belt consists, on the west, of a fertile submontane fringe, merging in the centre into a waterless desert, and sinking eastward into the fruitful lowlands of the Indus. The province also includes the isolated Himalayan valleys of Kangra, Kullu, Lahul, and Spiti, and the glens of the Hazara frontier among the outliers of the main Central Asian system of the Hindu Kush.

The Panjab must always have been the line which tribes and races followed in migrating to the south-east. The East Aryans in their migrations towards India came through the Panjab, and the oldest Vedas contain their records while dwelling there. Their emigrations into the Indus country occurred about B.C. 4000, and the opening to the Vendidad describes the succession of the foundation of 14 kingdoms, the last and most southern of which being this land of the Five Rivers, the Panjab.

Alexander the Great of Macedon came by way of Bactria and the Hindu-raj pass, crossed the Indus near Taxila, identified by General Cunningham with the ruins of Shah Dheri in the Rawal Pindi district. He found there great warlike tribes, each with a purely republican constitution, and on one occasion he treated with 300 deputies of a tribe, who seem to have been elected and sent as delegates of the people. The best account of them is at page 300 of Heeren's volume on the Persians (Campbell, p. 8). After receiving the adhesion of Mophis or Taxiles, king of that city, he advanced with little resistance to the banks of the Hydaspes or Jhelum. Effecting the passage

of the river at Jalalpur, in the Jhelum district, he encountered the army of Porus (Purusha) at Mong, in Gujerat, and defeated the Indian monarch with a loss of 12,000 slain, Porus himself being taken prisoner, but restored by Alexander to his entire kingdom. The conqueror halted for a month in the neighbourhood of the Hydaspes, and founded two cities, Nikaia and Bukephala; after which he overran the whole Panjab as far as the Hesudrus or Sutlej. The refusal of his troops to proceed farther from home compelled him to fall back once more upon the Hydaspes, where he embarked on board a fleet to sail down the Indus. The only opposition he met with was from the Malli, who occupied the modern district of Multan. At the siege of their capital, he received a severe wound, in revenge for which he put every person within the walls to the sword.

The Greek brigades in the Panjab were placed first under Philip, while the civil administration of the country remained in the hands of the native princes, Taxiles and Porus. Afterwards, on the murder of Philip by the mercenary soldiers, Alexander (Anabasis, vi. 2; vii.) directed Eudemos and Taxiles to govern the country until he should send another deputy. It is probable, however, that the Greeks continued to retain the charge; for after Alexander's death, in B.C. 323, Eudemos contrived, by his general Eumenes, to make himself master of the country by the treacherous assassination of king Porus (Diodorus, xix. 5). Some few years later, in B.C. 317, he marched to the assistance of Eumenes, with 3000 infantry and 5000 cavalry, and no less than 120 elephants. With this force he performed good service at the battle of Gabiene. But his continued absence gave the Indians an opportunity not to be neglected; and their liberty was fully asserted by the expulsion of the Greek troops and the slaughter of their chiefs. (Justin, xv. 4—'Præfactos ejus occiderat;' again, 'Molienti deinde bellum adversus præfactos Alexandri.') Chandragupta was present when Porus was murdered, and he became the leader of the national movement, which ended in his own elevation to the sovereignty of the Panjab. Justin attributes his success to the assistance of banditti. (Justin, xv. 4—'Contractis latronibus Indos ad novitatem regni solicitavit.') But in this Col. Cunningham thinks he has been misled by a very natural mistake; for the Aratta, who were the dominant people of the Eastern Panjab, are never mentioned in the Mahabharata without being called robbers. (Lassen, Pentapot Indica—'Aratti profecto latrones,' and 'Bahici latrones.') The Sanskrit name is Arashtra, the 'kingless,' which is preserved in the Adraistæ of Arrian, who places them on the Ravi. They were the republican defenders of Sangala, or Sakala, a fact which points to their Sanskrit name of Arashtra, or 'kingless.' But though their power was then confined to the Eastern Panjab, the people themselves had once spread over the whole country:—'Ubi fluvii illi quini . . . ibi sedes sunt Arattorum' (Lassen, Pentapot Indica, from the Mahabharata). They were known by the several names of Bahika, Jarttika, and Takka; of which the last would appear to have been their true appellation; for their old capital of Taxila or Takka-sila was known to the Greeks of Alexander; and the people themselves still exist in some numbers in the Panjab hills. The ancient extent of their power is proved by the present prevalence of their alphabetical characters, which, under the name of Takri or Takni, are now used by the Hindus of Kashmir and the northern mountains, from Simla and Subathu to Kābul and Bamian. On these grounds, Major Cunningham identifies the banditti of Justin with the Takka, or original inhabitants of the Panjab, and assigns to them the honour of delivering their native land from the thraldom of a foreign yoke. This event occurred most probably about 316 B.C., or shortly after the march of Eudemos to the assistance of Eumenes. It was followed immediately by the conquest of Gangetic India (Justin, xv. p. 4), and in 316 B.C. the rule of Chandragupta was acknowledged over the whole northern Peninsula, from the Indus to the mouths of the Ganges. According to Colonel Tod, the Yavan, or Greek princes, who apparently continued to rule within the Indus after the Christian era, were either the remains of the Bactrian dynasty, or the independent kingdom of Demetrius or Apollodotus, who ruled in the Panjab, having as their capital Sagala, changed by Demetrius to Euthymedia. Beyer says, in his Hist. Reg. Bact., p. 84, that according to Claudius Ptolemy there was a city within the Hydaspes yet nearer the Indus, called Sagala, also Euthymedia; but he scarcely doubts that Demetrius called it Euthymedia from his father, after his death and that of Menander. Demetrius was deprived of his patrimony, A.U.C. 562. Sagala is conjectured by Col. Tod to be the Salbhanpura of the Yadu, when driven from Zabulisthan, and that of the Yuchi or Yuti, who were fixed there from Central Asia in the fifth century, and if so early as the second century, when Ptolemy wrote, may have originated the change to Yutimedia, the 'Central Yuti.' Numerous medals, chiefly found within the probable limits of the Greek kingdom of Sagala, either belong to these princes or the Parthian kings of Minagara on the Indus. The legends are in Greek on one side, and in the Sassanian character on the reverse. The names of Apollodotus and Menander have been deciphered, and the titles of 'Great King,' 'Saviour,' and other epithets adopted by the Arsacidæ, are perfectly legible. The devices, however, resemble the Parthian. These Greeks and Parthians must have gradually merged into the Hindu population.

Towards the commencement of the Christian era, this part of India appears to have been overrun by successive hordes of Scythians, whom some mighty revolutions in Tartary had expelled from their native seats. The Chinese historians say that about a century before this era, the Yuti (Gete or Jit), who occupied a vast country between China and the Tian Shan, or the Celestial Mountains, were, after many sanguinary wars, expelled by the Heung-noo, or Hun, and forced into the countries of the Oxus and Jaxartes, whence they extended themselves to Afghanistan and the borders of India. The Indus was only a temporary barrier, and they appear to have occupied the whole country of the Five Rivers. These conclusions, heretofore formed from meagre historical evidence, have been confirmed by the discovery of coins of Panjab rulers, whose names, Azes and Azilises, have no affinity with Greek or Hindu nomenclature, and denote a barbarian

origin. The great Indian sovereign, Vikramaditya, expelled the Scythian princes from the Panjab, and his era, called the Samvat, B.C. 56, is supposed to commence from a great victory obtained by him over the barbarians in that country, which completed his conquest of all Hindustan. His empire, however, fell to pieces after his death, when new hordes of Scythians overran the Panjab, and established, about B.C. 20, a dynasty of kings bearing the name of Kadphises. Coins of these kings have been recovered, and their barbarous effigies clearly distinguish them from Greeks or Hindus. This dynasty is supposed to have reigned throughout the whole of the first century of our era, when it was subverted by a fresh swarm of Scythians, under the Kanerki kings. Between the dynasties, however, there is evidence, from the testimony of Apollonius Tyaneus, related by Philostratus, that a Græco-Parthian king named Phraotes reigned in the Panjab, which fact is supported by coins of Undopherres and Gondophares, both called in the Aryan legends upon the coins. The power of the Kanerki kings in the Panjab must have continued for some centuries, for in the topes or tumuli which have been opened in that country, Kanerki coins have been found along with those of Kadphises and other predecessors of the race, mixed with coins of the Sassanian monarchs of the third and fourth centuries of our era. That these Scythian invaders continued to pour into and occupy the Panjab, is a fact attested not only by Fa Hian, a Chinese traveller in India, early in the fifth century (who crossed the Five Rivers, and found Buddhism prevalent in that country), but by an inscription found by Colonel Tod in a temple near Kota, in Rajputana, dated A.D. 409, which contains a memorial of a Jit prince of Salpura, at the base of the Siwalik mountains. Colonel Tod considers it to be proved beyond a doubt, 'that these Jit princes of Salpura, in the Panjab, were the leaders of that very colony of the Yuti from the Jaxartes, who in the fifth century, as recorded by De Guignes, crossed the Indus, and possessed themselves of the Panjab.' Various indications appear in the Rajput annals of their conquests and settlements in this country, even as far as the Jhelum. In more modern times, the country has been held by Mahmud's successors, Chengiz Khan, Timur, Baber; Humayun, and his successors, Nadir Shah, Ahmad Shah, Ranjit Singh, and the British.

The population of the Panjab is now of a varied character. As a highway through which invading and immigrant races sought to pass, most of them left portions of their number there, and its people are of Scythic, Aryan, Arab, and Mongoloid origin; and the census of 1872 enumerated the tribes as under:—

Christians, 23,554, viz.—	
European,	17,574
Eurasian,	3,379
Asiatic,	2,601
Muhammadans—	
Syud,	212,540
Moghul,	99,026
Pathan, viz.—	
Yusufzai,	98,727
Khatak,	72,723
Mohmand,	29,159
Bangash,	31,774
Khalil,	18,363
Daudzai,	16,843
Muhammadzai,	26,537
Kamalzai,	845
Saddozai,	5,443
Allezai,	3,752
Popalzai,	586
Orakzai,	1,852
Waziri,	12,350
Labani,	69,971
Baluch, viz.—	
Lughari,	15,890
Bozdar,	1,642
Mazari,	5,885
Lund,	7,887
Kosa,	14,665
Dreshuk,	4,449
Kasrani,	4,958
Rajputs, viz.—	
Bhatti,	156,151
Chib,	9,909
Janjua,	21,303
Tiwana,	1,482
Siyal,	47,197
Gheba,	9,537
Rangar,	121,109
Muhammadan converts—	
Jat,	1,309,399
Gakkar,	27,683
Dhand,	26,414
Sati,	11,498
Kharal,	28,815
Karāl,	17,329
Kathia,	2,715
Wattu,	18,217
Meo,	130,385
Mina,	45
Gujar,	424,095
Paracha,	12,784
Khojah,	54,969
Kashmiri,	230,853
Hindus, 6,125,460, viz.—	
Brahman,	800,547
Khatri,	384,829
Rajput, hills,	213,163
Rajput, plains,	121,129
Banya,	267,953
Arora,	477,269
Bhatia,	26,543
Kayath,	14,273
Sudh,	17,799
Labanah,	47,690
Jat,	1,876,091
Tagah,	9,212
Gujar,	112,319
Ahir,	112,488
Kamboh,	57,181
Kalal,	26,405
Kaneyt,	86,269
Ghirath,	115,257
Chang,	50,796
Sikhs,	1,129,319
Buddhist and Jain—	
Bhoti,	278
Bhabrah,	14,091
Other Asiatics, viz.—	
Parsee,	414
Sansi,	40,869
Bavria or Baoriah,	19,141
Harni,	3,179

The Chamar were included amongst the Hindus and Sikhs, and were 654,406 in number.

At the 1881 census, the total numbers of the religious sects were found to be 22,712,120, as under:—

Muhammadans,	11,662,434
Hindus,	9,252,295
Sikhs,	1,716,114
Jains,	42,678
Christians,	33,699
Buddhists,	3,251
Zoroastrians,	465
Jews,	31
Others,	1,153

The Muhammadans are nearly all of the Sunni sect. Great portions of Hindu and Jat tribes have adopted the Muhammadan religion. The chief non-Hindu or aboriginal tribes are the Baori, Chamar, Changar, Chuhra, Dumna, Dhanak, Dagi, Labana, Mahtam, Meg, Od, and Sansi.

Baluch contribute to the predatory classes; others of the homeless, criminal classes are:—

Aheri,	13,086
Baori,	22,024
Beldar,	3,449
Chamar.	
Changar,	28,886
Chuhra (scavengers).	
Gogra,	3,110
Gurmang.	
Harni,	1,338
Jhabel,	8,063
Kehsal,	1,251
Mina,	1,116
Od,	15,627
Pakhiwar,	4,502
Sansi (gypsies),	21,309
Thori,	10,594

Languages.—Nine languages are current in the Panjab,—English, Hindi, Jataki, Kashmiri, Panjabi, Pushtu, Persian, Sindi, and Urdu or Hindustani. Pure Panjabi is confined to the small number of Sikhs who are settled in the different cities and towns. It is recognised as a dialect of Hindi. The Brij Basha (or Bhaka, as it is pronounced on the Ganges) and the Panjabi are the two most cultivated varieties of Hindi, but the Panjabi passes into Multani, which a good philologist has shown to be a corrupted form of Panjabi; whilst Jataki, again, farther to the south, is a dialectal form of Multani. The educated Muhammadans and many of the Hindus use Persian in their correspondence.

Rivers.—The modern names of the five rivers which give the province its name, are the Jhelum, the Chenab, the Ravi, the Beas, and the Sutlej. They ultimately join the Indus, which is known to the people as the Sind and the Attock, and anciently the Aba-Sin. They are mentioned here in their succession eastward from the Sind or Indus. Each mesopotamia district between two rivers is

called a doab, from Do, two, and Ab, water; and of these there are five, viz. the Jalandhar Doab, between the Sutlej and the Beas; the Bari Doab, between Ravi and the Beas or the Sutlej; the Rechna Doab, between the Ravi and the Chenab; the Chuj Doab, between the Chenab and the Jhelum; the Doab-i-Sind Saugur, between the Jhelum and the Indus. The names of three of the doabs are formed by joining the initial letters of the rivers; thus, between the Beas and Ravi is the Bari Doab; between the Ravi and Chenab is the Rechnab; and that between the Chenab and the Jhelum is the Chuj.

Modern names.	Sanskrit names.	Greek names.
Jhelum or Bihut.	Vitasta.	Hydaspes.
Chenab.	Chandra Bhaga, or Sanda Bhaga.	Ascesines.
Ravi or Rhoas.	Airavati.	Hydraotes.
Beas, Beya, Veya.	Vipasa.	Hyphasis.
Sutlej or Ghara.	...	Hesidrus.

The Panjab rivers are constantly shifting their channels. The Beas has altogether lost its independent course, and is now a mere tributary of the Sutlej. The valley of the Chenab, below Kalowal, is nearly 30 miles broad, and that of the Ravi, near Gujera, is 20 miles, the extreme limits of both rivers being marked by well-defined high banks, on which are situated many of the most ancient cities of the Panjab. Multan was originally situated on two islands in the Ravi, but the river has long ago deserted its old channel, the nearest point of which is now more than 30 miles distant. But during high floods the waters of the Ravi still flow down their old bed, and General Cunningham had twice seen the ditches of Multan filled by the natural overflow of the river.

The rivers are liable to sudden rises. This rise will frequently take place in the course of a day or two, sometimes in a few hours. The Markanda, in the Ambala district, at one time of the year is like an ocean; at another it will be a slender stream, hardly to be called a river. The Indus always contains a large body of water, but even this river is liable to become dammed up in the hills whence it rises; the water then accumulates, and, bursting at length its dams, comes down with terrible force. Once or twice these floods have occurred, giving only a few moments' notice by a sound as of distant thunder, and then coming on with a sweep that spread desolation for many miles.

The chief towns are Attock, Dehra-i-Ghazi Khan, Dehra-i-Ismail Khan, Jalandhar, Jhelum, Kapertalla, Lahore, Leia, Multan, Peshawur. The Panjab has also districts on both sides of the river Sutlej, designated Cis-Sutlej districts east of that river, and Trans-Sutlej states west of that river. In the Cis-Sutlej territory are the districts and towns of Firozpur, Sobraon, Kithul, Ludiana, and Ambala. The Trans-Sutlej states are Hoshiarpur, Dharmsala, and Kangra.

Panjab is a largely manufacturing country, the value of the produce from looms and workshops being estimated in 1871–72 at £4,850,000. Their woollen manufactures are from the exquisitely soft fleeces of Rampur and Kerman, from sheep wool, and from goat and camel hair. Silk is obtained from Afghanistan, Yarkand, Bokhara, Bengal, and China, and manufactured at Amritsar, Lahore, Multan, Bahawulpur, and Jalandhar, and the manufactures valued at £150,000 a-year.

There are about half a million of weavers in Sialkot, Hoshiarpur, Amritsar, Ambala, and Jalandhar. Kyes, loongi, daryai, and other silk manufactures are exported chiefly to Dehli, Amritsar, and Peshawur; and kundla and gold lace work are made largely for local consumption and for export to Multan, Rawal Pindi, and Peshawur. Amritsar town being the commercial capital of the Panjab proper, its trade is carried on with Bokhara, Kābul, Kashmir, Calcutta, Bombay, Sind, Rajputana, the N.W. Provinces, and all the principal marts in the Panjab. Manufactures of pashmina and silk goods give employment to large numbers of workmen. The pashmina goods are manufactured from the fine wool of Tibet, imported through Kashmir, and 4000 looms are engaged in this trade, each of which is worked by two men. The workmen are all Kashmir Muhammadans, and the manufacture is said to have been established since A.D. 1840. The most valuable articles are the Kashmir shawls. The silk manufacture has long been established at Lahore, and has spread from that place to Amritsar, where it is now carried on to about an equal extent.

About half the population are engaged in agricultural pursuits. The most industrious are the Rain, Mali, Saini, Lubana, and Jat. The Rain are diligent, persevering men, and on good land will often sustain three or four successive crops of vegetables, which they produce largely in addition to the grain crops.

The Mali are chiefly gardeners.

The Saini occupy sub-mountain tracts, and grow sugar-cane largely. Their village lands are always in a high state of tillage.

The Lubana or Brinjara are to be found on some waste lands, and are careful and thrifty cultivators. They have many settlements along the right bank of the Ravi.

The Jat, about two millions in number, are conspicuous for their industry, and the wives cheerfully work along with their husbands in all field labour. They grow grain largely, and their well-worked and well-fenced fields can always be distinguished from those of the Syud, Pathan, Brinjara, Brahman, Gujar, Rangar, and the Rajput, the last being the worst, for he considers ploughing beneath him, and will never hold the plough if he can get any Chamar or other low caste man to do it for him.

As a rule, the cultivators do not consume the wheat they produce, but keep it for sale, and subsist on the pulses, barley, and inferior grains.

The plain districts of the Panjab greatly resemble one another in their general physical features, the main difference consists in the fact that some are better irrigated than others, and that some include large tracts of sandy unproductive country, like the desert portion of Multan or Muzaffarnagar. The climate of such districts is hot and sultry; the amount of rain that falls is at its minimum, and cultivation is almost entirely dependent on canals and artificial irrigation. In this respect no doubt these districts differ widely from the rich plains of the Jalandhar and Bari Doabs, where not only do the great rivers fertilize the soil, but the periodical rainy season seldom fails to yield an abundant increase to the summer sown crops of the kharif. The climate is in general characterized by dryness and warmth; little rain falls except in those parts extending

along the base of the Himalaya, and where the south-west monsoon is partially felt. The face of the country presents every variety, from the most luxuriant cultivation to the most sandy deserts, and the wildest prairies of grass and brushwood. A traveller passing through those lines of communication which traverse the northern tracts, would imagine the Panjab to be the garden of India; on the other hand, returning by the road which intersects the central tracts, he would suppose it to be a country not worth annexing. From the base of the hills southward, there stretches a strip of country from 50 to 80 miles broad, watered by mountain rivulets, and for fertility and agriculture unsurpassed in Northern India. In their downward course the rivers spread wealth and fruitfulness on either side, and their banks are enriched with alluvial deposits, and fringed with the finest cultivation. These tracts, though unadorned with trees, and unrelieved by any picturesque features, are studded with well-peopled villages, are covered with two waving harvests in the year, and are the homes of a sturdy, industrious, and skilful peasantry. Within this tract are situated the sister capitals of Lahore and Amritsar, and most of the chief cities, such as Dinanuggur, Buttala, Sealkote, Wazirabad, Gujranwala, Ramnuggur, and Gujerat.

The sloping plain of the Panjab varies in elevation, from 600 to 2000 feet above the sea; Lahore being but 900, and Jhelum about 1600. It declines regularly to the south-western extremity. The soil of the doabs is of varied fertility; generally, it is very sandy, but they are rendered highly productive by irrigation from the rivers which traverse these plains. The rich and fertile tracts that border on the great rivers of the Panjab, extending inland to the centres of the doabs as far as the fecundating influences of their waters are felt, yield annually an abundant harvest of grains of all kinds, and pulse, which form the staple articles of food to the great majority of the population.

The plains of the Panjab may be described as vast expanses of alluvial clay and loam, whose elementary constituents must once have been the same as now form the rocks of the huge ranges of mountains to the north. The principal constituents that produce a variety in the nature of soils, and one which is very important in the Panjab island, in fact the main distinction of soils (apart from that of their containing or not containing 'kalr,' the efflorescent salt), is that the soil is sandy, as in many portions of districts it is, or that it is rich loam and clay.

The districts of Lahore, Gujranwala, Amritsar, Gujerat, Jalandhar, Ludiana, Ambala, Dehli, and Peshawur, are watered districts, whether irrigated by canals, wells, rivers, or abundance of rain, and their soils are chiefly alluvial.

In the Multan, Muzaffarnagar, Shahpur, or Gugaira districts, the soil is arid and sandy, they are not well watered, and the rainfall is small.

The country to the east of the Hydaspes (Jhelum) is open and fertile, but is rugged to the west of that river, and sandy towards the junction of the five rivers.

PANJAH. HIND. A model or drawing of a man's hand with the fingers extended. A representation of this is mounted on a staff by Shiah Muhammadans, and carried in procession in the Maharram as a standard, being supposed by them to represent the hand of Ali, and the extended fingers are said to symbolize Mahomed, Ali, Fatima, Hasan, Husain. They get the names of certain of the martyrs, viz. Panjah-i-Haidar, or Panjah-i-Murtuza Ali. An impression on paper of the open hand is occasionally made as a signature. At Amritsar, in March 1846, when Gulab Singh was formally inaugurated as maharaja of Jummoo, he exhibited the engagement with the lama of Lhassa, drawn out on his part in yellow, and on the part of the Chinese in red ink, and each impressed with the open hand of the negotiators dipped in either colour, instead of a regular seal or written signature. The Panjah, or hand, seems in use in Asia as typical of a convent, and it is moreover a common emblem on the standards of the Eastern Afghans. Hyder Ali, father of Tipu Sultan, is said to have used his hand smeared with ink as his attestation to important documents.—*Cunningham's Sikhs.*

PANJAM. TEL. A class of cotton cloths manufactured in the south of India.

PANJAY TANOBA, a class of slaves in Coorg.

PANJERANG. MALAY. A titular designation of a native chief.

PANJPAI, a section of the Iliaszai Yusufzai tribe in part of the Buner valley.—*H.A.N.W.F.*

PANJSHAHR, a populous valley which affords a communication with Badakhshan. It contains silver mines, which were worked by Abul Fazl.

PANJ-TAN, five holy persons of the Shiah Muhammadans,—Mahomed, Ali, Fatima, Hasan, and Husain.

PANKA or Ganda, a sect of Hindus, followers of Kabir, who is said to have appeared in the weaver caste, in the same country and at the same time as Rai Das, both being disciples of Ramanand, and their doctrines being similar in many respects. They cultivate the land, but they are not generally esteemed as cultivators.

PANKHA. HIND. A fan; a wooden frame and fringe suspended overhead, which, when swung, causes a movement in the air. Palm leaves made into fans.

PANKHI and Namadah are coarse heavy felts, used as blankets.

PANKONG, a lake, 13,930 feet above the sea, in Ladakh in Chinese territory, forty miles long and two to nearly four miles wide.—*Drew.*

PANKTI-PAVANA. This term, rendered 'taking precedence at festivals,' means the purifier of the row, or range, or assembly, that is, Jagaddhara says, in the place where there is food, or, in other words, they were Agra-bhojana, the first served at feast. He also quotes a text, without mentioning his authority, to show that the term implies a Brahman who has read the Yajur, Sama, and Atharava Vedas, and the word is similarly explained by Menu, iii. p. 184.—*Hind. Th.* ii. p. 11.

PAN-LOUN. BURM. In Tavoy, a close-grained red wood, used for building.—*Dr. Wallich.*

PANNA, a native state in Bundelkhand, under a chief, descendant of Maharaja Ch'hator Sal. Its area, 2555 square miles, with a population in 1875 of 183,000, and revenue five lakhs. It is mostly on the table-lands above the Vindhyan ghats. North-east of the town diamonds are found.

PANNA. The standard of Panna under the Peshwa was called the Ankusi rupee, from Ankus, the instrument used by the mahout to guide the elephant; probably a symbol marked on the coin.

PANNAGAL, snake-charmers in the Deva-loka.

PANNAM KALANGOO. TAM. The first shoot from the planted palmyra nut, the germ of the future tree. The people of Southern India and Ceylon have for many hundred years been in the habit of eating this. It is about the size of a common carrot, though nearly white. It forms a great article of food among the natives for several months in the year; but Europeans dislike it, from its being very bitter. Recent experiments have proved that a farina, superior to arrow-root, can be obtained from it, prepared in the same way; and 100 roots, costing 2½d., yield one and a half to two pounds of the flour. In Madras 100 cost 1½d. Pannam Oli are leaves of the palmyra tree, prepared for writing on. Pannam Pallam, fruit of the Borassus flabelliformis. Pannam Kalloo is toddy or palm wine.—*Simmonds' Comml. Products*, p. 376.

PANNI. HIND. Slips of leather for gilding. Pannigar, a leather gilder.

PANNI, a servile caste of Malabar. The Panniar of Malabar are agricultural slaves.

PANNIAR or Punniar, a town in the Maharaja Sindia's dominions, Central India, in lat. 26° 6′ 12″ N., and long. 78° 2′ 2″ E., 12 miles west of Gwalior. On the 29th December 1843, on a rising of the Gwalior army, the British Indian army, under Sir Hugh Gough, defeated them, and took 24 guns.

PANOON, a large tree of Lucknow, grows spontaneously in the Terai; its timber is used for beams, etc.—*Cal. Cat. Ex.*, 1862.

PANORAMA. Panoramic representations of holy places are common in India, in the form of long rolls fixed against a wall in compartments. Scenes from the Mahabharata and Ramayana, in illuminated and embellished portable scrolls, are very frequent; also, in the Western Provinces of India, to meet with a kind of fresco-painting is common upon the walls of gardens or enclosures of tanks, respresenting mythological or historical subjects.

PAN-PATRA. HIND. A cup, often seen figured in the hand of the goddess Devi, or Bhawani, for the purpose, it is said, of receiving the blood of victims.

PAN-SALA, a cell in a Hindu temple or in a Buddhist pagoda, for the residence of the priests.

PAN SAM are Chinese words of salutation by a visitor, meaning, I respectfully request permission to kneel and knock the head.

PANSARI. HIND. A drug-vendor.

PANSEE, a Muhammadan tribe or sect in Yunnan, who about A.D. 1862 rebelled against the Chinese authorities. In A.D. 1863 their own numbers were not over twenty thousand, but their forces soon rose to two or three hundred thousand, among whom were Chinese, Shans, and a few Ka-khyen. In any place that resisted after taking, the old and the adults were slain wholesale, the young men made Musalmans or slaves, the young women only had death exchanged for the harem. The whole of Yunnan fell into their hands, and the Shan states belonging to it accepted their suzerainty, but they exasperated their Shan subjects into open hostility. Their head or king was called Tuwinsin, and resided at Tali. The Vyebeing Bochup was the General and Commissioner in 1863; he conducted hostilities against an army of Chinese, under Leesitagli or Linguanban, in the Nalukan mountains, between Mainla or Kaingai and the Pansee post Mopu, two days from Momiru. The Commissioner of Momiru was Sophusyanjin. The Pansee seem the Panthay tribe, q.v. The Chinese put down the rebellion.

PANSERI, from five, and Ser, a weight or measure of five seers.

PANSH-AGNI. HIND. In Hinduism, five fires,—that is, one towards each cardinal point, close to the devotee, with the sun, on which he constantly looks, over his head; standing with uplifted arm, without aid or support, day and night, feeding on air, immoveable, on his right toe, upon the afflicted earth, etc.

PANSHEN ERDENI, Lama, resides at Tashilumbo, eight days' journey to the west of Lhassa.

PAN SOOPAREE. HIND. From Pan, betel leaf, and Sooparee, areca-nut. In India the handing round of these to visitors is a ceremonial equivalent to the English custom of cake and wine. On taking leave, the ceremonial is various. With the nawabs of the Carnatic, the nawab would put a little atr on the visitor's handkerchief, then sprinkle it with rose-water, then present a rose-bouquet, then a bheri of pan sooparee, and, suspending a garland of jasmine round the neck, shook hands and dismissed the visitor. At the palaces in Hyderabad of the nobles Vikar-ul-Umra, Shams-ul-Umra, and Sir Salar Jung, the host accompanied the guest to the door, and then presented one or more little phials with rose-attar.

PANSWAH or Panshway or Pansi. HIND. A small boat attached to a budgerow, used on the Ganges and Hoogly rivers, with an awning of matting and thatch over the stern. It is a passenger and goods boat, is usually rowed by two or four men, but carries a mast and two sails.

PANT or Punt, amongst the Mahrattas an officer of the state; in the times of the Peshwas, Pant-Pratinidhi meaning representation of the raja, *i.e.* viceroy.

PANTÆNUS, a Christian missionary who penetrated into India in the 2d century. He found and brought to Alexandria, on his return, a copy of the Hebrew Gospel of Matthew, which had apparently been taken there by the apostle Bartholomew.—*Indian Antiquary*, October 1873.

PANTHAY, a Muhammadan sect in the province of Yunnan, in the south-west of China. It is a colloquial corruption from Puthee, which distinguishes Muhammadans from other religions in Burma. The Burmese call them Quayzse, meaning a foreigner. Mr. J. W. S. Wylie erroneously conjectured it to be the same as Hoai-Hoai, the term applied by the Chinese to all Muhammadans, Hoai (Muhammadan) zse (independent). Hoai-zse means Muhammadans independent of Chinese authority. In 1855 they established their independence in Yunnan, but for a few years only. In 1872 they sent an embassy to England. They are a tall, strongly-built, fair-skinned race, with a type of face differing distinctly from the Chinese. They are keen traders, very industrious and enterprising.—*Fytche in B. As. So. Jour.*, 1867.

PAN THEET YA, also Let touk, BURM.?

Vateria Roxburghiana, *Wight.* In Tavoy, a good, white, rough wood, useful for boat-building. Vateria lanceolata?—*Dr. Wallich.*

PANTHER, leopard or pard of the E. Indies; Felis pardus, *Linn.* See Felidæ.

PANTHI. HIND. The follower of any Hindu religious sect, as Aghora Panthi, Kabir Panthi.

PANTHOLOPS HODGSONII, the sous or Tibetan antelope. It rarely comes so far south as Tooskee Lake; its favourite haunts are among the lofty ranges northwards; it is met with in herds. It has two slit-like openings in the groin, forming pouches of a size capable of containing the clenched fist. They are strange appendages, and, like the infra-orbital openings, their uses are not apparent.—*Adams.*

PANTULU is the title of all Vāpari Brahmans, and is given to Teling schoolmasters. It is derived from Pandit, a learned man.

PANTUN. MALAY. Four lines of poetry. See Ber-Beit.

PANUBUR, in the Aru Islands, is a basket measure which may contain half a pikul.

PANWAR-SHADI. HIND. Amongst Hindus in Bengal, a kind of marriage of a female slave to a nominal or vagrant husband, who for a small payment will agree to wed any number of women. Cohabitation rarely follows; and the object of the arrangement is to provide a putative father for any child the woman may bear, by whomsoever begotten, and which then became the property of the owner of the female slave.

PANYALA. BENG. In Behar, the small leaves and shoots of the Flacourtia cataphracta, which resemble rhubarb in flavour, and are used as gentle astringents.—*Simmonds' Dict.*

PAO. LEPCHA. This is a large bamboo, the prevailing plant near the base of the Sikkim valleys; it attains a height of 40 to 60 feet, and the culms average in thickness the human thigh; it is unarmed, deep-green or purplish, and used as a large water vessel. Besides this there are nearly a dozen kinds of bamboo known to the Lepcha. Two species of bill bamboo, 'Payong' and 'Praong' of the Lepcha, replace the 'Pao' of the foot of the hills. The former flowers abundantly, the culms, 20 feet high, being wholly a diffuse panicle of inflorescence. The 'Praong' bears a round head of flowers at the apex of the lofty branches.

PAO. HIND. A quarter. Paola, quarter of a rupee. Paona or Pona, a quarter; when placed before another number, as Pon-do, or Pona-tin, it means a quarter less two or three, *i.e.* $1\frac{3}{4}$ or $2\frac{3}{4}$.

PAO-KIA. CHIN. Takers of a census. The official word used in the Chinese census is Yen-hu, literally fires-doors. Persons called Pao-kia, or chiefs of ten fires, are appointed to collect the numbers of their tithing.—*Yule, Cathay*, i. 117.

PAOPA-DOUNG, an isolated mountain in Burma, which the Burmese regard with some superstitious dread. They say it is impossible to ascend it, and describe it as the dwelling-place of Nats and Bilus.—*Yule*, p. 27.

PAOREE, the civil station of British Garhwal, is 5238 feet above the level of the sea.

PAPA. TEL. An ancient term for a snake.

PAPA, a rush of the Society Islands with which the finer mats are made.

PAPAHA. HIND. An insect which attacks rice.

PAPAIA-OMU or Areoi of the Society Islands, strolling-players, who act their drama or Aamu. Papa-Nayu (Phani-Pati), the dragon-king.—*Montgomery*, p. 94.

PAPAR. HIND. A kind of biscuit. Papargar, a maker of the papar. This is the Pappadam of the English.

PAPAVERACEÆ. *Juss.* The poppy tribe of plants, annual or perennial herbs, rarely undershrubs, with a milky juice, species of which may be thus shown:—

Papaver somniferum, *L.*, Morea, Egypt, E. Indies.
Var. (*a*) album, flowers and seeds white.
(*b*) nigrum, flowers purple, seeds black.
P. Persicum, *Lindl.*, Persia.
P. amœnum, *Lindl.*, N. India.
P. glabrum, *Royle*, Himalaya.
Argemone Mexicana, *Linn.*, all India.

PAPAVER SOMNIFERUM. *Linn.* Poppy.

Var. (*a*) with white seed.	*Var.* (*b*) with black seed.
Khash kash aswad, ARAB.	Banga-pion, . . MALAY.
Pasto, ... BENG.	Bunga madat, . ,,
Mukon, ... GR.	Khash-khash, Kunar, PERS.
Koknar, Post, . HIND.	Chosa, ... SANSK.
	Kasakasa, . . TAM., TEL.

This very important plant, one of the Papaveraceæ, a native of the south of Europe and Asia Minor, was well known to the Greeks, and was cultivated at very early periods on account of its seeds. (Theoph. lib. ix. cap. xiii. ed. Bodæus and Staple, p. 1097.) Some authors have been of opinion that it is the μήκων of Dioscorides, and that the kind with black seeds was called ἀγρία, and that with white seeds ἥμερος; and that it is the juice of this plant which Hippocrates recommends under the name of ὑπὸς μήκωνος, or juice of the poppy. Pliny (xx. c. 18) uses opium to express the inspissated juice of the poppy. Sprengel, in his Hist. Rei Herb. i. p. 176, quotes Diosc. lib. iv. c. 65, as referring to Papaver somniferum, and to P. Rhoeas; but in his edition of that author (ii. p. 600) he mentions only the latter plant; hence we may infer that he conceives the former to have been unknown, as he nowhere else mentions it. It was early cultivated in Egypt, in India, Persia, and Asia Minor, as well as in some parts of Europe. The garden poppy is probably a native of Persia. The dark red-flowered and black-seeded was called by Gmelin, P. somniferum; and the white-flowered with white seeds, P. officinale. It is cultivated in Turkey, Asia Minor, Egypt, Persia, India, and China, on account of its inspissated juice, the opium of commerce. The cultivation of the poppy is very simple, though the weeding requires care, and the plants must not be crowded too much together. They are carefully watered and manured, the watering being more copious as the period of flowering approaches, and until the capsules are half-grown. The capsules are employed in medicine for the preparation of a sedative decoction and syrup, much used for children. They are devoid of odour, of slightly bitter taste. If collected before the concrete juice is removed, the capsules contain a minute portion of all the active principles of opium; for medicinal purposes those should be rejected which are marked with longitudinal and parallel cuts resulting from the extraction of opium. An infusion of poppy heads in cold water should strike a red colour with permuriate of iron.

Poppy seeds yield by expression 56 per cent. of

a bland and very valuable oil, of a pale golden colour, fluid to within 10 degrees of the freezing point of water, sp. gr. ·939; it dries easily, is inodorous, of agreeable flavour, is partially soluble (8 in 1000) in alcohol, dissolves the oxides of lead. For all pharmaceutical purposes, this oil is equal to that of the olive employed in European pharmacy. About 30,164 tons of poppy seeds, value Rs. 39,04,065, are annually exported from India, chiefly to France and Britain. Opium is an important article of commerce, and is extensively used in medicine and as a luxury.

PAPAW TREE, the Carica papaya, the Bati of the Malays, is not the pawpaw of the Mississippi valley, Porcelia triloba, but is the pawpaw of South America and the West Indies, one of the Papayaceæ. Europeans call it papaya, from the Portuguese papayo, and by the Portuguese it was probably introduced into India. The fruit resembles a melon in appearance, and often tastes no better than a good English turnip. It is eaten raw, also after being cooked. The leaves have saponaceous properties, and are used in tropical America in the absence of soap. Both leaves and fruit act in a hitherto unexplained way upon the animal fibre, and make the toughest meat tender, if either boiled with portions of them, or even wrapped up in the leaves, or if fowls be fed on the seeds. The seeds have a mustard-like pungency, and are an efficient vermifuge.—*Mason; Williams; Seeman.*

PAPCONDAH. Through a pass in the gneiss mountain of Papcondah, the Kistna river enters the plains of the eastern coast. In this district the sandstone re-appears, at an elevation little above that of the sea, but basaltic hills, several hundred feet in height, in which marine fossils have been discovered, exist almost within the delta formed by its sediment.

PAPENBERG, an island of Japan, notorious as the spot where many Portuguese and Japanese Christians were barbarously martyred.—*Hodgson's Nagasaki*, p. 33.

PAPER.

Warak, Kartas, AR., TAM.	Kaghuz, . . . PERS.
Papir, ... DAN.	Papel, . . . PORT., SP.
Papier, . . . FR., GER.	Bumangna, . . . RUS.
Carta, Charta, . IT., LAT.	

Paper of various qualities is made throughout all the countries in the south and east of Asia, and is used for writing on and for many economic purposes in all parts of British India, Further India, China, and Japan. In Western India, paper is made at Ahmadabad, Surat, Dharwar, Kolhapur, and Aurangabad; that made at Aurangabad bears the palm as to fineness and gloss, hence the demand for it in native courts of India, to engross sunnuds, deeds, and other such documents; and the Bahadur khani and Madhagari paper of Dowlatabad are famed. For courtly use grains of gold-leaf are mixed with the pulp, and thus become spread over the surface of the paper, called Afshani Kaghaz. China, up to the year 1840, largely supplied India with paper; and there are now, 1883, in British India, many small establishments making inferior papers, with five or six worked by steam. But after the middle of the 19th century, paper for the writing and printing purposes of Europeans, and also, too, of most of the natives, was all imported into India from France and Great Britain. Muhammadans and the Hindus in India, who use an Indian ink, still largely write on a glazed paper, the manufacture of India. The British Indian Government, during Sir Charles Wood's (Lord Halifax) position as Secretary of State for India, ordered all supplies to be purchased in Great Britain, and that order threw back many trades and caused great financial losses to the Indian Government. The manufacture of paper as a writing material was a comparatively late discovery. A paper was manufactured at a remote period in Egypt from the papyrus or paper-reed, a plant growing freely on the banks of the Nile. A manufacture of paper from the bark of trees and other substances existed also in China from a very early date; but among the nations of antiquity, before the introduction of paper, such substitutes were used as lead, copper, brass, bricks, clay, and stone, on which national edicts and records were written or engraved; or tablets of metal, wood, wax, and ivory, skins of fishes, intestines of serpents, backs of tortoises, bones of animals, and the inner bark and leaves of trees for ordinary purposes. Indeed, there are but few sorts of plants that have not been used for making paper and books, and hence have arisen the terms biblos, codex, liber, folium, tabula, tillura, philura, scheda, patta, etc., which express the several parts of the plants that were written on. The use of these was greatly discontinued after the invention of papyrus and parchment, but they are still used in many parts of the world. The Egyptian papyrus was made by laying thin plates of bark, taken from the middle of the paper-rush, side by side, but close together, on a hard smooth table; other pieces of the same size and thinness were then laid across the first at right angles; the whole was moistened with the water of the Nile, which was supposed to have some agglutinating property (though this probably resided in the plant itself), and pressure was then applied for a certain number of hours. Thus a sheet of paper was formed which required no other finishing than rubbing and polishing with a smooth stone, or with a solid glass hemisphere, and drying in the sun. This very simple process was rather a preparation of a natural paper than a manufacture, properly so called, and is practised to the present day in Nepal, Chinese Tartary, China, Japan, and the Pacific Islands, with the inner barks of the paper mulberry, for making clothing and paper materials.

Tus or Tuz is a birch bark upon which, in addition to leather, we learn that the ancient Persians wrote, and it seems also to have been anciently used in North India. In Hiwen Thsang's time (A.D. 629-645), the early Buddhist scriptures of Kasyapa's council were written on the leaves of the Tala and other palms, which are still largely used in all Southern India, Ceylon, Burma, and Siam, for account keeping, records, and books; and it is traditionally recorded that many of the writings of Mahomed were on the blade-bones of sheep.

The Chinese, however, affirm that at the beginning of the Christian era they discovered the means of manufacturing paper from pulp. Before that invention they used to inscribe written characters on strips of bamboo, or sheets of metal, using a style or pen of iron for the purpose of marking the characters; and before their art of paper-making had arrived at

perfection, they wrote upon white silk or cotton with a bamboo pen, which was found more convenient than writing either on strips of bamboo or sheets of metal, as the silk or linen could be folded into a small compass.

Anciently, in China, bamboo leaves scorched before a flame were also used to write upon, and bamboos contribute largely to the manufacture of the finished article of the present day. In the times of the Ts'in and Han monarchs, coloured threads of silk were used to record events, and the Chinese written character in constant use still retains the radical for silk. In the reign of the Han emperor Ho-ti, the bark of certain trees came into use, being boiled to a pulp, along with silk, old fishing nets, and hemp fibres, to make a paper which came into general use. Then, as now, the materials employed varied greatly according to the locality. The use of printing-blocks in China, in the 6th century after Christ, led to the extensive making of paper, in which the Chinese have ever since continued to excel. The delicacy of their best proof-paper, forming the original 'India-proof' of former days, the elegance, cheapness, and general use of their commonest stationery materials, are amongst the most satisfactory proofs of their civilisation. So early as the year 900 A.D., three kinds of paper were produced in Japan, viz. Ma-shi from hempen rag pulp; Hi-shi from the gam-pi (Wickstrœmia canescens) and other plants; and Ko-ku-shi made from Ko-zo (Broussonetia papyrifera), which is like that now in use in Japan, and it is also made there from the Edgeworthia papyrifera.

The manufacture of the Chinese extended to the making of sheets of paper from old rags, silk, hemp, and cotton, and has been supposed to have been the source whence the Arabs obtained their knowledge of paper-making. The latter people undoubtedly introduced into Europe, in the earlier half of the 12th century, the art of making paper from cotton, and established a paper manufactory in Spain. In 1150, the paper of Xativa, an ancient city of Valencia, had become famous, and was exported to the east and west; and when some Christian labourers obtained the management of the mills of Valencia and Toledo, the different processes of the manufacture were greatly improved. Cotton paper became general at the close of the 12th and beginning of the 13th centuries, but in the 14th century it was almost entirely superseded by paper made of hempen and linen rags. The paper made of cotton was found not to possess sufficient strength or solidity for many purposes; a very strong paper was therefore made of the above substances, not weakened by bleaching, according to the present mode, which, by removing the natural gum, impairs the strength of the vegetable fibre. Some of these old papers, from having been well sized with gelatine, are said to possess their original qualities even to this day. The manufacture of paper from linen rags became general in England, France, Italy, and Spain in the 14th century. The first German paper-mill was established at Nuremberg in 1390. English manuscripts on linen paper date as early as 1340. It was made in England A.D. 1250, and in the Bartolomæus of Wynkyn de Worde (1496) it is stated that paper of a superior kind was made for that work by John Tate, jun., at his mills in Stevenage, Hertfordshire. In 1770, the manufacture of fine paper was established at Maidstone, in Kent, by a celebrated maker, J. Whatman, who had worked as a journeyman in some of the principal paper-mills on the Continent. Not long before this, wove moulds had been invented by Baskerville, to obviate the usual roughness of laid paper, and these, attracting attention in France, led to the improvements which characterized the vellum paper of that period. Holland, too, contributed its share to the advancement of this manufacture, by inventing cylinders with steel blades for tearing the rags, and thus facilitating their conversion into pulp, which by the old method of stampers only, was a very slow and defective process. In 1799, the first attempt to produce paper in an endless web was made in France by a workman in the employ of M. Didot. The invention was brought to England by M. Didot in 1801, and made the subject of patents, which in 1804 were assigned to the Messrs. Fourdrinier. The invention was perfected at Tewin Water, in Hertfordshire, at a cost of £60,000. Their patent right was, however, invaded, and they lost a considerable sum of money due to them from the imperial treasury of Russia, though, to enforce his claim, Henry Fourdrinier, at the age of seventy-five, with his daughter, made a special journey to St. Petersburg. The Fourdriniers then petitioned the British Government, the revenue having benefited half a million a-year by their inventions, when their claim was meanly recognised by a parliamentary vote of £7000; on which the paper-makers resolved to purchase by subscription annuities for the surviving patentee and his two daughters; but ere this was done the father died, in his eighty-ninth year, and his two surviving daughters received small pensions from the Crown.

The subject of water-marks assists in elucidating the history of paper-making, and the mark of the manufacturer has often been found of use in detecting literary forgeries and frauds in the falsification of accounts. One of the oldest water-marks in existence is an open hand, whose middle finger is connected by a straight line or stem with a star. This appears on a sheet of paper of the manufacture of Flanders, which at that time supplied all the paper needed for the correspondence of England. Upon a sheet of paper is written a letter, preserved in one of the museums at Venice, which was addressed to Francesco Capello, by king Henry VII., from 'our manor of Woodstock,' on the 20th of July 1502. Mr. Herring, however, states its introduction at 1530, adding that it gave the name to 'hand' paper. Note-paper once bore a tankard, but it had since the royal arms in a shield without motto or supporters. Post was marked with a postman's horn in a shield with a crown; Copy had a fleur-de-lys only; demy and several larger sorts, a fleur-de-lys in a crowned shield; royal, a shield with a bend sinister, and a fleur-de-lys for crest. Mr. Herring traced the term cap to the jockey cap, or something like it, in use when the first edition of Shakespeare was printed. The date given to foolscap in the Archæologia xii. is 1661, and the traditional story related of its origin is that, when Charles I. found his revenues short, he granted certain privileges, amounting to monopolies, and among these was the manufacture

of paper, the exclusive right of which was sold to certain parties, who grew rich and enriched the Government at the expense of those who were obliged to use paper. At this time all English paper bore in water-marks the royal arms. The Parliament under Cromwell made jests of this law in every conceivable manner, and, among other indignities to the memory of Charles, it was ordered that the royal arms be removed from the paper, and the fool's cap and bells substituted. These were also removed when the Rump Parliament was prorogued; but paper of the size of the Parliament's journals still bears the name of 'foolscap.'

Mr. Herring relates that the practice of blueing the paper-pulp had its origin in an accidental circumstance. About the year 1790, at a paper-mill belonging to Mr. Buttenshaw, his wife was superintending the washing of some fine linen, when accidentally she dropped her bag of powder-blue into some pulp in a forward state of preparation, with which the blue rapidly incorporated. On Mr. Buttenshaw's inquiring what had imparted the peculiar colour to the pulp, his wife, presuming that no great damage was done, took courage, and confessed the accident, for which she was afterwards rewarded by her husband, who, by introducing to the London market the improved blue cake, obtained for it an advance of four shillings per bundle.

In paper-making by machinery, the pulp is first made to flow from the vat upon a wire frame or sifter, which moves rapidly up and down. Having passed through the sifter, the pulp flows over a ledge in a regular and even stream, and is received upon an endless web of wire-gauze, which moves forward with a shaking motion from side to side, assisting to spread the pulp evenly, and allowing the water to pass through the wire, by which means the pulp solidifies as it advances. Before the pulp quits the plane of the wire, it is pressed by a roller covered with felt, and is then taken up by an endless web of felt, which, gradually moving forward, absorbs a further portion of the moisture. It is again pressed between rollers, and, after being passed over cylinders heated by steam, it is cut by machinery into sheets. Thus in two or three minutes, the pulp, which is introduced upon the web at one extremity of the machine, is delivered at the other in the state of perfect paper. By this process 25 square feet can be made in one minute, or 15,000 square feet in a working day of ten hours.

Paper can be made from multitudinous vegetable substances, but only profitably from a few. It is manufactured in China from various materials, each province or district having its own peculiar manufacture. In that country, Ho-chi is rice-straw paper used for sacrificial burnings. Pi-tsze is the mulberry bark paper, which has been long used in the Hankow Mission Hospital as a substitute for lint and old rag. It comes from Wu-chang-fu and Yun-yang-fu in Hu-peh. Wan-tsai hien, Fung-sin hien, and Lin-chang hien, all in Kiang-si, make a paper, called Piau-sin, used for packing. Lin-yang hien, in Hunan, also supplies this article. Hwa-tsien paper from Fuh-kien and Sin-chang hien (Kiang-si) is a rough paper for packing up drugs in. Hwang-pian paper, made in Kwang-sin-fu (Kiang-si) is the same as the Ho-chi, used in burning for the dead. Ta-tseh, Chung-tseh, made in Kwang-sin-fu, are used for account books. Mau-pien and Lien-chi are fine papers made in Northern Fuh-kien and in Yuen-shan hien (Kiang-si), and used for writing, printing, and mounting pictures or scrolls. Kai-lien-chi is a good yellow thin paper, useful for wrapping up powders in dispensary practice. Lah-tsien is a waxed note-paper. Seven-lined and eight-lined paper, divided by perpendicular red lines, and stamped with curious coloured devices, are sold everywhere in great variety at small cost. In Foh-kien province, paper is made from young soft bamboo; in the province of Che-kiang it is made from paddy straw; in the province of Kiang-nan it is made from the refuse silk, and this paper is very fine and delicate, being highly valued for writing complimentary inscriptions upon. To size the paper and render it fit for ink, they make a glue, somewhat similar to isinglass, from fish bones; these they chop up very small, and soak the mass in water, which is continually renewed; when all oily impurity is extracted, they add a due proportion of alum, which has been dissolved. Over the vessel in which this mixture is, a rod is laid, a cleft-stick is used for holding the sheet of paper during the process of dipping; as soon as the paper has been sufficiently saturated, it is withdrawn by gently rolling it round the stick which has been laid over the vessel; the sheet of paper is afterwards hung to dry either near a furnace, or in the sun. They employ a vast variety of fibrous substances for this manufacture, and apply paper to a variety of uses little thought of in other countries. They make up an infinite variety of kinds, from the coarse, heavy, half-inch thick touch-paper for retaining a slow, enduring fire, to the beautiful so-called India paper suited for the finest proof engravings. In the tea-chests there is a lavish use of many thicknesses of paper. If a hut or boat is leaky overhead, the bed is protected by a large sheet of oiled paper. If a shop-keeper wants to tie up a parcel, he seizes a strip of tough paper, and by rolling it on his thigh at once converts it into a strong pack-thread; and even a torn sail is at times patched with tough paper. In China it is the cheapest of materials in daily use, and the manufacturers are very numerous. They make it of rice-straw, wheat-straw, cotton, hemp, of young bamboos, of different fibres, and of the barks of the paper mulberry, Broussonetia papyrifera, also of the Ailanthus and other trees, and of the refuse of the silk cocoon, showing that the inventors of the art make use chiefly of unwoven fibres, though they also employ refuse cloth and silk, etc.

The paper on which the Honourable Mr. Morrison's book was printed, was manufactured from the common yellow bamboo paper of the Chinese, by sizing it in water saturated with alum, to which glue was added; and the sheets dried and smoothed by rubbing them on a warm wall. The glazing upon Chinese writing paper is made by waxing the sheet, and afterwards rubbing it with a smooth stone; two, three, and four sheets are made into one thick sheet for ledgers or other account books, by the same process, after wetting the inner surfaces with glue water, and drying the sheet in the sun. There is also a thin paper called Nankin paper, which is manufactured from cotton wool, that is tougher and more flexible than

the bamboo paper. Coloured paper is exported in considerable quantities; the exportation of all kinds is principally to India and the Archipelago. In China itself the consumption of Chinese writing paper is great, on account of its not being injured by the climate, foreign paper sized with glue being liable to spoil.

The making of paper in China from the bamboo is carried out somewhat in the following manner:—After being soaked for some time in water, the bamboos are split up and saturated with lime and water, until they become quite soft. They are then beaten up into a pulp in mortars, or, where water-power is at hand, as in the hilly districts, the beating or stamping process is done by means of stampers, which rise and fall as the cogs which are placed on the axis of the water-wheel revolve. When the mass has been reduced to a fine pulpy substance, it is then taken to a furnace and well boiled, until it has become perfectly fine, and of the proper consistency. It is then formed into sheets of paper of various degrees of fineness, according to the purposes for which it is intended. It is not only used for writing upon and for packing with, but a large quantity of a coarse description is made for the sole purpose of mixing with the mortar used by bricklayers.

With the Broussonetia papyrifera, the following is the process adopted by the Chinese:—The small branches are cut by them in lengths of about 3 feet, and boiled in an alkaline ley for the sake of loosening the inner rind or bark, which is then peeled off and dried for use. When a sufficient quantity has been thus laid up, it is again softened in water for three or four days, and the outer parts are scraped off as useless; the rest is boiled in clear ley, which is kept strongly agitated all the time, until the bark has become tender and separates into distinct fibres. It is then placed in a pan or sieve, and washed in a running stream, being at the same time worked with the hands, until it becomes a delicate and soft pulp. For the finer sorts of paper, the pulp receives a second washing in a linen bag; it is then spread out on a smooth table, and beaten with a wooden mallet, until it is extremely fine. Thus prepared, it is put into a tub with a slimy infusion of rice and a root called oreni;' then it is stirred until the ingredients are properly blended; it is next removed to a large vessel to admit of moulds being dipped into it. These moulds are made of bulrushes cut into narrow strips and mounted in a frame; as the paper is moulded, the sheets are placed covered with a double mat. The sheets are laid one on the other, with a small piece of reed between, and this, standing out a little way, serves afterwards to lift them up leaf by leaf. Every heap is covered with a board and weights to press out the water; on the following day the sheets are lifted singly by means of the projecting reeds, and are placed on a plank to be dried in the sun. This paper is so delicate that only one side can be written on, but the Chinese sometimes double the sheets, and glue them together so neatly, that they appear to be a single leaf.

In Japan, in December, after the tree has shed its leaves, they cut off the branches about 3 feet in length, and tie them up in bundles. They are then boiled in aley of ashes in a covered kettle, till the bark is so shrunk that half an inch of the wood may be seen projecting at either end of the branch. When they have become cool, the bark is stripped off and soaked in water three or four hours until it becomes soft, when the fine black skin is scraped off with a knife. The coarse bark is then separated from the fine. That of the new branches makes the finest paper. The bark is then boiled again in fresh ley, continually stirred with a stick, and fresh water from time to time is added. It is then put in a sieve and taken to a brook, and here the bark is incessantly stirred until it become a fine pulp. It is then thrown into water, and separates in the form of meal. This is put into a small vessel with a decoction of rice and a species of Hibiscus, and stirred until it has attained a tolerable consistence. It is then poured into a large vessel, from whence it is taken out and put in the form of sheets on mats or layers of grass straw; these sheets are laid one upon another with straw between, and pressed to force the water out. After this, they are spread upon boards in the sun, dried, cut, and gathered into bundles for sale. This paper will better endure folding, and last longer, than that made in Europe; is used to form the walls of rooms, and the fans in universal use; it is used as wrapping paper, and forms the string to tie it; in square pieces it is used as pocket-handkerchiefs, and pressed together and lacquered is worn as hats. This paper is of every consistency, but always tough. The youngest branches form the whitest paper. It is impossible to tear this paper against the grain. It is of different qualities, and some of it is as soft and flexible as cotton cloth. Indeed, that used for handkerchiefs might be mistaken for cloth, so far as toughness and flexibility are concerned. Paper of Japan is applied also in lieu of glass on the sliding walls of the houses, for pocket-handkerchiefs, for napkins, tablecloths, waistcoats, and other articles of wearing apparel.

Nepal paper is manufactured almost exclusively in Nepal from the bamboo. After being cut, it is beaten in wooden mortars until reduced to a pulpy mass, then thrown into a vat of water, the impurities separated, and when of a proper consistence, it is spread on linen to be dried; the surface is rendered smooth by friction, and with a pebble on boards. Its structure is very tough, and cannot be torn rectilineally, and it is most serviceable for filtration, as the fibres do not separate readily when saturated with moisture, and will resist in a moist condition considerable rough handling.

The Nepal paper plant is the Daphne cannabina, one of the Thymalaceæ. At the Great Exhibition of 1851, many visitors were much interested about a huge sheet of Nepal paper exhibited by Colonel Sykes. Mr. Hodgson (Journ. As. Soc. i. p. 8, 1832) and Dr. Campbell describe the process of making paper from the Daphne cannabina as consisting, first, in boiling slips of the inner bark of the paper plant in a ley of wood-ashes for about half an hour, by which time the slips will be quite soft. These are then beaten in a stone mortar with a wooden mallet till they are reduced to a homogeneous pulp. This is then diffused through water, and taken up in sieves and paper frames, as in the ordinary process for making paper by hand. When dry, the sheet of paper is folded up; sometimes it is smoothed and polished by being rubbed on wood with the convex side of a chank shell. Though called Nepalese, the paper

is not manufactured in Nepal, but in Cis-Himalayan Bhot, in the midst of its immense forests, where there is an abundant supply of the plant, of wood for ashes and for firewood, as well as a constant supply of clean water. This paper is remarkable for its toughness, as well as its smoothness. Some of it, in the form of bricks of half-stuff, was sent to England previous to the year 1829. As the quantity sent was not sufficient for a complete experiment, a small portion of it was made into paper by hand. An engraver, to whom it was given for trial, stated that 'it affords finer impressions than any English-made paper, and nearly as good as the fine Chinese paper which is employed for what are called India paper proper' (Gleanings in Science, i. p. 210). Dr. Campbell describes the paper made by the hand 'as strong and durable as leather crust, and quite smooth enough to write on, and, for office records, incomparably better than any Indian paper. Many of the books in Nepal, written on this paper, are said to be of considerable age, and the art of making paper seems to have been introduced about 500 years ago from China, and not from India.' Colonel Ramsay, Resident at the court of Nepal, describes the daphne as a small evergreen perennial shrub, somewhat like a laurel, which bears poisonous berries. There are several species of it in Nepal, from all of which, he was told, paper is made. In some kinds the flowers are pure white, in others dirty white, tinged with pink or purple. There is an impression in the plains of India that the Nepal paper is prepared with arsenic. This, he says, is quite a mistake, for arsenic is not allowed to be sold here, nor any other virulent poison, under a heavy penalty. The whole tribe of plants bearing the name of daphne are more or less poisonous, but the daphne paper cannot retain the poisonous quality of the plant, as rats and insects often eat it with apparent avidity. This unsightly paper is tough when kept dry, and can be used like cloth for wrapping up dry substances in, and it can be used after having been saturated with water, provided it be carefully dried within a reasonable time after it has been wetted. One sheet in the Museum of the Bengal As. Society measured 50 feet by 25 feet.

The Burmese make a coarse paper from the bark of a large creeper found in the forests. The paper is thick, like pasteboard, and the surface is blackened, and written upon with a steatite pencil.

In British India, the process of paper-making appears to be very much the same throughout. The materials—gunny, old rags, waste-paper, or fibre, as the case may be—are cut up into small pieces, well soaked, and then pounded in a cistern or well, floored with chunam or stone, the pounding instrument being shod with iron, and in some cases worked like a pe-cottah. The pulp is then washed and sprinkled with lime-water, and left to stand for periods varying from three days to a week. This process is renewed two or three times. The pulp is then taken up on frames fitted with strainers, and dried.

These frames are generally made so as to hold each one sheet, and each sheet when sufficiently coherent is hung or fixed against a wall to dry. It is then rubbed over with thin paste made of rice-flour and water, again dried, and afterwards pressed. The process is usually completed by glazing, which is done in some cases by rubbing each sheet with an oiled stone roller.

In Europe, down to the beginning of the 18th century, cotton, flax, and hemp were the usual materials, except rags, used in the manufacture of paper. Cotton and linen rags are now chiefly used for this purpose, because they are more easily and cheaply converted into pulp, and furnish a better article when finished than other fibrous materials. But the comparatively high price of rags, and the enormous demand for cheap paper, have compelled manufacturers to turn their attention to other sources of supply, and efforts are being unceasingly made to manufacture paper from the fibres of different vegetable substances.

It is objected by manufacturers of paper that pulp from unwoven fibres does not draw through the present machinery so well as that made from rags. A modification of machinery would no doubt remedy this. But new materials involve new machinery for reducing them to pulp, and the older paper-makers have not yet established machinery suited for these new materials in addition to that at present in use. Enterprising men are laying themselves out to make pulp or half-stuff for sale to the paper-makers, and it will be by those men that any new materials will be worked. Many thousands of inventors and manufacturers, many years of incessant labour, and millions of pounds sterling have been expended in experiments upon wood, straw, and similar substances; but the problem of obtaining good paper, at a moderate cost, from raw vegetable fibre, is yet only partially solved. Neither straw, nor wood, nor any similar material has superseded linen and cotton rags. The raw fibre of papyrus was used for thirteen centuries; the reign of rags has lasted twelve and a half centuries. The most practical of the substitutes seems to be straw, the first useful paper from which was made in 1800, and used in a book printed by Burton of London, a copy of which was presented by the Marquis of Salisbury to king George III. The work is entitled An Historical Account of Substances used in Paper-making. Cobbett, in 1828, employed, experimentally, some paper made from the husks of Indian corn, but with little success. The substitution of straw in 1800 was regarded of great national importance, and highly deserving support. It was neglected for many years, but straw is now extensively used in paper-making in England, and on the Continent of Europe.

A book written in German by M. Schaffers so long ago as 1772 (Sammtliche Papierversuche von Jacob Christian Schaffers, Prediger zu Regensburg, Regensburg 1772), contains sixty specimens of paper made from the bark of the willow, beech, aspen, hawthorn, lime, and mulberry; from the down of the asclepias, the catkins of black poplar, and the tendrils of the vine; from the stalks of nettle, mugwort, dyer's weed, thistle, bryony, burdock, clematis, willow-herb, and lily; from cabbage-stalks, fir-cones, moss, potatoes, wood-shavings, and sawdust; and it has been likewise made from rice, hop-bine, liquorice-root, the stalks of the mallow, and the husks of Indian corn. M. Bardoux, a manufacturer of Poictiers, manufactured paper from oak, walnut, pine, and chesnut. The question of the present day therefore is not, 'of what vegetable substances can

paper be made?' but 'which of them can compete with rags?'

In a memorandum, drawn up by Dr. J. Forbes Royle, on the materials for paper-making procurable from India, he reviewed the entire unutilised and utilised fibrous plants of India. Several bales of the straw of certain Indian grasses were forwarded to the Society of Arts, but the report of competent judges was that none of them are well adapted for the making of paper, though they did not doubt that paper can be made from all of them. The common rice-straw (Oryza sativa) was the best. They added that all the samples are very inferior in paper-making quality to many substances which can be obtained readily in England, but which are not even considered as worth using.

In Africa, besides the esparto grass and the bark of the Adansonia, there is a fibre-producing plant called diss-grass, which can be obtained in such quantities and at such a price as may render it a useful luxury. The dwarf palm can be obtained in almost any quantity in Algeria, but the cost of collection is rather more than that of esparto, as each leaf is picked separately, and its manufacture into paper is more difficult and expensive, the texture of the fibre varying in different parts of the leaf, one portion of which contains some yellowish wax or resin, extremely difficult of kill, and almost impossible to detect till it is discovered on the hot rollers, and the paper is spoilt. The rivers of South Africa are in many places choked with a plant known as the palmete, a kind of large rush, 8 to 10 feet in height, of which large quantities can be obtained, and which in all probability will be found of use in the fabrication of ropes and paper.

Mr. Liotard and Baron F. von Mueller have given lists of plants from which paper could be made, and the following of the East Indies are obtained from their writings:—

Abelmoschus esculentus, *W. and A.*, esculent okro.
Abutilon Indicum, *G. Don*, country mallow.
Acacia Arabica.
Adansonia digitata, *Linn.*, baobab.
Agave Americana, *Linn.*; A. cantala; A. diacantha; A. variegata; A. vivipera, *Linn.*; and A. yuccæfolia.
Ailanthus, *sp.*
Aloe Indica, *Royle*; A. perfoliata, *Roxb.*; and A. vulgaris, *Lam.*, Barbadoes aloe.
Althea, *sp.*
Ananas sativus, *Schult.*, pine-apple.
Anatherium muricatum, *Beauv.*, cuss-cuss grass.
Apocynum, *sp.*
Aralia papyrifera.
Arang of Berar.
Areca catechu, *Linn.*, betel-nut palm.
Aristada setacea.
Arundo karka.—?
Bambusa arundinacea, *Willde.*; B. gigantea; and B. vulgaris.
Baree, a grass of Sind.
Bauhinia racemosa, *Lam.*; B. tomentosa, *Linn.*; and B. Vahlii, *W. and A.*
Betula bhojputra.
Boehmeria nivea, *Hooker*; rheea; China grass.
Bonapartea juncoidea of Australia.
Borassus flabelliformis, *Linn.*, palmyra.
Broussonetia papyrifera, *Vent.*, paper mulberry tree.
Butea frondosa, *Roxb.*, pulas tree.
Cajanus Indicus, *Sprenger*, pigeon pea.
Calotropis gigantea, *R. Br.*; C. Hamiltonii and C. procera, *R. Br.*
Camelina, *sp.*
Cannabis sativa, *L.*, hemp.
Careya arborea, *Roxb.*
Caryota urens, *Linn.*, bastard sago.
Chamærops Ritchiana.
Chikti of Berar.
Chlorogalum, *sp.*
Cocos nucifera, *Linn.*, cocoanut tree.
Conocarpus latifolius, *Roxb.*
Conocephalus niveus —? C. globulifer, *Bennett*; C. naucleiflorus.
Corchorus capsularis, *Linn.*, jute, ghi-nalita pat; C. olitorius, *Linn.*, jute, Jew's mallow.
Cordia latifolia, *Roxb.*, broad-leaved sepistan; and C. myxa, *Linn.*, sepistan.
Crotalaria Burrhii —? C. juncea, *Linn.*, sunn-hemp; C. Leschenaultii —? and C. tenuifolia, *Roxb.*, Jubbulpur hemp.
Curcuma, *sp.*, leaves.
Cyperus textilis and C. variegata —?
Dæmia extensa, *R. Br.*
Daphne oleoides —? D. papyracea, *Wall.*, Nepal paper shrub; and D. cannabina.
Dendrocalamus strictus, *Nees*, and D. tolda, *Nees.*
Desmodium tiliæfolium, D. triflorum, *Dec.*; and D. argenteum.
Edgeworthia papyrifera.
Elæocarpus tuberculatus.
Eleusine coracana, *Gærtn.*
Erinocarpus Nimmonii.
Eriodendron anfractuosum, *Dec.*
Erythrina Indica, *Lam.*, Indian coral tree.
Eugenia, *sp.*, tha-byay of Burma.
Fatsia, *sp.*
Ficus Bengalensis, *Linn.*; F. elastica, *Roxb.*; F. glomerata, *Roxb.*; F. racemosa, *Linn.*; and F. religiosa, *Linn.*
Fourcroya, *sp.*
Girardinia heterophylla, *Dalz.*, Neilgherry nettle.
Gmelina arborea, *Roxb.*
Gossypium, *sp.*, G. Indicum, etc., cotton.
Grewia oppositifolia, *Buch.*
Hampu, a creeper of Coorg.
Hardwickia, *sp.*
Helianthus, *sp.*
Hibiscus cannabinus, *Linn.*; H. furcatus, *Roxb.*; esculentus; H. mutabilis —? H. rosa Sinensis, *Linn.*; H. sabdariffa, *Linn.*, roselle; and H. Surattensis, *Linn.*
Hydrangea, *sp.*
Hymenodictyon excelsum, *Wall.*
Isora corylifolia, *Schott. and Endl.*
Kasdo, a Sind grass.
Kevan, of Ratnagiri, made into ropes.
Kherdo, a Sind grass.
Lavatera, *sp.*
Lepidosperma, *sp.*
Leptadenia Jacquemontiana —?
Linum usitatissimum, *Linn.*, flax.
Lygeum, *sp.*
Madid of Belgaum.
Malachra capitata, *Linn.*
Maoutra, *sp.*
Marsdenia tenacissima, *R. W.*
Morus Indica, *Linn.*, mulberry.
Musa paradisiaca, Cavendishii, coccinea, glauca, Nepalensis, ornata, superba, and textilis.
Opuntia Dillenii, *Haw.*, hedge prickly pear.
Orthanthera viminea, *Royle.*
Oryza sativa, *Linn.*, rice-straw.
Oxytropis, *sp.*
Pachyrhizus, *sp.*
Pandanus odoratissimus, *Linn. f.*, screw pine.
Parkinsonea aculeata.
Phœnix dactylifera, *Linn.*; P. farinifera, *Roxb.*; and P. sylvestris, *Roxb.*
Phormium, *sp.*
Phrynium dichotonum.
Pimeloa, Neilgherries lace bark.
Poa, *sp.*
Populus ciliata.
Psamma, *sp.*
Ros, *Rosdo*, a Sind grass.
Saccharum munja, *Roxb.*, munj; S. officinarum, *Linn.*, sugar-cane refuse; S. fuscum; S. procerum, *Roxb.*; S. sara, *Roxb.*, pen-reed; S. spontaneum, *Linn.*, thatch grass.
Salmalia Malabarica, *Schott. and Endl.*, red cotton tree.

Sanal of Madura. Qu. hemp.
Sanseviera Zeylanica, *Willde.*, bowstring hemp.
Sardo of Belgaum.
Sarkhad, a Sind grass.
Sesbania aculeata, *Persoon;* S. cannabina.
Sida acuta, *Burm.;* S. populifolia; S. tiliæfolia.
Spartina, *sp.*
Spartium, *sp.*
Sponia Wightii.
Sterculia guttata, *Roxb.;* S. ornata —? S. ramosa; S. urens, *Roxb.;* and S. villosa, *Roxb.*, hemp.
Stipa, *sp.*
Thespesia populnea, *Lam.*, portia tree.
Tillandsia, *sp.*
Triticum vulgare, *Villars*, wheat.
Tylophora asthmatica, *R. W.*
Typha elephantina, *Roxb.*
Urena lobata, *Linn.*
Urtica heterophylla, Neilgherry nettle.
Whala of Ratnagiri.
Wikstrœmia salicifolia and W. canescens.
Worang of Ratnagiri.
Yucca gloriosa, *Linn.*
Zea mays, *Linn.*, maize.

Of all these S.E. Asia plants, the more promising seem to be the bamboo, the musa, jute, sunn, lint, hemp, malachra, rice-straw, wheat-straw, and calotropis, but none of them come up to rags.

The inner bark of Corchorus (jute) yields a paper pulp, but of inferior quality, and is bleached with difficulty; and agave and banana or plantain are not only expensive, but it is difficult to bleach them. Flax straw can be utilized, but yields only 12 to 15 per cent. of pulp; hemp produces 25 per cent.; nettles, 5 per cent. of a very beautiful and easily bleached fibre.

Palm leaves contain 30 to 40 per cent. of fibre, but are not easily bleached. The Bromeliaceæ contain from 25 to 40 per cent. of fibre; Bonapartea juncoidea of Australia, 25 per cent. of the most beautiful vegetable fibre known, which could be used for paper pulp, and for all fabrics in which flax, cotton, silk, or wool are employed; the plant needs no other preparation than cutting, drying, and compressing like hay. Ferns give 20 to 25 per cent. of a fibre not easily bleached; Equisetum, 15 to 20 per cent. of inferior fibre, easily bleached.

Althea, and many of the Malvaceæ, produce 15 to 20 per cent. of paper pulp. Stalks of beans, peas, hops, buckwheat, potatoes, heather, broom, contain 10 to 20 per cent. of fibre.

The straws of cereals—rice, wheat, barley, oats, and rye—cannot be converted into white paper pulp after they have ripened the grain; the joints and knots in the stalks are then so hardened that they resist all bleaching agents.

Hibiscus esculentus and H. cannabinus are used by the paper-makers of Dowlatabad, and Dr. Riddell suggested the roosa grass. Paper and envelopes for writing, printing, etc., are imported into India, chiefly from the United Kingdom, Austria, and France, of value nearly 50 lakhs of rupees; in 1880-81, 47,65,976 rupees.—*Tomlinson; Bombay Quarterly Review*, p. 265, *of* 1855; *Chinese Mat. Med.; Sirr's China*, ii. pp. 1-4; *Rev. Joseph Hunter, Archæologia*, xxxvii.; *John Timb's Cur. of Science; Royle, Memo.* May 3, 1854; *Oliphant; Mason; American Expedition to Japan*, p. 64; *Riddell's Gardening; Dr. A. Hunter in Madras Ex. Jur. Rep.; Cat. Exhib. of* 1862; *Royle's Fibrous Plants*, p. 311; *O'Sh.* pp. 279-557; *B. Hodgson in Jour. Beng. As. Soc.*, 1832, i. p. 8; *Gleanings in Science*, i. p. 210; *Royle, Arts, etc., of India*, p. 486; *Hooker, Him. Jour.; Morrison's Compendious History; Fortune, A Res. among the Chinese; Mr. Liotard; Von Mueller; Strettell; Eng. Cyc.*

PAPER CURRENCY. The average circulation from the commencement of the Paper Currency operations in India, has been as under:—

1862-63, .	Rs. 4,41,94,285	1870-71, .	Rs. 9,81,32,240
1863-64, .	„ 5,23,25,000	1872-73, .	„ 12,86,40,370
1864-65, .	„ 6,88,20,116	1874-75, .	„ 10,67,04,070
1865-66, .	„ 7,72,57,983	1877-78, .	„ 13,25,02,470
1866-67, .	„ 8,98,93,179	1880-81, .	„ 13,66,29,350
1867-68, .	„ 9,28,50,848	1881-82, .	„ ...
1869-70, .	„ 10,66,94,777	1882-83, .	„ ...

PAPER MULBERRY, Chiu, Ch'u, Kau sang, CHIN., Broussonetia papyrifera, is a native of the isles of the Southern Ocean, as well as of China and of Japan. It has long been famous for its fibrous bark, which is made into a kind of cloth, as in Otaheite and in the Sandwich Islands, as well as into paper in Japan. The bark is boiled into pulp in a ley of wood-ashes, and then well washed by agitation of it in water until it becomes like tufts of tow. If too much boiled, the paper will be weak but white; and if insufficiently washed, it is coarse but strong. It is then heaped on a table, and beaten into a pulp by batons of hard wood. Mucilage obtained from boiled rice, or from a plant called oreni, is added to the pulp, which is stirred with a clean reed until reduced to a homogeneous liquor, and when of a due consistence it is ready for conversion into sheets.

PAPER PLANT of Nepal, the Daphne cannabina, is one of the same family as the lace bark tree, Lagetta lintearia, of the West Indies. D. cannabina is supposed to be identical with the D. odora of Thunberg. It is extremely abundant in the Himalaya, and the paper is made by boiling the inner bark in a ley of wood-ashes, and reducing them to pulp by beating. Daphne eriocephala is very common on the Neilgherries, Western Ghats, and on the hilly parts of the Southern Mahratta country and Dekhan. On a trial of the paper by an engraver, he reported it as affording finer impressions than any English-made paper, and nearly as good as the fine Chinese paper which is employed for what are called India-paper proofs. Dr. Campbell describes the D. cannabina paper as strong and durable as leather.

PAPER, RICE. The rice-paper plant is the Aralia papyrifera, *Hooker*. Chinese rice-paper had long been supposed to be cut from cylinders of a pith which has always a central hollow chamber, divided into compartments by septa or excessively thin plates. The supposition was confirmed by Sir William Hooker receiving from China specimens of the rice-paper plant, which very closely resembles, in botanical characters as well as in outward appearance of size and habit, the Aralia plant of Sikkim. The largest specimens are about five or six feet in height, and from six to eight inches in circumference at the base, but nearly of an equal thickness all up their stem. The stems are crowned at the top with a number of palmate leaves on long footstalks, which give to the plant a very ornamental appearance. The under side of each leaf, its foots[illegible]lk, and the top part of the stem, is densely co[illegible]red with down of a rich brown colour. It flowers and seeds during the winter and spring months at Hong-Kong and Calcutta. The proportion of pith in these stems is very great, and from this pure white substance the beautiful rice-paper is prepared. The Chinese call this plant the T'un[illegible]'au. The T'ung-ts'au

is largely cultivated in many parts of the island of Formosa. The Canton and Foh-kien provinces are the chief consumers, and the town of Fuchu alone is supposed to take annually not less than 30,000 dollars' worth. In the Chinese market, 100 sheets (each about three inches square), one of the most beautiful and delicate substances with which we are acquainted, are procurable for 1¼d. or 1½d.

It is a delicate vegetable film, consisting of long hexagonal cells, whose length is parallel to the surface of the film, and which are filled with air when the film is in its usual state; the peculiar softness which so well adapts it for receiving colours, is owing to this structure. The pith is carefully taken out and cut in sheets, by running a knife round it, and smoothing them with an iron. When the tissue breaks, the fracture is connected by a lamina of mica. Paintings on Chinese pith-paper, or rice-paper, are much sought after for their splendid colourings. Its velvety surface contrasts admirably with brilliant colours. An India-ink outline is first transferred by damping and pressing it upon the paper, when the ink strikes off sufficiently to enable the workman to fill up the sketch; one outline will serve for limning several copies, and in large establishments the separate colours are laid on by different workmen. The manufacture of these paintings at Canton employs between two and three thousand hands. Another tissue sometimes used by the Chinese for painting, more remarkable for its singularity than elegance, is the reticulated nerve-work of grape leaves, the fleshy green part of the leaf having been removed by maceration, and the membrane filled with isinglass. The appearance of a painting on this transparent substance is pretty, but the colours do not retain their brilliancy.—*Williams' Middle Kingdom*, ii. p. 145; *Eng. Cyc.*; *M'C. Com. Dic.*

PAPIER-MACHE, a name properly applied to articles composed of paper pulp, boiled in a solution of gum or size to give it tenacity, and then pressed into moulds; though the term is also applied to trays, snuff-boxes, and other things made by glueing several plies of paper together, and then varnishing. It is made in the Panjab.—*Faulkner.*

PAPILIONIDÆ. *Leach.* The butterfly family of the order Lepidoptera, *Linn.*, comprising the genera, Ornithopteras, *Boisd.*; Papilio, *Linn.*; Pontia, *Fabr.*; Pteris, *Schr.*; Callosune, *Doubl.*; Idmais, *Doubl.*; Thestias, *Boisd.*; Hebomoia, *Hubn.*; Eronia, *Hubn.*; Callidryas, *Boisd.*; Terias, *Swain.* The genus Papilio includes all the butterflies. The insects composing it have mostly thin and elongated antennæ terminated by a club. They are all day-fliers. Their larvæ, which are variously shaped, have six pectoral, eight abdominal, and two anal feet. The pupæ are usually angulated, and, with a few exceptions, naked. The perfect insect varies in size from less than an inch across the wings when expanded to nearly a foot in breadth. Equally variable are their colouring and outlines. They are short-lived. Their powers of flight are very great, and the mode of flight varies in the several species. The males are usually more gaily coloured than the females. The Papilionidæ, swallow-tailed butterflies, from their large size and gorgeous colouring, are more frequently collected than other insects. Sikkim boasts a profusion of beautiful insects, amongst which the British swallow-tail butterfly (P. machaon) disports itself in company with magnificent black, gold, and scarlet winged butterflies of the Trojan group, so typical of the Indian tropics. Papilio Ulysses, one of the largest of the tribe, is common at Amboyna. It flies with a rather weak, undulating motion. It is in Northern India, the Malay Islands, and S. America where these fine insects occur in the greatest profusion. In continental Asia, 65 species have been described, and 130 species in the Eastern Archipelago, from the Malay Peninsula to near New Guinea.—*Eng. Cyc.*; *Wallace*; *Hooker's Him. Jour.* See Insects; Natural History.

PAPIONINÆ, a sub-family of mammals, including the true baboons of Africa and the monkey-like baboons of India, viz.—

Inuus silenus, lion monkey.

Simia leonina, *Shaw.*	Silenus veter, *Gray*, *Horsf.*, *Blyth.*
S. silenus, *Linn.*	
Nil-bandar, . . BENG.	Nalla-manthi, . . MAL.
Siah-bandar, . . HIND.	

The lion monkey is a native of the more elevated forests of the Western Ghats of India, from lat. 15½° N. to the extreme south, but is most abundant in Cochin and Travancore. It does not occur in Ceylon, and though called so by Buffon, it is not the wanderoo, which is a species of presbytes. It is of a somewhat sulky and savage disposition, and is with difficulty taught to perform any feats of agility or mimicry.

Inuus rhesus, the Bengal monkey.

Macacus rhesus, *Desm.*	Pithex oinops, *Hodgs.*, *Hor.*
Inuus erythræus, *Schreb.*	Papio rhesus, *Ogilby.*
Morkot, Banur, . BENG.	Bandar, ... HIND.
Piyu, ... BHOT.	Suhu, ... LEPCH.

This is the common monkey of all N. India, extending up to 4000 and 5000 feet in the Himalaya, and south to about lat. 18° or 19° N. to Gumsur and near Nagpur. It frequents all the forests and groves in the open country, and in Northern India may be seen in many towns and villages. It is very easily tamed and made to exhibit various feats of agility.

Inuus pelops, the hill monkey.

Macacus pelops, *Hodgson.* | M. Assamensis, *M'Clell.*

Occurs in Assam and Darjiling.

Inuus nemestrinus of Tenasserim and Malayana.

Inuus leoninus, *Blyth*, of Arakan, perhaps the same as I. arctoides of Is. Geoff.

Macacus radiatus, the Madras monkey.

Cercopithecus radiatus, *Kuhl.*	Simia sinica, *Linn.*, *Elliot*, *Blyth*, *Horsf.*
Munga, ... CAN.	Makadu, . . . MAHR.
Bandar, ... HIND.	Wanur, Keda, . ,,
Vella-manthi, . MALEAL.	Koti, ... TEL.

The Madras monkey is to be seen all over the southern parts of India, extending north to lat. 18° N., where it is replaced by Inuus rhesus; it lives in the dense jungles, also in populous towns, and carries off fruit and grain from the dealers with great coolness and address. It is the monkey most commonly met in menageries, and led about to show feats of agility. It is the most inquisitive and mischievous of its tribe.

Macacus pileatus, *Shaw*, of Ceylon, is the Simia pileatus, *Linn.*

Macacus cynomolgos, *Linn.*, of Burma.

Macacus carbonarius, *F. Cuv.*—*Jerdon's Mammals.*

PAPISRANG. Penang has two woods of this name, viz. one of a purple colour, a strong wood, used for beams; the other of a pale brown colour, 6 to 9 feet in circumference, 40 feet long, not good for beams, chiefly used for furniture.—*Colonel Frith.*

PAPLI CHUCKAY, TAM., yields an orange dye.

PAPPATI, the New Year's Day of the Zoroastrians, by whom it is strictly kept as a festival. It is celebrated in honour of Yezdejird. On this day the Zoroastrians rise early, dress in new clothes, and, after prayers in their households or temples, pass the day in congratulatory visits and entertainments.—*The Parsees*, p. 60.

PAPPRI. HIND. A natron salt obtained from the lake of Lunar, used in the manufacture of bangles. A substance found at one stage of the manufacture of sal-ammoniac.

PAPUAN, a Negroid race occupying New Guinea and its neighbouring islands in the Eastern Archipelago, and extending from New Guinea eastward through the Louisiade and Solomon Archipelagos to the New Hebrides, where it co-exists with some tribes of Malaya-Polynesians, and still farther to the Fiji Islands, which are the extreme limit of the race in an eastern direction.

In a direction north-west from New Guinea, a Papuan race extends through the Moluccas and the Philippines, but in these islands they only appear in small and scattered tribes, occupants of the mountain fastnesses.

The small islands which extend from New Guinea to Timor, with the exception of the Aru Islands, are occupied by Malaya-Polynesians of the most decided character; but at Timor, especially near the north-east end, a race evidently of Papuan origin again appears, but never, so far as Mr. Earl had been able to ascertain after a strict inquiry, in an absolutely pure state. These tribes were much oppressed by the Malaya-Polynesians who occupy the table-land of the interior; and the slaves which were brought down to the settlements on the coast, and were formerly exported to Macao and other places, were chiefly of this Papuan race.

Some tribes on the great island of Flores or Mangarai assume a more decided Papuan character, and there is said to be also a tribe of this race in the neighbourhood of the Timboro mountain on Sumbawa; but beyond this they disappear, and a Negro race is not encountered again until we meet them on the Malay Peninsula under the name of Semang, occupying some mountain tracts in the states of Kidah, Perah, and Kalantan. Farther west, the Andaman Islands in the Bay of Bengal are occupied by a people of most decided Negro character.

The Malayan term for crisped or woolly hair is 'rambut pua-pua.' Hence the term 'pua-pua' or 'papua' (crisped) has come to be applied to this Negro race, and expresses their most striking peculiarity. With the Mincopi of the Andamans, the Semang of the Malay Peninsula, the Alfoer and Negrito of the Philippines, they have been named Oriental Negroes, to distinguish them from the Negro race of Africa.

They were called by Mr. Muller, Mairassie, and by Lieutenant Modera, Alfoeren or Alfoer. Marsden adopted the term 'Negrito,' or 'little Negro,' from the Spaniards of the Philippines, and applied it to the entire race.

The term 'tanna papua,' or 'land of the crisp-haired,' is applied by the brown-coloured races not only to New Guinea, but to all the adjacent islands, which are occupied exclusively by the Papuan race. Their frizzled or woolly hair does not spread over the surface of the head, as is usual with the Negroes of Western Africa, but grows in small tufts, the hairs which form each tuft keeping separate from the rest, and twisting round each other, until, if allowed to grow, they form a spiral ringlet. Many of the tribes, especially those who occupy the interior parts of islands whose coasts are occupied by more civilised races, from whom cutting instruments can be obtained, keep the hair closely cropped. The tufts then assume the forms of little knobs about the size of a large pea, giving the head a very singular appearance, which has, not inaptly, been compared with that of an old worn-out shoe-brush. Others again, more especially the natives of the south of New Guinea and the islands of Torres Strait, troubled with such an obstinate description of hair, yet admiring the ringlets as a head-dress, cut them off, and twist them into skull-caps made of matting, thus forming very compact wigs.

But it is among the natives of the north coast of New Guinea, and some of the adjacent islands of the Pacific, that the hair receives the greatest attention. These open out the ringlets by means of a bamboo comb, shaped like an eel-spear, with numerous prongs spreading out laterally, which operation produces an enormous bushy head of hair, which has procured them the name of 'mop-headed Papuans.' Among the natives of the Fiji Islands (the easternmost limit of the Oriental Negro race), the operation of dressing the hair occupies the greater part of a day. The hair of the beard and whiskers, which generally grows very thick and bushy, is arranged in little tufts similar to those of the head, and the same peculiarity is found to exist in the hair with which the breasts and shoulders of the men are often covered, but the tufts are here farther apart than on the head and chin. This woolly or twisted hair is peculiar to the full-blooded Papuans. A comparatively slight mixture with the brown-complexioned or Malaya-Polynesian race appears to destroy the peculiarity. The hair of people of the mixed race covers the surface of the head. It is therefore very easy to distinguish the pure Papuans.

Within the geographical limits of the Indian Archipelago, the Papuans only appear as inhabitants of the sea-coast, in New Guinea and the islands immediately adjacent. In other parts of this region they have found shelter among the mountain fastnesses, maintaining an unequal struggle with the brown races by whom they are surrounded; and in some of the Spice Islands, the group nearest to New Guinea, their extirpation is matter of history. In Ceram and Gillolo a few scattered remnants of the race still exist; but they hold little or no intercourse with their more civilised neighbours, flying into the thickets which afford them shelter and concealment on the first appearance of a stranger, experience having taught them that death or captivity might be their fate if they fall into the hands of their enemies. The characteristics of the mountain Papuans must therefore be sought in those islands where their

numerical strength permits them to lead a life more fitted for human beings than that of their hunted brethren. It is an error to suppose that these Negro races disappear before civilisation. Their chief destroyers have been the wild and warlike hunting tribes of the brown race; and, excepting the case of the Moluccas, wherever European civilisation has been introduced, the Papuans are more numerous than elsewhere. The large island of Mysol or Mæsual, which lies nearly midway between the north-western extreme of New Guinea and Ceram, is said to have been occupied exclusively by Papuans when this region was first visited by Europeans, and they still form the bulk of the inland population, but the villages of the coast are occupied by a mixed race, in which the Papuan element, however, prevails. The islands of Goram, Ceram Laut, Bo, Poppo, Geby, Patani, Hoek, and the south-eastern extremity of Gillolo, are also occupied by people of the mixed race, who are remarkable for their maritime activity, and for their friendly disposition towards European strangers. The woolly-haired tribes are more numerous in the Philippines than in any other group of the Indian Archipelago, with the exception of New Guinea. M. Mallat (Les Philippines, i. p. 97, Paris 1846) gave the amount of the 'Negrito' population in 1842 as 25,000. The island on which they were first seen was named by Magellan 'Isla dos Negros,' to distinguish it from the adjacent island Zebu, where his ships remained for some months. Negros still contains a large population of Papuans; while Zebu, Samar, and Leyte are altogether free from them, and no record exists of their having ever been found there. But Mindanao and Mindoro contain several tribes of Negritos, and they form the chief population of the less accessible parts in the mountain ranges of Luzon, the largest island of the Philippine group. The accounts of the Negrito race given by the early Spanish navigators perfectly apply to their present condition. They are described as being smaller, more slightly built, and less dark in colour, than the Negroes of Africa, and as having features less marked with the Negro characteristics, but as having woolly hair.

New Guinea, etc.—The whole of the great island of New Guinea, the Ke and Aru Islands, with Mysol, Salwatti, and Wagiou, are inhabited almost exclusively by the typical Papuan, and the same Papuan race extends over the islands east of New Guinea as far as the Fiji Islands. The people on the coast of New Guinea are in some places mixed with the browner races of the Moluccas. In the typical Papuan, the colour of the body somewhat varies: generally it is a deep sooty-brown or black, somewhat approaching, but never quite equalling, the jet-black of some Negro races, but it is occasionally a dusky brown. The hair is harsh, dry, and frizzly, growing in little tufts or curls, which in youth are very short and compact, but afterwards grow out to a considerable length, forming the compact frizzled mop which is the Papuan's pride and glory. The face has a beard of the same frizzly hair; and the arms, legs, and breast are also more or less clothed with hair of a similar kind. In stature, the Papuan is superior to the Malay, and the equal or superior of the average European. The legs are long and thin, and the hands and feet larger than those of the Malay. The face is somewhat elongated; the forehead flattish, the brows very prominent; the nose is large, rather arched and high, the base thick, the nostrils broad, with the aperture hidden, owing to the tip of the nose being elongated; the mouth is large, the lips thick and protuberant. He is impulsive and demonstrative in speech and action; his emotions and passions express themselves in shouts and laughter, in yells and frantic leapings. Women and children take their share in every discussion. The Papuan has much vital energy (?) In the Moluccas, Papuan slaves are often promoted to places of considerable trust. He decorates his canoe, his house, his domestic utensils, with elaborate carving. They are often violent and cruel towards their children. If the tide of European civilisation turn towards New Guinea, the Papuan, like the true Polynesian of the farthest isles of the Pacific, will no doubt become extinct. A warlike and energetic people, who will not submit to national dependence or to domestic servitude, must disappear before the white man. The Papuan race is found in all the islands as far east as the Fiji. Mysol and Wagiou are Papuan, mixed, partly.

The Negroes of New Guinea are in various states of civilisation. Some of the rudest dwell in miserable huts, and seek a bare subsistence by the chase or the spontaneous productions of the forest. There are, however, other Negro tribes living on the coasts who have made some advance in civilisation. These dwell by whole tribes in huge barn-like houses raised on posts, like those of the wild inhabitants of Borneo, but ruder. Their beard is crisp. The forehead is high and narrow; eyes large, dark-brown, or black; nose flat and broad; mouth large, lips thick, and teeth good; few have regular features, and most are apathetic. The ordinary men wear a waist-cloth made of the bark of a tree, called Mar, which is wrapped round the waist and passed between the legs. Women wear a short sarong to the knee, generally of blue cloth. Men and women tattoo their bodies on occasions, by pricking the skin with a fish bone and rubbing in lamp-black. The Papuans of Dori worship, or rather consult, an idol called Karwar, a figure rudely carved in wood and holding a shield. Every house is provided with the idol, which is usually about 18 inches high, is exceedingly disproportioned, the head being unusually large, the nose long and sharp at the point, and the mouth wide and well provided with teeth. The natives have also a number of 'fetishes,' generally carved figures of reptiles, which are suspended from the roofs of the houses; and the posts are also ornamented with similar figures cut into the wood. The Dori people are a seafaring people, and are expert swimmers and divers. Their prahus have outriggers, and are excavated from the trunk of a single tree. Their food consists of millet, obi, maize, a little rice, fish and hogs' flesh, and fruits. Sago is imported in small quantities. Theft is considered a grave offence; they are chaste, and marry one wife. The dresses of the chiefs among the natives of Dori consist of the saluer, or short drawers of the Malays, and the kabaya, or loose coat of calico, with a handkerchief tied round the head. The common men, and the chiefs themselves, when not in the presence of strangers, wear only a chawat, or waist-cloth of the bark of the fig, or

of the paper mulberry tree, beaten out like the bark cloth of the Polynesians. The Papuans inhabit the shore, the Arfak dwell in the mountains and interior. Both these main classes are divided into different tribes, who are generally in a state of hostility with each other. The Papuans of Dori resemble those of Mysol, which is called Long Island in the English charts, and lies about 10 miles to the east of Dori. In general they are short in stature, the most 5½, very few 5½ feet high, but muscular and well made. Their colour is dark-brown, inclining to black in some. Two albino children were seen there (of the same mother), with white skin rather passing to yellow, with some brown spots on the back, and with white crisped hair and blue or green eyes. The Papuans of Dori are generally affected with skin diseases; in some the skin looks as if it were covered with scales (ichthyosis). The hair is black and crisped. It has a reddish tint at the outer ends. They usually wear the hair the full length to which it will grow, which makes their head, from a distance, appear twice its actual size. In general they bestow little care upon it, so that it has a disorderly appearance, and gives them a wild aspect. There are some, however, whose hair, whether through art or naturally, is smooth and even, as if it had been clipped. The men wear a comb in their hair, consisting of a piece of bamboo having three or four long points on the under side, like a fork, running into a point above, and generally carved. This comb, which is stuck in obliquely at the side, has a small strip of coloured cotton fastened at the top, which hangs out like a streamer. The women do not wear this ornament. The beard is strongly crisped, but short; the hairs of the beard are sometimes pulled out. Most Papuans have a high but small forehead, large dark-brown or black eyes, flat broad noses, large mouths, with thick lips and good teeth; many, however, have thin crooked noses and thin lips, which give them a European physiognomy. They pierce the ears, and wear some ornaments in them, or their tobacco, which they roll in pandan leaves, and of which they are great consumers.

The appearance of the Papuans is lazy and stupid; most of them are very ugly, only a very few have regular features and a lively aspect. The women wear a short sarong, generally of blue cotton, which hangs to the knees, or a kind of breeches with very short legs. The body is otherwise entirely uncovered. Some, however, wear the sarong to above the bosom. The children of both sexes go entirely naked until the age of puberty. All wear rings on the arms, composed of fish bones, shells, copper, silver, twisted rattans or rushes. These last, of the breadth of two fingers, and usually red coloured, are put on the arm at an early age, and adhere tightly to the skin as the limb grows. The men mostly wear a similar band of rattan on the wrist of the left hand, but much broader, and which sits loose on the wrist, in order to prevent the skin being stripped off by the hard string in shooting with the bow. They tattoo themselves on different parts of the body after the death of one of their relations,—for instance, on the cheeks and under the eyes after the death of the father; on the breast for the grandfather; on the shoulders and arms for the mother; and on the back for a brother. The women also tattoo, but chiefly after the death of one of their female relations. The figures appear to be chosen at will, mostly like those on two crossed klewang, or two curls running into each other. This tattooing is performed by young girls, by pricking the skin with a fish bone, and rubbing in soot. Large scars are seen on some, as if they had been burned. The number of such scars on one person are sometimes as many as ten, and are probably used as ornaments.

The weapons of the Papuan consist chiefly of bows and arrows, the spear, klewang, and parang, as well as the shield for protection. The bows are formed of bamboo or of a kind of very tough red wood; the string rests in two notches near the ends, and is made of rattan. The bows which they use in war are 6 or 7 feet long, those for ordinary use are mostly 3 or 4 feet. The arrows are formed of reeds, a little shorter than the bows; they have very long tapering points of bamboo, fish bones, pointed bones or wood hardened in the fire; sometimes, but not generally, these points are of iron. Most of the points have sharp barbs, which generally produce incurable wounds, especially in the case of those who have no knowledge of the healing art, and leave the cure to nature. They do not apparently use poisoned arrows. The points are put into the arrows and fastened with thread, being often subsequently blackened. They generally have a great quantity of arrows in readiness for use. The spears, like the arrows, have barbed points, and are generally 8 to 10 feet long, and frequently have, just below the point, a small bunch of cassowary feathers. The klewang and parang, which they make themselves, or purchase from ships, are of the usual form. The shield is of wood, four-sided, 5 to 6 feet high, 2 broad, somewhat bent out at the edge, and furnished with a handle at the back. They are generally carved on the outside, and ornamented with the figure of a Papuan in a sitting posture.

The trade with New Guinea and the Eastern Islands (commonly called the Bugis trade), and the trepang fishery on the north coast of Australia, is carried on chiefly in vessels called Padewahkan. These leave Macassar and the other ports of Celebes for the Eastern Islands during the westerly monsoon, returning with the south-east trade-wind. The rich produce of New Guinea, of Ceram, and the islands to the north and north-east of Timor, is collected in the Aru Islands, and vessels belonging to British and Chinese merchants annually resort to them to obtain the commodities which they require in exchange for the manufactures of Europe and continental India.

The natives of the Utanata river are the finest looking men of all the people of the west coast of New Guinea. The river is the southernmost limit of the adventurous voyages of the traders from Celebes. These men are above the middle size, and many among them may be called large men. They are stout and well made. Their colour is a dark-brown, with sometimes a bluish tinge. They have dark and small eyes, a flabby, drooping nose, the septum of which is usually bored, and an ornament of wood or hog's tusk worn therein. The mouth is large, and provided with very white teeth, which are sometimes filed

to points. The lips are tolerably thick. Their features bear considerable resemblance to those of the Africans. Some of them have marks on the body, especially on the arms, breast, and belly, made by cutting the flesh with sharp stones, and then burning the wound, which causes the flesh, when the cicatrix is formed, to stand out in relief in weals the thickness of the finger.

The Papuans of New Guinea have the sumpit or blow-pipe, but their principal weapons are the bow and arrow, and a light spear or lance.

Aiou or Yowl is a group of low circular islands situated about 70 miles W.N.W. from the Cape of Good Hope on the west coast of New Guinea, and 30 miles from Wagiou in the Gillolo passage; Aiou Baba, the largest, is in about lat. 0° 25′ N., and long. 131° E. Other islands are Abdon and Konibar. The inhabitants are Papuans, who occupy themselves almost exclusively in fishing and in catching turtle, with which the lagoons within the reef abound.

Ansus Island is inhabited by Papuans. Their houses are built on posts, placed entirely in the water. At very low water only is the beach partially uncovered. This beach consists of mud, in which mangroves grow luxuriantly, and completely obstruct a landing. Their gardens consequently are on the surrounding islands. They wear their hair in tufts. Their appearance is good-natured, faces regular, eyes beautifully black, the mouth broad, with beautiful regular teeth, and the forehead high but narrow. Many have thin lips and finely curved noses, which give them a more European physiognomy. The men are generally handsome and well formed, stout without being too thick, strong and muscular; the women very good looking, and some children with very regular, soft faces, and long pendent curly hair.

Modera Island, about 60 miles N.N.E. of the Great Ke, is occupied by Papuans. It is the south-westernmost of a group of high islands which were at one time considered to form part of New Guinea.

Brumer Island is on the south coast of New Guinea. The women are tattoed on the face, arms, and front of the body, but generally not on the back, in vertical stripes, less than an inch apart, and connected by zigzag markings. On the face these are more complicated, and on the forearm and wrist they are frequently so elaborate as to resemble lace-work. The men are more rarely tattoed, and then only with a few lines or stars on the right breast. Sometimes, however, the markings consist of a double series of large stars and dots stretching from the shoulder to the pit of the stomach.

The Aru, Aroe, or Arru group of islands is situated on the northern verge of the great Australian bank. They extend from lat. 5° 52′ to 7° S., and in long. 133° 56′ E., running for upwards of 100 miles N. and S., and between 40 and 50 miles in breadth, and lie between the Timor Laut group and the S.W. coast of New Guinea. The more northerly of the islands are rarely more than 5 or 6 miles in circumference.

The Aru islanders are Papuans, with black or sooty-brown skins, woolly or frizzly hair, or strongly curled; thick-ridged, prominent noses, and rather slender limbs. There are some mixed races among them. The Papuan talks, laughs, and shouts without intermission. Papuan boys sing cheerily as they walk along, or talk aloud to themselves, which is quite a Negro peculiarity. The men, in height, are from 5 feet 4 inches to 5 feet 8 inches. The women delight in combing and forking their frizzly hair, which is tied in a bunch at the back of the head, using a fork with four diverging prongs to separate and arrange the long tangled frizzly mass. The Aru Papuans told Mr. Wallace that some of their tribes kill the old folks when they can no longer work, but he saw many old people. On a man's death, all the chattels which he has collected during his life, including tusks, gongs, and precious China dishes, are broken in pieces and thrown away, and heaps of these fragments are to be seen in the villages.

The produce of the islands is pearls, mother-of-pearl, trepang, tortoise-shell, paradise birds, and timber. They are given to intoxication. The men are jealous, and easily roused to anger by abuse of their women or ancestors. Their food is sago, fish, molluscs, the luxuries being tobacco and betel. They redden their hair by washing it with wood-ashes. They ornament their houses with brass trays called dulam or talam, and with elephants' tusks, all of which are destroyed on the owner's death.

Timor Island, in lat. 8° 21′ to 10° 23′ S., and long. 123° 30′ to 127° 15′ E., is occupied by tribes much nearer the true Papuan than those of the Moluccas. Slender figures of medium height; they are dusky-brown or blackish, with bushy frizzled hair, and the long Papuan nose, with the overhanging apex which is so characteristic of the Papuan, and so absolutely unknown among races of Malayan origin. The houses of the Timorese Papuan mountaineers are raised on posts. Their dead are laid on a stage 6 or 8 feet above the ground, sometimes open, sometimes covered, and retained there till money for a feast can be obtained, when they are burned. They are said to be great thieves, and the tribes constantly at war with each other, but are not very courageous or bloodthirsty. They respect the custom of tabu, which they call pomali. In their excitable disposition, loud voices, and fearless demeanours, the Timorese closely resemble the Papuans of New Guinea and the Aru Islands. The women talk to each other and to the men with loud voices, and with a self-assertion quite different from Malay women.

In the islands west of Timor, as far as Flores and Sandalwood Islands, a very similar race is found, which also extends eastwards to Timor Laut, where the true Papuan race begins to appear.

Negros or Buglas Island extends from lat. 9° 4′ to 9° 50′ N. Scattered tribes of Negritos occupy the mountain range which extends throughout the length of the island.

Flores Island, due south of Celebes, is inhabited by a race speaking six different languages or dialects, known as the Ende, Mangarai, Kio, Roka, and Galeleng. The stature is short and squab like Malays. The complexion is a good deal darker than that of the Malay; the nose flatter, the mouth wider, and the lips thicker, and the hair buckles without frizzling. The coast is occupied by the Malay or brown race, but in the interior is a people with frizzled hair, and a

similar frizzled-hair people live in the mountainous parts of Solor, Pintar, Lombatta, and Ombay.

The people of the neighbouring island of Semao are like those of Timor, with frizzly or wavy hair, and a copper-brown colour.

The people of Bo Island are a mixed race of Papuans and the brown-skinned race.

The Papuans for the most part exist only in a savage state, deriving a scanty subsistence from the productions of nature, living in conical-shaped huts; or where they appear as occupants of the sea-coast, roaming about in small canoes in search of food. Some of the more independent tribes, by which is meant those who have exclusive possession of the country they inhabit, have, however, adopted many improvements. In several parts of the north and of the south coasts of New Guinea, the villages consist of one large house, erected on piles, and occupied by all the married people, with a smaller one adjacent for the bachelors. These houses bear a very close resemblance to those of the Dyaks of Borneo, but are smaller and of more rough construction. Here the Papuans also cultivate fruits, yams, and sweet potatoes, and keep hogs and poultry to kill for food,—in fact, are almost on a level, as far as regards agriculture, with the more uncivilised tribes of the Malaya-Polynesians, from whom, indeed, if we may judge from the names employed to designate their agricultural productions, they have derived the slight but important advance they have made in civilisation. The weapons of the Papuans are heavy wooden clubs, spears or lances of nibong or other hard wood, and darts formed of a small kind of bamboo, provided with points of hard wood or of sharpened bone. The lances are projected generally by means of a becket of sennit about a foot and a half long, one end of which is provided with a toggle. This is held between the fingers, while the other end is fastened to the lance with what sailors call a 'half-hitch' knot, which flies off when the lance is projected, thus allowing it to go free. The becket gives a greatly increased purchase to the thrower, but is much inferior in this respect to the womeroo or throwing stick of the Australians. The darts are projected by means of a powerful bow, often 6 feet in length, with a bowstring of rattan. Mr. Earl suspects that this instrument was not originally Papuan, but has been adopted from the Polynesians. Stone axes and knives of quartz are now superseded among all those tribes who have either direct or indirect communication with the traders of the Archipelago, by parangs, or chopping-knives of iron. Their agricultural instruments are mere stakes of wood, sharpened at one end, which prove sufficient to effect the rude interference with nature required by their mode of cultivation.

The art of navigation appears never to have been in a very advanced state among the Papuans, since their navigation has only extended to those countries which could be reached from the continent of Asia without entailing the necessity of going out of sight of land; nor are they yet sufficiently advanced in the science of navigation to venture on any other than coasting voyages. Towards the eastern limits of the Papuan race, where they come in close contact, and are often mixed with the Polynesians, navigation is in a more advanced state than elsewhere, but this is evidently the result of contact with strangers, by whom, indeed, the navigation is personally conducted. The highest state of the art among the Papuans, without foreign assistance, is met with in Torres Strait, and upon the south coast of New Guinea. Here they possess large canoes of such construction, and propelled in so peculiar a manner, that we must consider them purely Papuan. Some very excellent sketches of these canoes, with a full description, are given in Flinder's Voyage. These canoes or boats are from 30 to 40 feet long, and the planks with which they are constructed are sewed together with the fibres of the cocoanut. Each is provided with an outrigger, and a platform of bamboo occupies the centre of the boat on a level with the gunwale. They are propelled in calm weather by paddles with long handles, the rowers all standing, as is generally the case among the Papuans. But the most striking peculiarity of these vessels consists in the sail, which is an oblong piece of matting set up in the foreparts of the vessel by means of two poles or masts, to which the upper corners of the sail are fastened. These masts are moveable, and the sail is trimmed by shifting the head of one of the masts aft. According to Mr. Earl's experience, these boats sail very indifferently, except before the wind; but Captain Flinders, who had good opportunities of judging, maintains a more favourable opinion. They are often to be met with about the month of March 300 or 400 miles down the north-east coast of Australia, the islanders being in the habit of making an annual voyage in this direction. The stopping-places are usually the islands lying off the coast, where they obtained tortoise-shell and trepang, the chief objects of their voyages. The natives of the south coast of New Guinea have very large canoes of a similar but more unwieldy construction, and propelled by a similar description of sail. These have never been seen far from the coast, and in fact are almost unmanageable from the difficulty experienced in steering such unwieldy masses with paddles alone. It is therefore difficult to conceive for what purpose they have been constructed, unless it should be for war, in which case their large size would give them an imposing appearance. The New Guinea canoes generally are of light construction, and are provided with an outrigger. The larger ones have an attap roof, and are capable of containing an entire family, with household furniture and domestic animals.

With regard to the general disposition of the Papuans, a great difference is found between those living in a state of independence and those who exist in bondage among the neighbouring nations. The former are invariably found to be treacherous and revengeful, and even those who have long been accustomed to intercourse with strangers—the tribes of the north-west coast of New Guinea, for example—are never to be depended upon, and the greatest precautions are always taken by those who visit them for purposes of trade. The wilder tribes generally avoid intercourse with strangers, if the force which lands is sufficiently great to cause alarm, but if otherwise, they pretend friendship until opportunity occurs, when they make a sudden and ferocious attack.

But what distinguishes them most from their neighbours, the Malaya-Polynesians, and even from the Australians, is the aversion, even hatred, they bear towards those who attempt to settle in their territory, and which is continued as long as a man of the tribe exists. It is probably this perfectly untameable nature that has led to their utter extermination in all those islands of the Indian Archipelago that did not possess mountain fastnesses, to which they could retire to lead a life similar to that of the Bushmen of South Africa. There have been instances of this in Van Dieman's Land, Melville Island (N.W. coast of Australia), and at Fort Du Bus on the west coast of New Guinea, in all which settlements the country was occupied by a pure or nearly pure Papuan race. In the former, hostility was continued as long as a native remained on the island, and in the two last, until the settlements were abandoned in despair. On the other hand, their neighbours the Australians have invariably submitted after a single trial of strength; and the Malaya-Polynesians, when not under the influence of other foreigners, have always evinced a desire to have strangers, especially Europeans, settled among them, as shown by the people of the Moluccas when first visited by the Portuguese, and as displayed at the present time in those remote parts of the Indian Archipelago where the race maintains its ancient purity. The untameable ferocity of the Papuans only exists as long as they remain in their native country. On leaving it their character seems totally changed, as far as regards this particular. The Papuan slaves, who exist in great numbers in the eastern parts of the Archipelago, are remarkable for their cheerful disposition and industrious habits. The aversion to strangers felt by these Negroid races was retained by the Negrito of the Andamans for several years, but in 1873, while the Editor was there, a tribe voluntarily came in their canoes to Ross Island. The Andaman Mincopi have since partly settled.

With regard to stature, a great difference is found to exist between various tribes, even in New Guinea, and which has led to much confusion in the descriptions given by travellers, who have, perhaps, each only seen a single tribe. On the south-west coast of New Guinea, within a space of 100 miles, are to be found tribes whose stature is almost gigantic, and others whose proportions are so diminutive as almost to entitle them to the appellation of pigmies; while the manners and customs of each so exactly correspond, as to preclude the supposition that these peculiarities can be other than accidental. It is difficult to account for these peculiarities, but as the stout and stalwart Papuans are met with only among those coast tribes who have maintained their independence, and at the same time have acquired many of the agricultural and mechanical arts from their neighbours the Malaya-Polynesians, while the pigmies are found only in spots where they have been driven to mountain fastnesses, or have fallen under the influence of other races, we may conclude that their mode of life has much to do with this difference in point of stature and proportions.

The Papuans of Dori hang the skulls of the Arfak under the eaves of their houses, which are built in the water on posts, and led up to by rude wooden bridges. There is a large council chamber at Dori, supported on larger posts, on each of which is a rude carving of a naked man or woman, with other revolting carvings near. The people of Dori resemble those of the Ke and Aru Islands; many of them are very handsome, tall, well made, with well-cut features and aquiline noses. Their colour is a deep brown, often approaching to black, and their frizzly hair is combed up into a mop-like form by means of a long six-pronged fork. The language spoken at Dori is not understood by the Papuans at Humboldt Bay. The Dori people are great carvers and painters. Their food is roots and vegetables, with fish and game as a luxury. The Arfak or hillmen of New Guinea are generally black, but some are brown like the Malay. Their hair, though more or less frizzly, is sometimes short and matted, instead of being long, loose, and woolly. The many Papuan tribes in New Guinea are generally in a state of warfare with each other, and return from their warlike expeditions with heads. The natives have also a number of 'fetishes,' generally carved figures of reptiles, which are suspended from the roofs of the houses, and the posts are also ornamented with similar figures cut into the wood.

A widow remains in the family of her deceased husband.

The Papuans, when placed in circumstances favourable for the development of their powers, are physically superior to the races of South-Eastern Asia. Some of the New Guinea tribes would bear a comparison, in point of stature and proportions, with the races of Europe, were it not for a deficiency about the lower extremities. Even the more diminutive mountain tribes are remarkable for energy and agility, — qualities which have led to their being in great demand as slaves among their more civilised neighbours. With regard to mental capacity, also, they are certainly not inferior to the brown races; but their impatience of control while in an independent state, utterly precludes that organization which would enable them to stand their ground against encroachment, and they invariably fall under the influence of the Malayans whenever the two races are brought into contact.

Intellectually, Mr. Wallace places them above the Malays, though the Malays have acquired more actual civilisation by contact with superior races. The Papuans have a taste for personal embellishment, but it takes such eccentric forms as the attaching of two boar's tusks joined together to the nose, with the tips turned upwards. They eat many kinds of large insects. They are totally ignorant of metals, and the coast dwellers are even unable to procure fire for themselves. When they accidentally let their fires go out, they have to ask a spark of the hill tribesmen, who produce it by friction. Yet they divide the year into lunar months, have names for the constellations, and one of the tribes, the Ilema, counts up to a million.

Certain of the Papuan customs distinguish them from the Malaya-Polynesians, and certainly are of Papuan, or at least of Negro origin. One of these is the custom of raising the skin in cicatrices over various parts of the body, especially on the shoulders, breast, buttocks, and thighs. This must not be confounded with the tatooing or puncturing the skin which is practised by many of the Malaya-Polynesian tribes, and which is never met with among the Papuans, as

the scarifications about to be described are unknown to the others. The skin is cut through with some sharp instrument in longitudinal stripes, and, if on the shoulder or breast, white clay or some other substance is rubbed into the wound, which causes the flesh below to rise; and these scarifications, when allowed to heal, assume the form of raised cicatrices, often as large as the finger. It appears that those on the arms and breast, which are the largest and most prominent, are made in order to qualify them for admission to the privileges of manhood, by showing their capability of bearing pain. Boring the septum of the nose is universally practised among the Papuans. In the first instance they wear a roll of plantain leaf in the orifice, which by its elasticity enlarges it to a sufficient size to admit the thigh-bone of a large bird, or some other ornament, which is then worn extending across the face on all great occasions. British sailors have a very quaint name for this practice, which often comes under their observation among the Papuan islands of the Pacific; they call it 'sprit-sail yarding,' after a cruel method they have of treating sharks and dog-fish, which are frequently let go after having been hooked, a piece of wood being previously thrust through their nostrils, which, projecting on either side, prevents them from getting their heads under water, and they die a lingering and painful death.

Filing or grinding down the front teeth until they become pointed, is practised by some of the tribes of New Guinea and of the adjacent islands of the Pacific. This custom, however, is not confined exclusively to the Papuans, as it is practised also at the Pagi Islands, on the west coast of Sumatra, the natives of which appear to be Malaya-Polynesians. This custom must not be confounded with one which is common among many of the Malayan and Bugis tribes, that of grinding down the front teeth until they become almost level with the gum. Another singular custom, which is only met with among the Papuans, or the tribes closely bordering on them, is that of dyeing the hair (which is naturally black) a reddish or flaxen colour, by using applications of burnt coral and sea-water in some instances, and preparations of wood-ashes in others. This process seems to expel all the dark colour from the hair, leaving it of a flaxen tinge, which appears to bear a close resemblance to the celebrated 'capillus flavus' so much admired among the Roman ladies, and which seems to have been produced by a similar process. The only Malaya-Polynesians whom Mr. Earl had known to practise this custom are some of the natives of Timor Laut, Sermatten, and Baba Islands lying to the westward of New Guinea, and not very remote. He was therefore induced to consider it as a Papuan, or rather, perhaps, as a Negro custom, for it is equally prevalent in many parts of Africa, especially among the Somali and other tribes in their neighbourhood. All travellers who have had opportunities of visiting Aden will have observed this custom among the African Somali employed in coaling the steamers, who sometimes appear with the plaster of coral still attached to their heads.—*Earl's Papuans; Logan in J. Ind. Arch.*, 1850; *A. R. Wallace, East. Arch.* ii. pp. 62, 180, 200; *Do. in Journ. R. Geog. Soc.* xxx. p. 172; *Crawfurd's Dictionary; Crawfurd's Hist. Arch.* i. p. 18; *Bikmore*, pp. 204, 242; *M'Gillivray's Voyage in the Rattlesnake*, i. p. 262; *Lubbock, Origin of Civilisation*, pp. 44, 122, 335; *Horsburgh, Journ. Ind. Arch.; Newbold in Royal As. Soc. Journ.*, 1845; *Quarterly Review; Marsden, Sumatra; Asiatic Researches; Cook's Voyages; Syme's Embassy to Ava; Wilkes' Exploring Expedition; Mallat, Les Philippines; Wallace; Kulf.*

PAPYRUS ANTIQUORUM. *Willd.*

Cyperus Syriacus, *Parl.* | Babeer . . . of SYRIA.

This papyrus grows in Egypt, Syria, and Sicily. It is translated in the Bible rush and bulrush; is the sedge from the pith of which the ancients made paper.—*Royle; Birdwood; Layard, Nineveh.*

PAPYRUS DEHISCENS. *Nees.*

Cyperus corymbosus, *H.B.* | C. Pangorei, *Roxb.* i. p. 202.
Chumati pati, ... HIND.

A sedge of the Peninsula of India and of Bengal, very common on the banks of the Hoogly, where it helps to bind and protect the banks.—*Voigt.*

PAPYRUS PANGOREI.

Cyperus tegetum, *Roxb.* | C. Pangorei, *Rottl.*
Madoorkati, ... HIND.

A sedge of the Peninsula of India, extremely common about Calcutta, and very extensively employed in Bengal for making the elegant, shining, useful mats for which the capital of India is famous, and which are frequently imported into Europe. When green, the culms are split into three or four pieces, which in drying contract so much as to bring the margins in contact or to overlap each other.—*Eng. Cyc.; Voigt; Royle.*

PAPYRUS TEGETIFORMIS. *Arnot, W.*

Cyperus rudus, *Roxb.* | Kuch-kuchiya, . . BENG.

A sedge of Bengal.—*Voigt.*

PAR. HIND., PERS. A feather. Par-i-taos, a shawl-wool cloth or pashmina of two colours, literally peacock's feather. Par-i-purz, a shawl-wool fabric with a nap.

PAR, a river which rises in the W. Ghats, in lat. 20° 30′ N., and long. 73° 43′ E., and runs W. into the Arabian Sea. Length, 50 miles. It has no tributaries of note; area drained small, and imperfectly defined. Though rugged, the Konkans have many fertile valleys, each of which for the most part affords a passage for a small river or torrent, holding a westerly course, like the Par, from the ghats to the Indian Ocean. The most fertile spots are on the banks of streams. The rivers abound with fish, but are also frequented by crocodiles. The Savitri also is navigable as far as Mhar, 30 miles from its mouth.

PARA. MALEAL. A grain measure of Malabar, equal to 10 Yedan galli, and containing 1264 cubic inches, rather more than 4 imperial gallons, or 40 lbs. avoirdupois.

PARA. BALUCHI. A section of a tribe.

PARA. BENG. Also Paragam. A hamlet, a village.

PARA. SANSK. Strange, foreign, supreme, infinite; hence—

Parabara, SANSK., the most high; but Parabaravasta, as conceived by the Hindus, is not the true Supreme Being. As an immaterial being, it is the universal spirit; as a material being, it is the universe; the masculine power is identified with Siva, and the feminine power is the so-called Sakti.

Parabrahma or Brahm of the Hindus, the supreme Universal Spirit, the Supreme Being, is a term that first appears in Hindu religious books,

in some of the best Upanishads, or appendages to the Vedas, of later date than the first three, and introducing a different and superior theology. It seems to have been a first effort towards the recognition of a Creator; and many Hindus now recognise the Almighty as an infinite, eternal, incomprehensible, and self-existent Being. He who sees everything, though never seen; he who is not to be compassed by description, and who is beyond the limits of human conception; he from whom the universal world proceeds; who is the lord of the universe, and whose work is the universe; he who is the light of all lights, whose name is too sacred to be pronounced, and whose power is too infinite to be imagined, is Brahm! the one unknown, true being, the creator, the preserver, and destroyer of the universe, from whom all souls come, and to him again return. Under such, and innumerable other definitions, is the Deity acknowledged in the Vedas, or sacred writings of the Hindus. But while there are learned Brahmans who 'thus acknowledge and adore one God, without form or quality, eternal, unchangeable, and occupying all space, they have carefully confined their doctrines to their own schools, and have tacitly assented to, or even taught in public, a religion in which, in supposed compliance with the infirmities and passions of human nature, the Deity has been brought more to a level with man's own prejudices and wants, and the incomprehensible attributes assigned to him, invested with sensible and even human forms.' Upon this foundation the most discordant fictions have been erected, from which priestcraft and superstition have woven a mythology of the most extensive character. In India, the human form in its natural state, or possessing the heads or limbs of various animals, the elements, the planets, rivers, fountains, stones, trees, etc. etc., have all been deified, and become objects of religious adoration. The sun, moon, and all the heavenly host; fire, earth, and all natural phenomena,—all nature, indeed,—the passions and emotions of human beings, their vices and virtues, are transformed into persons, and act appropriate parts in the turbulent history of man. The omnipotent God, whom the Hindu has been taught to consider as too mighty for him to attempt to approach, or even to name, has been lost sight of in the multiplicity of false deities, whose images have been worshipped in his place. To these deities the many splendid temples of the Hindus have been erected, while throughout the whole of India not one has been devoted to Brahm, whom they designate as the sole Divine Author of the universe, the One Eternal Mind, the self-existing, incomprehensible Spirit. But the will of God, that the world should exist and continue, is also personified by them, and his creative and preservative powers are made to appear as Brahma and Vishnu, while Siva is the emblem of the destructive energy,—not, however, of absolute annihilation, but rather of reproduction in another form. In the Hindu religion, therefore, this triad of persons represents the almighty powers of creation, preservation, and destruction. In their metaphysics, Brahma is matter, Vishnu spirit, Siva time; or, in natural philosophy, earth, water, and fire. These three persons have wives, the executors of the divine will and the energies of their respective lords. The preservative and representative powers, being in constant action, are, as have been also their wives and children, fabled to have descended on earth innumerable times in divers places for the instruction and benefit, including the profitable punishment, of mankind. And these endless incarnations have been worked up by the poets with a wonderful fertility of genius and the pomp of language into a variety of sublime descriptions, interspersed with theological and moral texts, that at length they were received as inspired productions, and became the Hindu standard of truth. Brahma, the creative power, is not specially adored in temples dedicated exclusively to him. His creative duties over, his portion of the Divine activity ceased to operate on the hopes and fears of mankind. In their mythology, however, the Hindus narrate fabulous persecutions and warfare which overthrew Brahma, his temples and worship; and the sects of Vaishnava and Saiva now comprise all the individuals of the races in India distinguished by the appellation of Hindus. A philosophic few excepted, they are worshippers of a superstitious and idolatrous polytheism; and the Hindu erects no altars to Brahm, the infinite, incomprehensible, self-existing Spirit, 'which illumines all, delights all, whence all proceed; that by which they live when born, and that to which all must return.' The Narayana of the Hindu of the present day is rather the Spirit of God moving on the water, and can be regarded but as the spirit of Brahm (Ins. of Menu, ch. 1, v. 10), though the two Hindu sects claim for their Vishnu and Siva the title of Narayana, and Brahm himself is sometimes called Narayana. At present there will not be found two Hindu families whose belief is identical, though almost all the educated of the people recognise one God under one name or another. God thus adored is Brahm, the One Eternal Mind, the self-existing, incomprehensible Spirit. From time to time great reformers rise, condemning the prevailing Hindu idolatry, and so anxious are the people to know the truth, that every new teacher immediately gathers around him a number of disciples.—*Tod.*

PARABEIK. BURM. A notebook made of thick, coarse, bark paper, coated with a charcoal paste and folded. They are written on with a steatite pencil.—*Forbes.*

PARACELSUS, an eminent medical practitioner. He died A.D. 1541, at the age of 48, in the hospital of St. Sebastian, at Salzburg, in Germany, after a life of great indulgence and dissipation.

PARACHALI. HIND. A caste of traders in the Panjab; their merchandise is carried by the Kābuli, Tajak, and some of the Khaibar tribes.

PARACLETE. Muhammadan doctors unanimously teach that by the Paraclete, or, as they choose to read it (John xvi. 7), 'the Periclyte or Illustrious,' their prophet was intended and no other.—*Sale's Koran*, c. clxi.

PARADESI or Pardesi. HIND. Wandering devotees from Northern India; also any foreigner from Hindustan.

PARADISE is supposed to be derived from the Arabic Firdūs, one of the regions of the paradise of the Muhammadans. More truly Pari-des, the other land, the future world of the Persians, has also been surmised. See Jannat.

PARADISE BIRDS, Papua birds.

Burong mati, . . . ARU.	Ave de Pardiso, . . PORT.
Manuk devata, . . JAV.	Burong Papua, . . TERN.
Burong devata, . MALAY.	Soffu, Sioffu, . . . ,,

Of the various birds of paradise, named by the Indians birds of Ternate (Valmont de Bomare, Historie Naturelle, iv. p. 296); by the Ternatians, birds of God (Valentyn's Indian Archipelago, iii. pp. 306-313); by the Dutch, king's birds (Forrest's Voyage to New Guinea, p. 142); and by the Spaniards, birds of the sun (Aldrovandus, Valmont de Bomare, iv. p. 297), the names Manuk devata and Burong devata, or bird of God, have been adopted in modifications by several naturalists (Margrav, Brazil, p. 207; Rai, Syn. Av. pp. 21-27; Briss, p. 2-130; Buffon's Hist. Nat. des Ois. iii. p. 207). Of these, the great Promeropes (Pritchard's Researches, i. p. 83), the most beautiful of winged creatures, were fabled by the fancy of the Arabian poet, as visitants from heaven to earth; and it is a myth among the islanders of the Archipelago, that when old, and feeling the approach of death, the paradise birds fly upward towards the sun, but, having spent their strength in the inferior world, fail to reach again their celestial home, fall and die as they descend,—a graceful fancy not forgotten by the moralist or the poet (Camoens' Lusiad, Book x.). No representation can exaggerate their beauty, or excel the lustre of their plumage. They were supposed footless, and incapable of alighting, until it was discovered that the Indians cut off their feet before preserving them. They fly always against the wind. They are caught in New Guinea, the Aru Islands, Mysol, Salwatti, Wagiou (Crawfurd's Journ. Ind. Arch. v. p. 182), with a species of bird-lime, but are also shot with blunt arrows. In the nutmeg season, also, they come from their breeding grounds in the interior of that vast island, and sail in flocks of thirty or forty over the eastern borders of the Archipelago. They form valuable articles of export. Europe is supplied chiefly from Batavia, China from the Molucca and Aru Isles, while the natives of that remote group, with many of the Malays, adorn their casques at martial pageants with feathers plucked from their glittering wings.

Mr. A. Russel Wallace applies the term birds of paradise to the following:—

Paradisea apoda, the Great Paradise Bird, in the Aru Islands.
P. Papuana, the *Lesser Paradise* Bird, in New Guinea, Mysol, and Jobie.
P. rubra, the Red Paradise Bird, in Wagiou.
Cicinnurus regius, the King Paradise Bird, in New Guinea, Aru Islands, Mysol, Salwatti.
Diphyllodes speciosa, the Magnificent, in New Guinea, Mysol, and Salwatti.
D. Wilsoni, the Red Magnificent, in Wagiou.
Lophorina atra, the Superb, in New Guinea.
Parotia sexpennis, the Golden Paradise Bird, in New Guinea.
Semioptera Wallacei, the Standard Wing, in Batchian and Gillolo.
Epimachus magnus (Upupa magna, *Gm.*, U. superba, *Lath.*), the Long-tailed Paradise Bird. Body generally black or brownish-black; tail graduated, thrice as long as the body (Lesson says three feet in length, French); feathers of the sides elongated, raised, curled, glittering on their edges with steel-blue, azure, and emerald-green, like precious stones; the head and the belly lustrous, also with steel-blue, etc. In truth, language fails to convey any just idea of the magnificence of this species. It inhabits the coasts of New Guinea.
Seleucides alba, the Twelve-wired Paradise Bird, in New Guinea and Salwatti.
Ptiloris magnifica, the Scale-breasted Paradise Bird, New Guinea.
Pt. Alberti, Prince Albert's Paradise Bird, in North Australia.
Pt. Paradisea, the Rifle Bird, in East Australia.
Pt. Victoriæ, the Victoria Rifle Bird, in N.E. Australia.
Astrapia nigra, the Paradise Pie, in New Guinea.
Sericulus aureus, the Paradise Oriole, in New Guinea and Salwatti.

Mr. D. G. Elliot, in 1873, in a monograph of these beautiful birds, in addition to those enumerated by Mr. Wallace, gave the following:—

Ælurœdus buccoides, crassirostris, melanotis.
Amblyornis inornata.
Chlamydodera cerviniventris, maculata, muchalis, xanthogastra.
Diphyllodes respublica, speciosa.
Drepanornis Albertisi.
Epimachus Ellioti, speciosus.
Mamicodia atra, chalybea, kerændreni.
Paradigalla carunculata.
Paradisea minor, raggiana, sanguinea.
Ptilonorhynchus Rawnsleyi, violaceus.
Sericulus melinus.
Xanthomelus aureus.

Paradisea apoda is perhaps the most elegant of all these birds. It is le grand emeraude of the French. The birds of paradise, says M. Lesson, or at least the emerald, live in troops in the vast forests of the country of the Papuans, a group of islands situated under the equator, and which is composed of the islands of Aru, Wagiou, and the great island called New Guinea. They are birds of passage, changing their quarters according to the monsoons. The females congregate in troops, assemble upon the tops of the highest trees in the forests, and all cry together to call the males. These last are always alone in the midst of some fifteen females, which compose their seraglio, after the manner of the gallinaceous birds. They are as omnivorous as the crow, and, like the turkeys, Argus pheasants, the dancing bird of America, Rupicola coyana, and Sat-bhai or seven brothers of India, are fond of displaying their plumage.

Paradisea regia, called the Burong raja, also Goby-goby, is a very beautiful bird, first described by Linnæus as the great paradise bird, whose call is wawk, wawk, wawk, wok, wok, wok.

In the genus Paradisea of Linnæus, many birds were included since transferred to other genera; but three species are still retained in it, viz. P. apoda, *L.* (P. major, *Shaw*), back of a deep maroon-brown, contrasting with the golden-fulvous neck; P. Papuana, *Bechstein* (P. minor, *Forster*), back of a pale golden-brown, shading into the golden-fulvous of the neck; P. rubra, *Cuvier* (P. sanguinea, *Shaw*), back of the same bright golden-fulvous as the crown and neck, the long axillary plumes gorgeous red, and broad flattened middle tail-feathers, like long shreds of whalebone. In other respects the general characters are the same. All have short velvety feathers of a golden-fulvous hue on the crown and nape, with the throat and forehead deep, dark, satiny green, most developed in P. rubra, least so in P. Papuana. P. apoda and P. rubra have a black chin, and P. apoda has a broader green frontal mark than P. Papuana; while P. rubra has the fore part of the head green to beyond the eyes, the feathers being developed to form two hillock-like tufts on the head, and lengthened also on the sides of the throat, where disposed in concentric series, instead of uniformly as in the others. Moreover, the golden-fulvous of the nape is continued round the front of the

neck in P. rubra only; and P. apoda alone has a peculiar extraordinary denseness of feathering on the breast.

In the beautiful little king-bird of paradise (Cincinnurus regius), the stem-like middle tail-feathers are broadly barbed at the extremity, where they curl round in a singular manner to form a flat disc, of a deep emerald-green hue; and the axillary tufts are comparatively short, and consist of ordinarily-shaped feathers, which are brown with broad emerald-green tips.

In the Samalia magnifica there are huge neck-tufts, in addition to small axillary tufts, and the middle pair of tail-feathers again assume the form of lengthened stems.

In the Parotia sex-setacea, the feathers of the flanks are extraordinarily developed, composing a huge floccose mass; and each side of the head is ornamented with three long stems terminated by a black oval.

In the Lophorina superba, the scapulary feathers are enormously developed, and form a sort of erectile mantle; this splendid creature being also peculiarly adorned upon the breast.

The paradise birds of Aru at their pairing season have sacaleli or dancing parties, in certain trees of the forest, with immense heads, spreading branches, and large but scattered leaves, giving a clear space for the birds to play and exhibit their plumes. The bird is nearly as large as a crow, and is of a rich brown coffee colour. The head and neck is of a pure straw yellow above and rich metallic green beneath, and long plumy tufts of golden-orange feathers spring from the sides beneath each wing, and when the bird is in repose are partly concealed by them. At the time of its excitement, however, the wings are bent over its back, the head is bent down and stretched out, and the long plumes are raised up and expanded till they form two magnificent gold fans, striped with deep red at the base. When seen in this attitude it really deserves its name; a dozen or twenty full-plumaged male birds assemble together, raise up their wings, stretch up their necks, and elevate their exquisite plumes, keeping them in a continual vibration. Between whiles, they fly across from branch to branch in great excitement, so that the whole tree is filled with waving plumes in every variety of attitude and motion.—*Hardwicke and Gray, Ill. Ind. Zoology; F. D. Bennett, Wanderings; Wallace, Malay Archip.* ii. 141-220; *Lesson.*

PARADISE FISH, Polynemus risua, the Tapsi or mango-fish of India, is the Polynemus paradiseus of Linnæus (a name applied to another species by Bloch), on account of its long lateral filaments. Esteemed excellent food in India, and the sound furnishes isinglass.—*Simmonds' Dict.*

PARADISE FLY-CATCHER, Tchitrea paradisi, *Linn.*, shah bulbul or rocket-bird, though not common, its singularly attractive plumage can scarcely escape observation. The adult male has a blue head, white body, with two of the tail-feathers prolonged for upwards of 8 inches beyond the tip; these, in the female, scarcely extend beyond a quarter of an inch. The young birds are chesnut. Several birds are named of paradise.

The Bhim-raj or Indian mocking-bird, a species of Drongo or king crow (Edolius paradiseus); the male of the former having its two middle tail-feathers much elongated, and the other having its outermost tail-feathers prolonged into wire-like stems, barbed and twirled at the extremity. In like manner, the Vidua paradisea is a finch-like bird of Africa; the famous Queselt of the ancient Mexicans is the Trogon or Calurus paradiseus; and the Stanley crane, which has elongated tertiaries sweeping down to the ground, is the Grus paradisea of Temminck.

PARADOXURUS, a genus of mammals of the sub-family Viverrinæ.

Paradoxurus bondar, *Gray*, Terai tree-cat.

P. hirsutus, *Hodgson.*	P. Pennantii, *Gray.*
Baum, Bondar, . . BENG.	Machabba, . . NEPAL.
Chinghar, ... HIND.	Malwa, ... ,,

The Terai, Bengal, and Behar.

Paradoxurus derbyanus, *Gray*, Malayana.

Paradoxurus Grayi, *Bennett*, hill tree-cat, is the P. Nepalensis, *Hodgson*, and P. bondar, *Temm.*

Paradoxurus fasciatus, a civet cat of Nepal, S.E. Himalaya, Arakan, N. Burma, over much of the Archipelago.

Paradoxurus leucomystax, *Gray*, Malayana.

Paradoxurus musanga, palm-cat.

P. typus, *F. Cuv.*	P. prehensilus, *Gray.*
P. Pallasii, *Gray.*	Viverra hermaphrodita, *Pallas.*
P. Crossii, *Gray.*	
P. dubius, *Gray.*	P. strictus, *Hodgs.*
P. musangoides, *Gray.*	P. quadriscriptus, *Hodgs.*
Bondar, . . . BENG.	Jhar-ka-kuta, . HIND.
Kara-bek, ... CAN.	Ud, ... MAHR.
Menuri, Lakat, . HIND.	Maram-pilli, . MALEAL.
Khatas, ... ,,	Manu-pilli, . . . TEL.

Common and abundant throughout the greater part of British India; lurks by day among the fronds of the cocoanut palms, rolled up as a ball. It will live for months in confinement on vegetable food, but preferring flesh. It is said to consume the toddy of the palmyra.

Paradoxurus trivirgatus, *Temm.*, Ceylon, Malay Peninsula and Islands.

Paradoxurus Tytleri, *Blyth*, Andamans.

Paradoxurus Zeylanicus, *Pallas.* This species peculiar to Ceylon. It has a dark variety formerly termed by Dr. Kelaart P. montanus, but now described as P. Zeylanicus, *var.* Fuscus, beetle brown throughout; no streaks on the back perceptible; fur very glossy; tail with a bright golden-yellow subterminal ring. It comes from Newera Elia.—*Tennant's Ceylon; Jerdon's Mam.*

PARADZEKA of Burmese Buddhism, four unpardonable sins,—fornication, theft, murder, and a false profession of the attainment of monachism.

PARAGUAY TEA, Ilex Paraguayensis. The leaves, collected in Paraguay and South Brazil, are dried and used as a tea. See Mate.

PARAH, an Indian measure of capacity, two feet square and six and a half inches deep. The internal measure of a standard parah is a cube of 11·57–100 inches. The weight for various goods according to the Ceylon custom-house practice is,—for coffee, 35 to 50 lbs.; pepper, 27 to 30 lbs.; salt, 52 to 55 lbs.; paddy, 30 to 33 lbs.; husked rice, 42 to 46 lbs. In Bombay, eight parah make a candy, by which seeds, grain, etc., are measured. The parah contains 7 paillies, and weighs 19 lbs. 9 oz. 9·6 drs. The parah measure for salt is 1607·61 cubic inches.—*Sim. Dict.* See Para.

PARAKSHITA, a ruler of India. The time of his birth is uncertain. The kings of Magadha were of six dynasties, viz. that of Barhadratha, of the line of Pandu, the first of which was Jara-

sandha, a contemporary of Yudishthra and Krishna; according to Sir William Jones, B.C. 3101, according to Professor Wilson in the reign of Saha-deva, B.C. 1400, Parakshita was born and the great war ends, and in the reign of Ripunjaya, B.C. 915, a Buddha was born.

PARA KUDI, meaning foreign holder, a cultivator whose tenancies resemble closely the coloni and aratores of the Roman empire.

PARALI, from Pral, HIND., of Panjab. Straw of Oryza sativa or rice-straw, and Triticum æstivum, or wheat-straw. These are extensively employed by the hill tribes for snow-shoes. Price, 2 annas per pair.—*Powell*, i. p. 521.

PARALIA, of the Greeks, or the country of the Aii, is the present South Travancore.

PARAMAHANSA is a word used in the ninth volume of the As. Res. p. 318 (Cal. 4to edit.), where it is applied to Hindu ascetics of the orthodox sect in the last stage of exaltation; they disuse clothing. Now-a-days, individuals entirely naked are perhaps never seen in places of European intercourse; but up to the early part of the 19th century, dozens sometimes of these brawny saints were to be seen lolling and sleeping in the streets, and on shop-boards, as naked as they were born. They were always treated with great respect, especially by women; and at all times Hindu women in passing them saluted the ascetic. Four kinds of the Hindu ascetic mendicants, the Kutichara, Bahudaka, Hansa, and Paramahansa, differ from each other only in the graduated intensity of their self-mortification and profound abstraction, but the Paramahansa is the most exalted. He is occupied exclusively with the investigation of Brahm, or the Supreme Spirit; he is equally indifferent to pleasure or pain, insensible to heat or cold, and incapable of satiety or want. Individuals used to be met with naked in all weathers, never speaking, and never indicating any natural wants, and what was brought to them as alms or food was received by the attendants, whom their supposed sanctity or a community of interests attached to them, and by these attendants they were fed and served on all occasions as if they were as helpless as infants.—*Moor's Pantheon; Wilson.* See Hindu.

PARA MANIK. HIND. As the enforcement of Hindu caste observances cannot be trusted to the members of each caste as individuals, the result has been the growth of this class of inquisitors, who are perpetually prying into the minutest privacies of life to see that nothing is amiss.

PARAMATMA. SANSK. The Supreme Soul of the universe, or rather the Universal Spirit. The Hindus do not dispute the names of God or Allah, because they consider these expressions synonymous with Parameshwara, the Supreme Being,—that is to say, the Paramatma or Supreme Spirit of the Vedantist, the Siva of the Saivite, the Vishnu of the Vaishnavite. This exalted being, they consider, does not interfere immediately in the affairs of men; no question of scripture is necessarily brought forward by the introduction of his name. But when the names of Jesus Christ and Mahomed are employed, Hindus understand these to refer to some man who appeared on this earth, and the belief in whom is necessarily inconsistent with the belief in their own scriptures. Parameshwara, SANSK., from Param, excellent, and Eshwara, God, or, more simply, the glorious.—*Rasamala, Hindu Annals*, ii. p. 441.

PARAMITA, a queen of the Amazons, who is mentioned in the Mahabharata as conqueror of Arjuna, when he was accompanying the horse for the Aswa Medha, or sacrificial horse.

PARAMPA or Paramba. MALEAL. A garden, a cocoanut or areca-nut plantation.

PARANCH or Pranch. HIND. A written placarded notice demanding redress, or threatening destruction of the property.

PARANDA. HIND. A silk material, used as a hair ornament in Lahore; also a bird.

PARANG and Szanskar are districts in the N.W. Himalaya; Piti and Guge are Tibetan districts; all east of Piti is Tibetan.

PARANG. MALAY. A sword, a chopping-knife.

PARANSOTI TAMPIRAN was the head of a Saiva Matam (monastery) at Madura, during the reign of Ativira Pandiyan, about the 12th century. At the request of the king, he wrote a Tamil poem, Tiruvilliyadal Puranam, translated from the Sanskrit Kalasya Mahatmaya, relating the 64 sports of Siva.

PARAPPAR. TAM. An overseer, a term of courtesy for Brahmans amongst the Tamil people. See Ayar.

PARASANG, a Persian long measure of 3 or 4 miles, more or less in different districts.

PARASARA or Parashara, the earliest Hindu writer on astronomy whose name has come down to us, and is supposed to have lived about the 14th century, B.C. 1391, but has been variously estimated down to B.C. 575. He resided at Sri Shaila, and is said to have been a son of Vasishta, also a son of Saktri, and grandson of Vasishta. By an amour with Satyavati, a fisher girl, he was father of Krishna Dwaipayana, styled the Vyasa or arranger of the Vedas. Parasara was a disciple of Kapila, and he is said to have written also on Dharma Sastra; to have received the Vishnu Purana from Pulasteya, and to have taught it to Maitreya.

PARASGAR, HIND., of Kashmir, a shawl-washerman.

PARASHAWARA, now called Peshawur, is first mentioned by Fa Hian in A.D. 400, under the name of Fo-leu-sha. It is next noticed by Sung-Yun in A.D. 502, at which time the king of Gandhara was at war with the king of Kipin or Kophene, that is Kābul and Ghazni, and the surrounding districts. Sung-Yun does not name the city, but he calls it the capital, and his description of its great stupa of king Kia-ni-sse-kia, or Kanishka, is quite sufficient to establish its identity. At the period of Hiwen Thsang's visit in A.D. 630, the royal family had become extinct, and the kingdom of Gandhara was a dependency of Kapisa or Kābul. But the capital, which Hiwen Thsang calls Pu-lu-sha-pu-lo or Parashawara, was still a great city of 40 li, or 6⅔ miles in extent. It is next mentioned by Masudi and Abu Rihan, in the 10th and 11th centuries, under the name of Parashawar; and again by Baber, in the 16th century, it is always called by the same name throughout his commentaries. Its present name is due to Akbar.

One great object of veneration at Parashawara in the first centuries of the Christian era, was the begging-pot of Buddha, now at Kandahar, and called Kashgul-i-Ali. Another famous object was

the holy pipal tree, at 8 or 9 li, or 1½ mile, to the S.E. of the city. This same tree would appear to have been seen by the Emperor Baber in A.D. 1505, who describes it as the stupendous tree of Begram, which he immediately rode out to see. It must then have been not less than 1500 years old; it is not mentioned in A.D. 1594 by Abul Fazl in his account of the Gor-Katri at Peshawur. —*Cunningham, Anc. Hist. of India.*

PARASNATH, a mountain in Behar of great sanctity; it is the eastern, as Mount Abu is the western, metropolis of Jain worship and pilgrimage. 10,000 annually, from distant parts of India, visit the scene of Nirvana or 'beatific annihilation' of ten of the 24 deified saints or Tirthankara, who are the objects of Jain adoration; and from the last of these, Parswa or Parswanatha, the hill, originally called Samet Sikhar, took its better known name of Parasnath. It is in the east of Hazaribagh district, and adjoining Manbhum, Bengal, lat. 23° 57′ 35″ N., long. 86° 10′ 30″ E. The mountain consists of a central narrow ridge, with rocky peaks rising abruptly to a height of 4479 feet from the level country on the S.W., and throwing out long spurs. It is the highest hill of the range of hills separating Lower Bengal from Behar. Like to Abu on the west, the Jain religionists have covered the summit of this hill with numerous small temples, and the sacred Charan or foot-print is also shown. Amongst the Hindus, the eastern peak is the most noted. On its top, Parasnath obtained nirvan or emancipation from matter. The spot is especially sacred from that circumstance, and forms the holiest place of worship to the sect. The pilgrims climbing to see the last scene of his life and labours, are here shown his foot-prints, marking the spot where he obtained his nirvan.—*Hooker's Him. Journ.* i. p. 18; *Imp. Gaz.; Schlag.; Tr. of Hind.* i. p. 200.

PARASOL or Umbrella, a shade from the sun's rays, has been used in eastern countries as an emblem of rank from the most ancient times. The title Satrap of the Greeks is supposed to have been derived from the Ekach'hatra, also Ch'hatrapati, the vaulted horizontal umbrella, which in ancient India was always reserved exclusively for royalty. The Aftabgiri of Muhammadans of Persia and India is a round, flat, vertical parasol, carried to shade persons of rank by special permission of the sovereign, and usually emblazoned with a family device.

PARASU-RAMA, a Brahman, supposed to have lived B.C. 1176, who gave his name to an era, used still on the Malabar coast, from Mangalore to Cape Comorin. He was son of Jamadagni, a Brahman, and was apparently a village hero, but his name is associated with many fabulous Hindu legends. He was descended on his father's side from Bhrigu, and on his mother Renuka's side from the royal Kusika, and was born near Agra. Parasu-Rama means Rama with the axe, and he was also called Khandu Parasu, who strikes with the axe, and is said to have 21 times overthrown his Kshatriya opponents, which would seem to indicate a prolonged contest for supremacy between the Brahmanical and Kshatriya races. He was a contemporary and an opponent of Rama Chandra, by whom he was overcome. His history is detailed in the Mahabharata, Ramayana, and Bhagavat-Gita. He is fabled to have cut off his mother's head for some impropriety of her thoughts, but on his father offering him a boon for this, he asked her to be restored to life, also that he might be invincible in single combat, and enjoy length of days. He is fabled to have taught Arjuna the use of arms; is also fabled to have flung his axe into the Arabian Sea, and thus to have reclaimed the present Malabar, which he peopled from the north with the ancestors of the present Namburi Brahmans. He is said to have been a worshipper of Siva; and the cause of his war with Rama was his anger with Rama for breaking Siva's bow. Hindus regard him as the sixth avatara of Vishnu, and his opponent Rama Chandra as the seventh. Renuka, the wife of the Rishi Jamadagni, and mother of Parasu-Rama, is said to be identical with the Gramma-deva Ellammen. The Parasu-Rama era is current on the Malabar coast. At the birth of Christ, 1176 years of the Parasu-Rama era had expired, and the 1177th year began on the 17th August A.D. 1, Julian style.—*Gita*, p. 86; *As. Res.* i. p. 426, iii. p. 68.

PARASURAM BHAU was defeated at Panipat by Ahmad Shah. See Panipat.

PARASWANATH, the 23d Jaina Tirthankara, is said to have been born at Benares, where he married the daughter of King Prasenajita, and died, aged 100, on Samet Sikhar or Mount Parasnath in the west of Bengal, about B.C. 777. Paraswanath is sometimes shown with a snake hood, sometimes as a black man (Samta Paraswanatha). —*Ferg. and Burg.* p. 48.

PARATROPIA DIGITATA. *Voigt.*
P. venulosa, *W. & A.* | Araba digitata, *Roxb.*
. Pa-loo-let-wa, ... BURM.

A large shrub, native of Circars. Paratropia umbraculifera, *Roxb.*, is a plant of the Moluccas. The Karens make an infusion of the leaves of a species of Paratropia, which they administer for many internal diseases.—*Mason.*

PARAVAR, a dark-skinned, almost black race, in the extreme south of the Indian Peninsula, living in villages along the sea-coast, and earning their bread as fishermen, with nets, lines, and hooks. They own canoes, which they take to sea before daylight, and return about noon. Their ancestors are said to have been converted by Xavier, and they still profess the Romish religion, but they are drunken and dissolute. —*Madras Government Proceedings.*

PA-RA-WA, in Amherst, a hard, red, compact wood, with large fibre, and fit for gun carriages or other similar purposes. It is exempt from attacks of insects. It is used for spears and arrows (a species of Garcinia?).

PARBAT, from Parvata. SANSK. A hill near Poona; any mountain.

PARBATI or Parvati, a Hindu goddess, the mountain goddess, wife of Siva. See *Kali*; Parvati.

PARBATTIAH, a hill people of Nepal, who are arranged into four classes, denominated Awal, Doom, Seoom, and Charum, Persian terms denoting 1st, 2d, 3d, and 4th. The Awal are those peasants who possess five ploughs and upwards; the Doom, such as have from one to five; the Seoom are those who, without being proprietors of ploughs, are considered to be at the head of a few labourers; and the lands of Nepal proper are cultivated, almost without exce-

tion, by Newars; those to the westward, as Noorkale, etc., by the Parbattiah tribe, called Dherwara.

PARBHU, a writer caste in the Bombay Presidency, who claim to be pure Kshatriya, and descendants of Chandrasena raja of Malabar. The British in India call them Purvoe.—*Wilson.* See Prabhu.

PARCHA, head priests of the temple of Jaganath, who superintend the collection and disbursement of the revenues of the temple, and also see that the worship is conducted in an orderly manner.

PARCHA. HIND. A piece of cloth; also well-gearing. Parcharkar, the art of joining in stone.

PARCHERRY. ANGLO-TAM. From Paraiyan, a Pariah, and Cheri, a place. Parai-cheri, a village or quarter or ward of a city occupied by Pariahs; a derogatory name applied by Hindus to all non-Hindus, in the same meaning as M'hlechas.

PARCHMENT.

Parchemin, . . . FR.	Cartapecora, . . . IT.
Pergament, . . . GER.	Pergamino, . . . SP.

Parchment consists of the skins of sheep and goats, prepared in such a manner as to render them suitable for being written upon. It is now chiefly employed for charters and other writings where great durability is desirable. The name is from the Latin Pergamena, from Pergamus, the reputed place of its invention. Eumenes II., king of that place (who reigned B.C. 197–159), has the honour of the invention, he being stimulated thereto by the prohibition of the export of papyrus from Egypt; but Herodotus says skins were commonly used for that purpose in his time; and it is even asserted that the word Pergamena was not used until several centuries after the death of Eumenes. Layard says (Nineveh, ii. p. 151) the Egyptians used it occasionally as early as the 18th dynasty. According to Mabillon, the first writer who used the term is Tatto, a monk of the 4th century; before his time, the word Membrana was employed, as in the Greek Testament, 2 Timothy iv. 13. Following on the tables of stone used by Moses, the Jews used rolls of skin for their sacred writings.

Vegetable parchment, or ametastine, applicable for legal deeds, is made from water-leaf or unsized paper, and it acquires its peculiar properties by being dipped in diluted sulphuric acid, the strength of which must be regulated to the greatest nicety. It is one of the most unalterable and unchangeable of manufactured substances. It takes writing ink and dyes very readily, and, from its perfect surface, receives varnish without being sized in the first instance.—*Faulkner; Tomlinson.*

PARCHMENT. The coffee bean has three coverings,—(1) the outer pulp, within which is (2) the parchment, of a faint straw colour, which surrounds the coffee beans, and (3) the silver skin, semi-transparent, which adheres closely to the seed.

PARDAH. HIND., PERS. A screen. Pardah-nashin, a screened person, a woman who is secluded. It is a curtain, a cotton cloth with white and blue stripes, used for curtains, etc. The word Pardah, which means curtain or veil, is often metaphorically used, and implies that seclusion in which many females in India live; but in cases where ladies transact business, the expression must be taken literally, as they are seated behind a curtain, where they hear and are heard, and through the openings of which they see without being seen.—*Malcolm's Central India*, i. p. 279.

PARDANTHUS CHINENSIS. *Ker.*

Ixia Chinensis, *Linn.*	Ferraria crocea, *Salisb.*
Moræa Chinensis, *Thunb.*	
Shie-kan, ... CHIN.	Belam-konda-sulal-mani,
China leopard flower, ENG.	MALEAL.
Tiger lily, ... ,,	

A native of Nepal and the Himalaya, and common in gardens, being a very ornamental flowering shrub. It has a showy yellow and orange flower, whose petals are spotted like a leopard's skin. It is very commonly cultivated by the Burmese. It is used in medicine. The dark, irregular rhizomes of this and other iridaceous plants are sold in China under the name of Shie-kan.—*Mason.*

PARDESI. HIND. A foreigner, a stranger. In Southern India, the northern Hindus are so termed by themselves; and by the southern people, the term is equivalent to foreigner, as from Northern India.

PARDHAN or Pradhan, ministers of a native court; in Bengal, village authority.

PARDHI, a sportsman or fowler, a hunter race in the south of India, called also Harn-pardhi, also Shikari, but who call themselves Bhowra.

PARDHI, in the Maiker district, are cultivators, also wood-cutters; this race are part of the Gond.

PAREIRA BRAVA. *Linn.*

Wild vine, Velvet leaf, ENG.	Grieswurzel, . . . GER.

A medicinal root, procured from the Cissampelos pareira, a native of the West Indies and South America.

PAREYO. SINGH. Literally strangers, also called Widiyetto, or people of the highroad, a race near Badulla in Ceylon, supposed to be the descendants of Portuguese captives with women of rank of the country, degraded for crimes, or made slaves after the re-conquest.—*Ten.* ii. p. 267.

PARGANA. HIND. A district, a tract of country, including a number of villages; a subdivision of a district or province.

PARHARRI, servants of the Hindu idol Jaganath, who dwell within the holy land of the temple, and guard the seven inner doors of the pagoda, attend during the day, and watch over it at night; they present pilgrims to Jaganath.

PARHEYA, a race in Palamow, the mere remnants of a tribe who once formed an important part of the population. They vary largely in physical appearance. At Ramkunda in Palamow, two might have been classed as Negro, two as Mongolian. The Negro type were dark and prognathous; the latter bright copper-coloured, with flat, broad faces, and slightly oblique eyes.

The Parheya have a tradition that their tribe formerly held sheep and deer sacred, and used the dung of those animals to smear floors with, as they now use cow-dung.—*Dalton, Ethnol. of Bengal*, p. 131.

PARI. HIND., PERS. A fairy. Parizad, born of a fairy, a beautiful woman; the people of the valley of Peshin in Segestan worship fairies. Pari Sosan, maiden-hair.

PARIAH or Pariar.

Holeyar, ... CAN.	Paraiyan, . . . TAM.
Dher, ... HIND.	Paraiyar, ... ,,
Mhar, ... MAHR.	Paraiyadi kiravan, ,,
Paravan, . . . MALEAL.	Malla vadoo, . . TEL.

Pariah is a Tamil term, applied to an aboriginal people scattered throughout Southern India, often

adhering to a Shamanism. They are permitted to marry into each other's clans. They are regarded by the four castes of Hindus as of very low grade, but they are not out-castes, or men who have been expelled from other castes. They are not the Madiga Wanlu of Telingana, or Chakkili of the Tamil, or Mang of the Mahrattas, nor Chamar of Northern India, who are shoemakers or workers in raw hides, and still eat creatures which die from disease, and other animals that most races regard as unclean, and who in villages perform the lowest menial offices, such as messengers and scavengers, and are paid by portions of the crops and some small privileges, but are not permitted to reside within the village. The Pariah, however, are usually the serfs of the Sudra agriculturists. Those in the large towns, in the employ of the Europeans in Southern India, are quick, intelligent, and active. The race is emigrating with great rapidity to the West Indies, Mauritius, Cape Colony, and the Burmese provinces, etc., where all sectarian or social distinctions are unknown. There are said to be thirteen subdivisions amongst them. The Pariah are not the lowest of the aboriginal races. Even in the Tamil country there are ten castes who are lower in the social scale than the Pariah, and from these are excluded the Pallar, who dispute precedence with the Pariah. The Pariah constitute a well-defined, distinct, ancient race, independent of all others, and has its own subdivisions, its own peculiar usages, its own traditions, and its own jealousy of the encroachments of the castes which are above it and below it. And the Pariar, whom St. Pierre's romance has fabled as a mild, benevolent, subdued being, whenever he has an opportunity, is as severe on other sects as from the custom of the world we would surely expect. Several of the aboriginal races of the S. of the Peninsula have race or tribal titles; that of the Pariah is Samban, which means deity. The term Pariah is supposed by Professor Wilson to have its origin in the Tamil, Parai, a drum, as they are often the village musicians. Along the border country of the Nizam's territories, and in Berar, the Hindus style the Mhar and Dher or Pariah, Christians, the word being pronounced Kirsn. The Dher or Dhed of the Dekhan is employed as a watchman and messenger in the village establishments. In the Dekhan the Dher is identified with the Mhar. In some places he performs the duty of scavenger. In the Saugor territory, the Dher are said to eat dead animals, clean the skins, and sell them to the Chamars or tanners.

The Holiya of the Canarese country is a low man, an out-caste, commonly an agricultural labourer; the term is from Hola, a field; and in several districts he is a predial slave, being saleable by the owner of the estate on which he is located, either with or without the land. He is described as a predial slave in Canara and Coorg; in the former he is said to be a subdivision of the Dher, in the latter one of three principal classes of slaves called Holiyar, Yemaru, and Paleru. In both countries the Holiyar are distinguished by various demonstrations prefixed, which are variously written, and the meaning of which is not explained, as—Maury Holiya, Byr Holiya; Murtha Holiya, Bulgi Holiya, Kembutta Holiya, Badaya Holiya, Rookhee Holiya; of these, the only peculiarities noted are, that the Kembutta Holiya is native in Coorg, the rest are natives of Carnata. The Holiya are generally a more faithful class of slaves than others. Amongst the Mare Holiya, the custom of succession through the female line prevails. The Holiyar of the Canarese-speaking districts in the centre of the Peninsula are the village servants, watchmen, and the like, and are a willing, honest race.

PARI CHARAK. TAM. Superintendent of a temple. See Parcha.

PARI JATAMU or Para jatamu. SANSK. A celebrated tree, in Hindu mythology said to have been produced at the churning of the ocean, and to have been grown in Swarga, Indra's paradise. W., p. 529, has Erythrina Indica, or the coral tree; Br., p. 591, the same, and also the Amaranth and Mimusops elengi, also Nyctanthes arbor tristis, adding that it is a genuine name for all flowers with a jasmine scent. In the As. Res., W., p. 244, Sir W. Jones states that it is given to several different genera quite distinct from each other. Mr. Elliot heard it assigned to Cochlospermum. The Hindu fable is that Krishna, at the instigation of his wife Satya Bhama, stole it from Swarga, and took it to Dwaraka, but after his death it returned to Swarga.—*As. Res.* xi. p. 134.

PARIKSITI. A story of Pariksiti is still prevalent in the Hindu family circle. He was a Puranic hero who was doomed by a sage to die of a snake-bite. In order to escape this fate, he retreated to a barren island, believing that the serpent could not ford the water, and he would be quite safe. But the serpent, having assumed the form of a lemon, swam over to the island. The lemon was beautiful to behold, and he could not resist the temptation of smelling it. Having done so, the lemon bit the nose of Pariksiti, and he fell into a swoon and died. The legend guides the Hindus in their daily life. The serpent-god hears, it is said, the prayers of the devotee, whose house he occasionally visits. A superstitious woman, filled with awe and fear, instead of turning the venomous god away, beseeches him to retire, and when the god dilates his hood, and sways it to and fro, she thinks that it thereby promises her safety. She will not allow her children to smell a lemon, however fragrant it may be, and warns them that the serpent-god may transform himself into a lemon and bite their noses.

PARILOKA. HIND., SANSK. The future world, heaven; literally another place.

PARINARIUM EXCELSIUM, one of the Pomaceæ, a large tree brought to Bombay from Goa; the fruit, which ripens in December and January, resembles a coarse plum, and is held in much estimation. Colonel Beddome found *P. Indicum* at 2000 or 3000 feet on the Wynad slopes, Malabar, Carcoor ghat, and vicinity.—*Riddell.*

PARINDA. HIND., PERS. A light boat of Kashmir; a bird.

PARISHAD, a community or college of Brahmans associated for the study of the Vedas.—*D.*

PAR-i-TAOS, literally peacocks' feathers, a sort of pashmina or shawl-wool cloth of two colours.

PARITIUM MACROPHYLLUM, Bet-mwæsha, BURM. A plant of Burma which furnishes a useful fibrous material for ropes, being long, soft, pliant, and strong; colour brown.—*M. E. J. Reports.*

PARITIUM TILIACEUM. *St. Hil.*

Hibiscus similis, *Blume.*	H. tiliaceus, *Linn.*
H. elatus, *D.C.*	H. tortuosus, *Roxb.*
Bola, ... Beng.	Paruti, Tali Pariti, Male.
Lye-nya-sha, . . . Burm.	Belli-patta, . . . Singh.

The banks of tide-water streams of Burma are often damasked with the changeable red and yellow flowers of this large luxuriant bush. It is common also on the Malabar coast, and supposed not to differ from H. arboreus, the Maho tree and Mohaut of the West Indies. The fibres of its inner bark are employed for cordage by the inhabitants of the South Sea Islands and by the American Indian; it is said to gain in strength when tarred. The Otaheitans make fine matting from it, and likewise manufacture it into ropes and cords.—*Mason; Royle.*

PARIVRAJAKA, a religious mendicant; a Brahman in the fourth stage of his religious life. —*Dowson.*

PARIWARA ISLAND natives closely resemble other Papuans to the eastward, but are smaller in stature, and wear the hair frizzled up into a mop projecting backwards.—*Macgillivray's Voyage*, i. pp. 293, 294.

PARJI, the servants of the village community of Hindustan. In Faizabad, they comprise the blacksmith, carpenter, barber, washerman, and shoemaker. See Baloti.

PARKA. Hind. The copper receiver of a still, kept cool in water; in this the spirit accumulates.

PARKARMA. Sansk. In Hinduism, the religious circuit of any shrine or holy place; a circumambulation, otherwise called pradakshana.

PARKES, Sir HARRY, for some years Her Britannic Majesty's minister at the court of China. His term of office included the episode of the treaty of Tien-tsing, the first and second opium wars, the outrage on the lorcha *Arrow*, and the important negotiations which followed the arrival of Lord Elgin, in company with Sir Thomas Wade, Sir Rutherford Alcock, and General Gordon. For eighteen years he has represented Great Britain in Japan. He underwent cruel sufferings in China through the treachery of General Sankolinsin.

PARKHAR, a district north of the Runn of Cutch, the words par and khar meaning beyond, and salt desert. The Thur and Parkhar districts are occupied almost equally by Muhammadans and Hindus, subdivided into classes. They generally used a mixed language called Dati, composed of Sindi, Marwari, and Gujerati, though Gujerati is in use in some parts of the district. In manners and customs they resemble the Cutchi. They are chiefly occupied in cattle-breeding and as graziers. The Muhammadans are Syuds, Baluch, Brahui, Jat, and Summa. The Hindus are Brahmans and Soda. There are also 25 commercial tribes, 5 out-caste races, the Mengwar, Bhil, Koli, Bala-Shahi, and Shikari; and 13 miscellaneous tribes, Shaikh, Memon, Kumbrani, Gudda, Bujeer, Mohana, Jokiah, Dookur, Koliah, Amunda, Bhopa, Mahur, Hakra. In the Thur and Parkhar district, only 9 inhabitants to the square mile.

PARKIA, a genus of plants named in honour of Mungo Park. The genus contains only a few unarmed trees of the west coast of Africa, the Peninsula of India, Sylhet, and in the islands to the eastward to Bay of Bengal. Parkia Africana is the Nitta or Doura tree of Soudan. The farinaceous matter surrounding the seeds is eaten, and also made into a pleasant drink when steeped in water. The seeds are roasted as coffee, then bruised, and allowed to ferment in water. When they begin to become rotten, they are well washed and pounded, and the powder is made into cakes resembling chocolate, which form an excellent sauce for all kinds of meat.—*Brown, in Denham, quoted in Eng. Cyc.; Voigt.*

PARKIA BIGLANDULOSA. *W. and A.*

Mimosa pedunculata, *Roxb.*

Chendu phool, . Hind.	Sambrani manu, . Tel.

A large and elegant tree introduced into India from Africa. It is one of the best trees for avenues. It requires care and water regularly. The flower-buds resemble balls of red velvet. The wood is hard and promising; it is surrounded by an astringent bark. The sweet and farinaceous pulp within the pods is highly esteemed, and made into sweetmeats. The natives also make a pleasant drink by diffusing the farina through water.—*Voigt; Riddell; Cleghorn, in M. E. J. R.*

PARKIA ROXBURGHII. *G. Don.* Mimosa biglobosa, *Roxb.* A tree of Assam and Sylhet; wood not known.—*Voigt.*

PARKINSONIA ACULEATA. *Linn., D. C.*

Barbadoes flower fence, Eng.	Vilaiti kikar, . . Hind.
Jerusalem thorn, . „	Adanti, ... „
Genet epineux, . . Fr.	Sima jiluga, . . Tel.

A small graceful tree of the West Indies and South America, domesticated in India. It grows 12 or 15 feet high, and is seen everywhere in the Peninsula, springing up with less care than any other tree, needing little water, and furnishing abundant cuttings for fuel. It is very generally employed as an ornamental plant, and for the construction of hedges, for which its strong spines render it well adapted. The flowers are large, yellow, very numerous, and a little variegated with red spots, and are succeeded by long, narrow, knotted pods. It grows readily from seed; the stem from which the leaves spring is capable of being converted into a white fibre. Some of it was sent to the Exhibition of 1851, as a material for paper-making, and could probably be afforded at a cheap rate, from the cuttings of the shoots of this plant.—*Drs. Voigt; Riddell; Royle's Fib. Pl.* p. 288; *Stewart's Panjab Plants; Eng. Cyc.*

PARLA KIMEDI, an ancient zamindari (landed estate) in Ganjam district, Madras; the largest in the district, extending over an area of 993 square miles, including 354 square miles of maliya or hill country. Population (1871), 250,978, inhabiting 47,341 houses and 1043 villages. The estate pays a peshkash (fixed revenue) of £8782, the proprietary income being returned at £46,500. The zamindars claim descent from the royal house of Orissa Gajapati (Gangavansa), and take precedence in the district. Eleven hill chiefs called Bissaye, and 23 smaller lairds called Dora, owe feudal allegiance and pay tribute to the raja. —*Imp. Gaz.* vii.

PARLOCA. Hind., Sansk. The future world, literally another place.

PARM. Sansk. A dot, a symbol of the Supreme Being, Parm-Eswar. See Chank.

PARMELIACEÆ. The lichen tribe of plants, the Lichenaceæ of Lindley, are perennial plants, often spreading over the surface of the earth on

rocks or trees, in dry places, in the form of a solid and foliaceous, or hard and crustaceous or leprous substance called a thallus. Many of the same species are found in different parts of the world; the lichens of N. America differing little from those of Europe, and almost all those collected by Dr. Royle in the Himalayas were found by D. Don to be identical with European species.

Usnea florida, *Ach.*, syn. of Lichen floridus, *L.*
U. barbata, *Ach.*, syn. of L. barbatus, *L.*
Borrera ciliaris, *Ach.*, syn. of L. ciliaris, *L.*
B. ashneh, *Royle*, Chulchilhera.
B. furfuracea, *Ach.*, syn. of L. furfuraceus, *L.*
Rocella fuciformis, *Ach.*, syn. of L. fuciformis, *L.*
R. tinctoria, *Ach.*, Orchil.
Cetraria Islandica, *Ach.*, Iceland moss.
C. nivalis, *Ach.*
Alectoria usneoides, *Ach.*
Cladonia rangiferina, *Hoffm.*
Ramalina farinacea, *Ach.*, syn. of L. farinaceus, *L.*
Gyrophora murina, *Ach.*, syn. of L. murinus, *Ach.*
G. deusta, *Ach.*
G. pustulata, *Ach.*
Peltidea canina, *Ach.*, syn. of L. caninus, *L.*
Parmelia perlata, *Ach.*, syn. of L. perlatus, *L.*
P. caperata, *Ach.*, syn. of L. caperatus, *L.*
P. physodes, *Ach.*, syn. of L. physodes, *L.*
P. saxatilis, *Ach.*
P. omphalodes, *Ach.*
P. encausta, *Ach.*
P. conspersa, *Ach.*
P. parietina, *Ach.*
P. Kamtschadalis, *Esch.*
Sticta pulmonaria, *Ach.*, syn. of L. pulmonarius, *L.*
S. scrobiculata, *Ach.*, of L. scrobiculatus, *L.*
S. pulmonaria, *Ach.*
Stereo-caulon paschale, *Ach.*, syn. of L. paschalis, *L.*
Lecanora parella, *Ach.*, Orseille de terre, Perelle d'Auvergne.
L. tartarea, *Ach.*, Cudbear.
L. hæmatomma, *Ach.*
L. atra, *Ach.*
Variolaria lactea, *Ach.*
Urceolaria scripta, *Ach.*
U. cinerea, *Ach.*
Isidium Westringii, *Ach.*
Lepraria chlorina, *Ach.*
Solorina crocea, *Ach.*

Some lichens are useful to man as food and medicinally; others, after maceration in urine, can be employed as dyes, the chief dye plants being the Lecanora parella, also the purple powder of L. tartarea, or cudbear, from Cuthbert, who introduced it; P. hæmatomma, Rocella tinctoria, and R. fuciformis furnish the orchil or archill dye, called also Orseille des Canaries. The Borrera ashneh is a common dye in India. The nutritive properties depend on the presence of an amylaceous substance analagous to glutone, which Berzelius says exists in the form of pure starch or amylaceous fibre to the amount of 80·8 per cent. in Cetraria Islandica.—*Voigt; Eng. Cyc.* See Dyes.

PARMELIA KAMTSCHADALIS. *Esch.*

Shih-jui, . . . CHIN.? | Charcharita, . HIMALAYA.
Chalchalira, HIMALAYA. | Ausneh, . . ,,

This lichen is found in the Panjab bazars, and is probably gathered in the Himalaya. It is used as a dye, and is also officinal, being given as a stimulant to digestion, and on the Yunnani system in mania, as a diuretic. Honigberger states that it is also administered in disorders of the stomach and womb, and in cases of calculus. It is also said to be used for purifying the blood, and as a bitter tonic and astringent, and used in intermittent fever and hæmorrhage.—*Stewart; Powell.*

PARM-NARM. HIND. A name given by Akbar to the fabric of ibex wool, the Shah-tus.

PAROPAMISUS, a name applied by the ancient Greeks and Romans to the mountainous region between Herat and Balkh on the N.W. and Ghazni and Kandahar on the S.E. In this extent it comprises what are now known to be several distinct ranges, and the old name has ceased to be used. This mountainous region extends 350 miles from east to west, and 200 from north to south. It is so difficult of access, and so little frequented, that no precise accounts of its geography are to be obtained. The eastern half is inhabited by the Hazara, and is cold, rugged, and barren; the level spots are little cultivated, and the hills are naked and abrupt. The western part, which belongs to the Aimak, though it has wider valleys and is better cultivated, is still a wild and poor country. The northern face of these mountains has a sudden descent into the province of Balkh; their acclivity is less on their other extremities, except perhaps on the west or south-west. On the north-west they seem to sink gradually into the plain which borders on the desert. The slope of the whole tract is towards the west. To the north of this, extending eastwardly and to the west, are the elevated plains of Tartary, the Asiatic dominions of Russia, Chinese Tartary, and China, and the regions occupied by several Turkoman nations. Part of the mountains N.W. from India was also called the Paropamisus or Hindu Kush; and Imaus and Hindu Kush seems to have been identical terms. The true Imaus, however, is the ridge which separates Kashmir from Little Tibet. It appears to incline, in its northern course, towards the continuation of the Hindu Koh, and even to join it. The term Hindu Koh or Hindu Kush is not applied to this ridge in its whole extent, but seems to be confined to that part of it which forms the N.W. boundary of Kābul, and this is the Indian Caucasus of Alexander. There is, however, much confusion, owing to the use of Tibetan, Chinese, and Persian names for that great mountain mass. —*Lassen on the Kings of Bactria; Rennell, Memoir*, p. 190; *Elphinstone's Caubul*, p. 430; *Vigne's Narrative*, p. 193; *Wh. Hist. of I.* p. 419; *Porter's Travels*, i. p. 152.

PARRA, a genus of tropical birds belonging to the family Parridæ, the sub-family Parrinæ, the Jacanas, as under :—

Sub-Fam. Parrinæ.

Metopidius Indicus, *Latham*, the bronze-winged Jacana, all the East Indies.
Hydrophasianus chirurgus, *Scopoli*, the pheasant-tailed Jacana, Ceylon, India.

The genus Parra is restricted to birds from South America; but Adams speaks of a water-pheasant (Parra Sinensis) which was shot on the river near the head of the valley of Kashmir.—*Adams.*

PARRA. TEL. A measure of capacity, fixed at 4000 inches = 5 marakal.

PARRAKEET, birds of the tribe Scansores and genus Palæornis. A sub-family of birds of the parrot family or Psittacidæ, peculiar to the eastern hemisphere, found in the tropical regions of Africa, Asia, and Australia.

PARROT.

Perroquet, ... FR. | Papagayo, ... SP.
Papagei, ... GER. | Killi poolli, . . . TAM.
Tota, ... HIND. | Chiluka, ... TEL.
Pappagallo, ... IT.

The parrots are arranged by naturalists in the

family Psittacidæ, belonging to the climbing tribe of birds, and divided into six sub-families, as under:—

Psittacinæ, true Parrots.
Loriinæ, Lories.
Palæorninæ, Parrakeets.
Platycercinæ, Australian Parrakeets.
Arainæ, Macaws of America.
Cacatuinæ, Cockatoos of Australia and islands.

Palæorninæ or Parrakeets.

Palæornis Alexandri, *Linn.*, all India.
P. torquatus, *Bodd.*, Tropical Africa, all India, Ceylon.
P. rosa, *Bodd.*, all India, Burma.
P. schisticeps, *Hodg.*, Himalaya, Bengal, Sylhet, Assam.
P. columboides, *Vigors*, Malabar coast, Neilgherries.
P. Javanicus, *Osbeck*, all India to Java.
P. calthropæ, *Layard*, Ceylon.
P. caniceps, *Blyth*, Nicobars, Penang.
P. erythrogenys, *Blyth*, Nicobars, Andamans.
P. longicauda,—? Sumatra, Malayana.
P. modestus, *Fraser*, —?
P. viridimystax, *Blyth*, —?

Loriinæ or Lories.

Lorilucus vernalis, *Sparrm.*, the love-bird or Indian Lorikeet of Malabar, the Sub-Himalaya, Bengal, Sylhet, and Burma.
L. galgulus,—? Malay Peninsula.
L. Asiaticus or Indicus,—? Ceylon.

Other species in China and E. Archipelago—

Psittinus Malaccensis,—? Malay Peninsula.

Cacatuinæ or Cockatoos.

a. White, with large crests, from the Moluccas and Australia.
b. Black, of Australia and islands near, forming the crested genera Microglossum and Calyptorhynchus.

Nestorinæ have dingy plumage and square tail.
Psittacinæ have short and even tail.

PARROTIA JACQUEMONTIANA. *Dec.*

Killar, Kirru, Pare, CHEN.	Killar, ... RAVI.
Wych hazel, . . ENG.	Sha, ... SUTLEJ.
Psher, Pishor, . JHELUM.	Spilecha, . TR.-INDUS.
Pahu, Po, . . KANGRA.	

A shrub of some size, which grows abundantly in many places on most of the rivers up to the Indus, as well as more sparingly beyond it, at from 2800 to 8000 feet. It is generally seen in clusters and thickets, the stems ranging up to 12 or 15 inches girth, and 15 or 20 feet high. The leaf resembles that of the hazel, for which this plant has frequently been taken by Europeans, although the fruit is very different. In some places its leaves are said to be browsed by cattle. The wood is hard and strong, and makes good pegs, native bedsteads, rice-pestles, walking-sticks, etc.; and Vigne states that he had an excellent flute made in England of its wood. The twigs are used for binding loads, making baskets, etc.; but the chief use of the plant is for the twig-bridges, often spanning 300 feet. These are in most places made of Parrotia twigs, either wholly or mostly, Cotoneaster, Olea, and Indigofera heterantha, *q.v.*, being sometimes mixed with these. For the bridges, etc., Parrotia is cut at all seasons, but is not very lasting, requiring frequent piecemeal renewal. Longden mentions a birchen jhula at Koksar, since replaced by a bridge; and willow is stated to be employed in Spiti, Ladakh, etc. Near Muzaffarabad there were several bridges of the same construction (viz. one longitudinal rope to walk on, and two lateral ones to hold by, connected with the former by thinner ropes), but made of twisted hide, and one was mentioned by Hutton in Kanawar made of yak's hair. Parrotia Persica grows in Persia and Kashmir, and furnishes a very hard wood.—*Dr. J. L. Stewart, M.D.*

PARSA. HIND. With Hindus a portion of grain set aside to appease evil spirits, which becomes the perquisite of the gorait or watchman.

PARSEE, a name given to the Zoroastrians, now scattered through different parts of Southern Asia, but principally located in Bombay and Gujerat. They are called Parsee because they came to India from Pars or Fars, the province of Persia known as Persis by the Greeks. They are of that Aryan race who in primeval times dwelt in Aryana-Vaejo, the old Aryan home believed to have been on the banks of the Araxes, near where the city of Atropatene afterwards stood, far north of India, where winter reigned for ten months of the year. The race parted into two great branches: the East Aryan or Brahmanical moved towards India, and the West Aryans, whom the modern Parsees represent, journeyed westwards. The great bulk of the Aryans in Persia adopted Muhammadanism when overthrown by the Arabs, and a small remnant, adhering to their Zertushtrian religion, left their country. The emigrant Parsees retreated to Khorasan, where they remained for a hundred years; afterwards retreated to Hormazd or Ormuz in the Persian Gulf, where they remained for 15 years, and then sailed for Diu, a small island to the N.W. of the peninsula of Gujerat. After a few years they sailed to Sanjan at the S. extremity of Gujerat province. A small remnant race exists in Yezd. In Persia, in 1881, there were only 500 families who were subject to the Jazia or poll-tax, could not wear white robes, could not build a new house, could not appear on horseback, had to pay transit dues on passing from place to place with goods; instances were occurring of girls and women being forcibly converted to Muhammadanism; a convert could claim all the heritable property; in purchasing land, one-fifth of its value had to be paid as fees to the mullas.

Being persecuted and annoyed by the Muhammadans, most of their countrymen have emigrated to India. A handful of persecuted exiles, living in a foreign land, surrounded for 1200 years by idolatry, and persecuted at times by religious fanaticism, the Parsees have still preserved their national type and character and their original worship. Though they have not altogether escaped contamination, and have adopted many superstitious ceremonies and notions of the Hindus, they have always recoiled from degenerating to the worship of idols, and have clung tenaciously to the idea that they were worshippers of only the invisible Hormazd, the great God. The Parsees believe in the existence of angels, created by God, and having the power given them to assist and benefit mankind. But they centre their prayers and their hopes, above all, in Hormazd. Their whole morality is comprised in three words, —Pure thought, word, and deed; their reward and punishment depends upon their fulfilment of this injunction, and their pardon on the will and mercy of God. The worship of fire, and the ordinary receptacle of the sacred fire, is called Adurian, the more expensive places, of which there are six in India, being called Atash-bahram. They now have a heaven; and the place to which the souls of the good go, is Gurasman Bahasht.

They have a hell, called Dozakh, which they describe as a dark place with fiends, and where Ahriman or Shaitan dwells as the arch-fiend. They are strict in their ritual observances, particularly those inculcated for purification. The kusti or sacred thread has frequently to be removed from the person; and their families, like those of the Jews, Muhammadans, and Hindus, dwell in rooms apart. They have 101 attributes or names of the deity. Before prayer they wash their hands and feet, take off the kusti, pray, and again fasten the kusti. In their prayer, they first recite the Saroshbaz, Sarosh being an angel in heaven. They then pray to Khûrshad, the sun, to an angel named Mahir (Mihir? the sun), and to Hormazd, the beneficent principle. Women also usually pray. While they were still dwelling in Bactria, Zertusht, known to the western world as Zoroaster, reformed the W. Aryan worship. Zoroaster's reform in Bactria occurred about the time of Menes, or about 3500 B.C. The Parsees of India, however, maintain and quote as their authority (Haug's translation) the Gathas, and the good principle is distinctly noticed in the Gathas, songs of Zertusht. He is altogether distinct from another Zoroaster, the Median conqueror of Babylon, who vanquished the realm and city of the Chaldees, and founded the second Babylonian dynasty in the year 2234 B.C. He was a priest of the fire-worshippers at a time when the doctrine of a duality of good and evil was already in vogue, though the name of Ahriman does not occur in the oldest records. What is understood by evil is evil thought (Ako mano), or falsehood; and this is contrasted with good thought, which is identical with the good principle, and is now known as Horimazd or Hormazd. An absolute personification of the good principle is, however, hardly to be found in the songs of Zertusht.

In British India, they object to the term fire-worshippers, but the Zoroastrian religion there has become the distinguishing mark of a caste rather than a living faith, while their versatility, intelligence, and general aptitude for business have made them a wealthy and influential body. They do not proselytize, have only recently relaxed a little towards nine of their own race, but they still resist the admission of hundreds of others who, being descended from Parsee fathers and Hindu or Musalmani mothers, wished also to be invested with the sacred thread. The excluded body conform in all externals to Zoroastrian rules, and call themselves Parsees, but the right to join in public worship has been steadily refused them, till nine persons were invested with the thread by a Dustoor in presence of a thousand Parsees.

The Parsees have the Zend and Pahlavi names of 21 books which they suppose Zoroaster to have produced, but of which the major part have been lost. Their Zendavesta consists of—(1) the five Gatha or songs and prayers (in metres resembling Vedic), which alone are thought to be the work of Zoroaster himself, and form part of the Yazna or Yajna, written in two dialects, the older of which Dr. Haug called the Gatha; (2) the Vendidad, a code of laws; (3) the Yasht, containing hymns to the sun and other deities. There is another portion called the Vispard. A note in the Dinkard, an ancient Pahlavi work, however, says the Avesta has three parts—(1) the Gatha, in verse, and treating of the invisible world; (2) the Date, in prose, and giving rules of conduct; and (3) Mathre, comprising prayers and precepts, and giving an account of the creation. The Vendidad, the Yazna, and the Vispard survive, and are collectively known as the Vendidad Sade; also the Ogum Decha, the Khurdah-Avesta, and the Yashts, with fragments of the Vistasp, Hadokht, and Damdad books. The Izâshne, Vispard, Khurdah-Avesta, and Yashts are books of prayers.

The Ahuna Vairya or Honover is the especial prayer offered by the Parsees to the Supreme God, as a benediction. It is—

'Yathâ ahû vairyô.
Athâ ratus ashât chit hacha.
Vanheus dazdâ mananhô shyao thénanâm.
Anheus Mazdai Khshathrémcha Ahurâi.
Ayim darigubyô dadhat Vâçtârĕm.'

Professor F. Spiegel translated it, and from his German, A. H. Bleeck rendered it into English—

'As is the will of the Lord, so (is He) the ruler out of purity.
From Vohu-manô (will one receive) gifts for the works (which one does) in the world for Mazda.
And the kingdom (we give) to Ahura when we offer succour to the poor.'

The English translation from A. Franck and J. Oppert's French version is as follows:—

'Like the Verb of the Supreme Will, emanation exists only because it proceeds from truth. The creation of what is good in thought or act in the world belongs to Mazda, and the reign is of Ahura, whom the Verb has constituted the destroyer of the wicked.'

Professor Max Müller says (vi. p. 176): 'A Parsee believes in one God, to whom he addresses his prayers. This God has neither face nor form, colour nor shape, nor fixed place. He is himself alone, and of such glory that we cannot praise or describe him, nor our minds comprehend him. Whoever believes in any other God but this is an infidel.' The Zertushti catechism says: 'If any one commit sin under the belief that he shall be saved by somebody, both the deceiver and the deceived shall be damned to the day of Rasta Khez.' 'Your Saviour is your deeds, and God himself, he is the Pardoner and the Giver.'

Amsshashpand.—In the existing Parsee religion seven Amsshashpand are supposed to exist; they are called the immortal holy ones. These cannot be regarded as the elements.

The *Ardibehest-Jasan* festival is maintained in honour of Ardibehest Amsshashpand, the controlling angel, according to their theology, over their sacred fire. On this day the Parsees crowd their fire-temples to offer up prayers to the Supreme Being.

The *Ava Ardui Sur Jasan* festival is held in honour of Ava, the angel, in their theology, who presides over the sea. On this day, Parsees should approach the sea-shore or any stream of water, and chant prayers from the Zend; but these people now generally mix with their prayer several Hindu rites, such as offering flowers, sugar, cocoa-nuts, etc. In Bombay, a fair is held on the esplanade on this day.

The *Amardad-sal* holiday is held on the day following the Khurdad-sal, of which festival it is merely a continuation. Amardad is from Amere-

tat, immortality, the seventh Amsshashpand of the Parsee.

There is a Parsee sect known by the name of Shapoo, who, like the Zoroastrians, pray while standing looking to the sun and near water. They never talk with anybody barehead, etc. The admission of an individual into the Parsee faith is indicated by the assumption of the Sadaro or shirt.

Parsee festivals are celebrated with but little show. Their day is divided into watches termed gah, of which there are four in winter and five in summer. Each gah has a heavenly watcher and its own special prayers. Pateti Naoroz, or New Year's Day, is held on the 1st of Farvardin, celebrated in honour of Yezdejird, the last king of the Sassanian dynasty. On this day alms are given, and congratulatory visits paid, in which the Hama-i-jor or hand-joining is practised. Rapitwar, on the 3d of Farvardin, is in memory of Ardibehest; Khurdad-sal, in memory of Zoroaster.

Physicians who attend Parsee patients are always charged (if the cases are likely to terminate fatally) to give timely warning to the friends of the sick man. When it is believed that he is drawing near his end, the sacred Hom water is given to drink, and, when life departs, the attendants place the body on stones, in a lower chamber, from which everything else has been removed, and wash it with warm water. The reasons given for the removal to the ground are various, but the one ordinarily accepted amongst them is that a dead body is an unclean thing, necessitating that all who touch it must destroy their clothes, and whatever it touches must be destroyed. With these views the dead in Bombay are carried by a class of Parsees called Nessus Salar, Nessus meaning unclean. These men carry the remains to the dokhma or tower of silence, on the floor of which they lay it. The dokhma is without any roof covering, is open to the sky, so that birds of prey, vultures, kites, and crows have the freest approach. The raised floor has a deep well surrounded by a platform, with channels converging to the well. The dead are carried within on an iron bed, from which they are removed and placed on a partition of the platform, and the fluids resulting from its decomposition flow along the channels into the well; but after a time the remnants of bones are also swept into that excavation. This mode of disposing of the dead is universal among the Parsees whenever they are able to give effect to the arrangements. A small dokhma will cost Rs. 10,000 or Rs. 15,000. When the well is full, the bones are removed and buried outside the dokhma. After the demise, before removal from the house, a dog is brought near to gaze on the departed. This is the Sag-did, or dog-gaze, and its object is variously explained,—anciently, it is said, because the dog's intelligence could show whether life was extinct; but at present the notions are that the dog's presence secures the passage of the soul over the bridge of Chinvat (see Bridge). The fire-priests are paid to pray for the dead, monthly, for a year, and thereafter on the anniversary of the demise.

Addar jasan is the 9th day of the 9th month of the Parsee year. On this day, money is distributed to the priests, and offerings of sandal-wood are made to the sacred flame in their fire-temples, which are then much crowded. The educated amongst them are inclined to imagine their Gurasman or Bahasht, in which Hormazd dwells, a heaven something like that of the Christians, but seven (or four) heavens are recognised amongst them; and their Dozakh, where dwells Ahriman or Shaitan amongst dark fiends, is the equivalent of hell.

In childhood, a Jubhla or silken frock is worn by the Parsee, both boys and girls, and they are invested with the Sadaro, or sacred shirt, and the cord or kusti, at the age of six years and three months. It is in reality deemed to be the seventh year,—the nine months of the child's gestation being included. This investiture is the initiation of the child into the religion of Zoroaster, the silken Jubhla being then discontinued. The Sadaro is made of cotton cloth, or gauze, or net, while the kusti is a thin woollen cord of seventy-two threads, representing the seventy-two Has or chapters of the Izashne, one of their sacred books. The Sadaro and kusti are worn alike by men and women, but the latter likewise dress in the saree, generally of coloured silk, and the short-sleeved silk vest called the Kanchri or Choli. Provided the Sadaro be worn, any other material and of any colour may be added over it. It is to the kusti, the sacred thread, to which Moore, in his Lalla Rookh, alludes, when he makes Hafiz declare himself a fire-worshipper:—

> 'Hold! hold! thy words are death,
> The stranger cried, as wide he flung
> His mantle back, and showed, beneath,
> The Gebr belt that round him hung.'

The kusti is terminated by two small tails at each end, denoting the four seasons; three knots on each tail represent in the aggregate the twelve months of the year. Baron de Bode, however, states that the cord is twisted, of 27 threads, such being the number, according to one Parsee interpretation, of the known kingdoms of the world at the time of Hushang. But it is variously explained. The assumption of the Sadaro or sacred shirt is part of the ceremony of initiation. It corresponds to the under garment worn by a Hebrew child, called Arbang Kanphoth.

In 1861, at the 11th meeting of the Bombay Literary and Philosophical Society, Professor Daddabhai Naoroji gave a short sketch of the present condition of the priesthood, whom he described as a body not only ignorant of the duties and objects of their own profession, but entirely uneducated. They only know how to read and write, as that is necessary to the preparation by rote of a number of recitations and prayers required for their daily avocations. On account of this general ignorance among the priests, there is no pulpit among the Parsees. The religious education of the Parsee child consists only in the preparation by rote of a certain number of prayers in Zend, without understanding a word of it. Of late some effort has been made to supply this want. A dialogue is composed, which gives a general outline of the doctrines and morality of the Zertusht religion, as believed by the present Parsees. The creed taught in it is summed up as follows:—To know God as one; to know the prophet, the exalted Zertusht, as his true prophet; to believe the religion of the Avasta, brought by him from God, as true beyond all manner of doubt; to believe in the goodness

of God; not to disobey any of the commands of the Mazdiashna religion; to shun evil and wickedness; to strive for good deeds; to pray five times in the day; to believe in the reckoning and justice on the fourth morning after death; to hope for heaven and to fear hell; to consider the day of general resurrection and judgment as certain; to remember always that God has done what he willed, and shall do what he wills; to turn the face to some luminous object while worshipping God. God is the creator of all things. Deeds shall determine reward or punishment after death, and none but God alone will and can save.

They have sacred fires in the temples, towards which they turn when addressing their prayers, not to it, but to the God of which it is the symbol. The injunction is to turn their face to anything that is glorious, as the sea, the sun, etc. They would not abuse fire, nor extinguish it unnecessarily, nor use it in a contemptuous manner. Hence the Parsees do not smoke. Gaomaezo or nirang is the urine of the cow, ox, or she-goat; and the second act of a Parsee, after rising from his bed, and before touching anything with his hands, is to rub it over the face and hands, after which he purifies himself by having water poured on his hands and feet. This process is laid down and enjoined as a purification rite in the 9th Fasgard of the Vendidad (page 120, line 21, in Berghaus edition). The reforming Parsees object to its use. Others say that Max Müller has misinterpreted this sentence.

A pious Parsee has to pray about sixteen times a day. They pray in the Zend language, which none of them understand. They pray on getting out of bed, after using the nirang, after bathing, after cleaning the teeth, after finishing the morning ablutions, after the ordinary natural functions, after washing the hands. Every one of the three meals begins and ends with prayer, besides the grace, and before going to bed the day is closed with prayer. Amongst the Parsees there is no pulpit, or pulpit orations in the vernacular of the people. Ordinarily every one goes to the fire-temple whenever he likes, recites his prayers himself, and as long as he likes; gives, if so inclined, something to the priests to pray for him. On several occasions, as in the occurrence of the Ghumbar, the bimestral holidays, there are assemblages in the temple, and prayers are then repeated, in which few or none join. The priests are described as very bigoted, and exercise much injurious influence, especially over the women. Perhaps only a dozen of professional priests lay claim to a knowledge of the Zendavesta, to the extent of reading with meaning the books they have been taught. Parsees have one wife. They do not eat beef, pork, or ham, and do not eat food cooked by a person of another religion. The high priest is called Dustoor; the other priests are styled Mobed, and the priesthood is hereditary. The Yazna, Vispard, and Vendidad are their sacred writings, but they have not been translated into a vernacular, and each Parsee has to pick up his religion as best he may.

Their ablutions for purification are much insisted on, after most of the natural functions, and, like the Hindu, the women dwell apart when unwell, and, similarly, for the forty days after childbirth, as followed by the Mosaic and Muhammadan ritual. The people are of a yellowish-white colour, tall, large-made men, with long arms and large feet. Their women are of a pale white, but mostly with a slightly xanthous hue. A new code of laws for the Indian Parsees was promulgated in the middle of the 19th century. In social life, they now can marry only one wife, though formerly, in case of barrenness, a second could be married. The young bride is taken to her husband's house after she grows up. The women of the Parsee community are believed to be very chaste. They marry in comparative childhood, and this seems to have its usual resulting evils, for the immoralities of the men are frequently before the community in the public papers. The wife and husband call each other by their names. The Parsees do not eat the flesh of the cow or hog, and are permitted the use of spirituous liquors. Their women also use the latter; but they are a sober people, rarely partaking to excess. At their meals, when sitting down, they pronounce the grace, called Jamwani baz, which they suppose to be a thanks-offering.

Priestcraft, acting upon ignorance, has not failed to do its work, and has left a legacy of a few works for which the Parsee has no reason to be thankful. Many ceremonies have been thus introduced, but the reformers contend that all those ceremonies that have no authority in the original Zendavesta ought to be abolished. Of course the old and the priests do not like this at all. Marriage among cousins is recommended. The form of marriage among the Parsees is a very simple ceremony,—little more, indeed, than a civil contract, ratified by family consent and abundant festivity.

The ancient Persians reckoned a new era from the accession of each successive monarch, and as Yezdejird had no successor, the date of his accession to the throne, 16th June A.D. 632, has been brought down to the present time, thus making the year A.D. 1867 their year 1235-36. In their calculations, only 365 days are allowed to the year; leap year is unknown to them, though it is alleged that in every 120 years one month was added to make it correspond with the solar year. The year is divided into twelve months of thirty days each, and five days, or Gatha, as they are called, are added at the end to make up the deficiency. The months are,—

1. Farvardin.	4. Tir.	7. Meher.	10. Deh.
2. Ardibehest.	5. Amardad.	8. Aban.	11. Bahman.
3. Khurdah.	6. Sharivar.	9. Adar.	12. Asfandyar.

Gatha, 5 days.

The Parsees do not now divide their time into weeks, but name the 30 days of their months each after a celestial being—7 Amsshashpand, and 23 Izad—supposed to preside over them. These are as follow:—

Gujerati.	*Pahlavi.*
1. Hormazd,	Anhuma.
2. Bahman,	Vahuman.
3. Ardibehest,	Antavahisht.
4. Sharivar,	Shatnavin.
5. Spandarmad,	Sapandamad.
6. Khurdad,	Khundad.
7. Amardad,	Amandad.
8. Dep-Adar,	Dini pavan Atun.
9. Adar,	Atun.
10. Awan or Aban,	Avan.
11. Khurshid,	Khur.
12. Mohar of Mah,	Maha.

	Gujerati.	*Pahlavi.*
13.	Tir, ...	Tir or Tistar.
14.	Gosh, ...	Gosh.
15.	Dep-meher, . . .	Dini pavan Matun.
16.	Meher, ...	Matun.
17.	Serosh, ...	Sarush.
18.	Rashne, ...	Rashan.
19.	Farvardin, ...	Farvardin.
20.	Behram, ...	Varahram.
21.	Ram, ...	Ram.
22.	Guvad or Bad, . . .	Wad or Vat.
23.	Dep Din, ...	Dini pavan Din.
24.	Din, ...	Din.
25.	Ashashang, ...	Ard.
26.	Ashtad, ...	Ashtad.
27.	Asman, ...	Asman.
28.	Zamiad, ...	Zamiad.
29.	Maharaspand, . . .	Mansar-spand.
30.	Aniran, ...	Aniran.

The 1st, 8th, 15th, and 22d days are sacred to Hormazd, and thus afford evidence of an older division into weeks.

The Parsees of India are divided into two sects,—the Shahanshahi or Rasami, and the Kadimi or Churigar, the former of whom constitute the larger portion of the race. This division originated about the beginning of the 18th century, when a Persian priest named Jamasp arrived in India, and found that his co-religionists differed from their brethren of Iran in their calculation of time by a full month, and in other minor points relating to their liturgy. Serious disputes arose in consequence, which ended in the formation of the two sects, the Rasami adhering to their own views, and the Kadimi adopting the opinions imported by Jamasp, and thus agreeing with their Persian brethren. The difference lies in their computation of time, and in some slight variations in the forms of prayer. Those that begin their year a month earlier are styled Kadimi, and the rest Rasami, *i.e.* customary, and Shaharhai, for which some one proposed to substitute Shahanshahi ('of the kings of kings'), and this absurd change has ever since been adopted. The Kadimi Parsee era of Yezdejird, or Dareai Naoroz, or sea-reckoning, is made use of in nautical calculations among Asiatic mariners; and the new year always commences on the 1st of Farvardin, which falls about the 25th of August, one month earlier than the commencement of the Rasami new year. With the Rasami Parsees the new year begins on the 1st day of Farvardin, which in A.D. 1867 fell about the 24th of September, a month later than the commencement of the Kadimi new year.

About A.D. 1705, Jalaludin Malikshah, finding that the commencement of this year in Persia had anticipated the epoch by 112 days, ordered that in future the Persian year should receive an additional day whenever it should be necessary to postpone the commencement of the following year, in order that it might occur on the day of the sun's passing the same point of the ecliptic. U'mar Khyam, one of the astronomers appointed by him to construct a calendar, is said to have discovered that 8 intercalations in 33 years very nearly adjusts the calendar, giving the length of the year 365d. 5h. 49m. 5·65s. Scaliger and others say this was the period actually adopted, though Delambre shows that the Persian intercalation combines the two periods of 29 years with 7 intercalations, and of 33 years with 8 intercalations.

The Persian word Gab'r, applied to the Parsees, means any non-Muhammadan. According to the dictionary Burhan-i-Kattea, Gab'r is used in the sense of Magh, which signifies a fire-worshipper. Gab'r mani-i-Magh bashad, keh atash purust ast. This is sometimes written, and very often pronounced, Gavr, by a change of letters frequent in Persian, as in other languages. Gavr, we learn from the dictionary Jehangiri, means those fire-worshippers who observe the religion of Zertusht (or Zoroaster), and they are also called Magh. But Origen, in the 3d century, defending Christianity against Celsus, an Epicurean, who had alluded to the mysteries of Mithra, uses Kabir as equivalent to Persians. 'Let Celsus know,' says he, 'that our prophets have not borrowed anything from the Persians or Kabirs' (Orig. contr. Cels. lib. vi. p. 291, Cantab 1658). A Jewish writer, quoted by Hyde (Hist. Relig. Vet. Pers. cap. xxix.), declares that the Persians call their priests (in the plural) Chaberin (or Khaberin), whilst the singular Chaber or Khaber (occurring in the Talmud) is explained by Hebrew commentators as signifying Parsai, or Persians. On this subject Hadrian Reland has offered some remarks in Dissert. ix. de Persicis Talmudicis (see his Dissert. Miscell. part ii. p. 297, Traj. ad Rhen. 1706). Dr. Hyde, however, as above cited, thinks that Chaber or Chaver denoted both a priest and a layman. Meninski says, 'Ignicola, magus infidelis, quivis paganus.' The word is familiar to the people of Europe under the aspect of Guebre. It is a term applied by the Persians to the Persian-speaking part of the Teimeni tribe of the Char Aimak.—*Stuart's Jour. Residence in N. Persia*, p. 171; *Elliot's Gloss.; Ouseley's Tr.* i. pp. 150, 217; *Postans' W. India*, i. pp. 110, 120; *Muller, Chips*, p. 180; *Professor Daddabhai Naoroji and Dr. Ihne, in Proc. Bombay Lit. Soc.; The Parsees*, pp. 61, 70; *Wilson's Glossary; Menant on the Parsees; Bombay Almanac; De Bode's Travels.*

PARSHNI, a name of Kunti.

PARSIVAN, literally speakers of Persian. Parsivan (Parsi zaban) is a term applied variously to the settled inhabitants of towns engaged in commerce, and to the agricultural population engaged in tillage. The Parsivans, Col. MacGregor says (ii. p. 64), who are attached to the soil, obtain from the labour of cultivating it only sufficient for their families. For security, they must place themselves under the care of an Afghan. Parsivan and Aimak, who are subject to the Afghan, profess Muhammadanism. The Parsivan live in towns, and the Aimak are nomades, and live in tents. Their number is double that of the Afghans. The Tajak are subdivided into two very distinct classes,—the Parsivan or Parsi-zaban, who speak the Persian language, and inhabit towns and villages, and the wandering Aimak, who live under canvas. The Hazara are Aimak, though they pretend to be of Afghan race; the Afghans deny this, because they speak corrupt Persian, whereas the Afghan always speaks his mother tongue, the Pushtu.—*Ferrier, Journ.* p. 158; *MacGreg.* ii. p. 64.

PARSLEY.

Hu-tsai, ...	CHIN.	Petersillie, . . .	GER.
Hiang-tsai, . . .	,,	Petrosemolo, . . .	IT.
Persil, ...	FR.	Perexil, ...	SP.

Parsley, Apium petroselinum, a seasoning herb, used in soups, garnishing, etc. It grows well in India during the cold months; requires a free, rich soil. Is cultivated from seed sown in beds or

rows, where it is to remain. The plants, when about two or three inches high, should be thinned, and a space of at least a foot left between each. It will, if watered and taken care of, continue all the year round. Occasionally cut down the leaves to within four inches of the root, as it makes the parsley throw out young and fresh leaves. It bears transplanting well. Give the preference to European seed; the common parsley of the country is very insipid. The roots of parsley are much used in French cookery.—*Jaffrey.*

PARSNIP.

Pastinak, . DAN., DUTCH.	Cenoura branca, . PORT.
Pannais, ... FR.	Pasternak, . . . RUS.
Pastinake, . . . GER.	Chirivia, ... SP.
Pastinaca, . . LAT., IT.	Palsternacka, . . SW.

Parsnip, Hu-lo-p'u, CHIN., in India, is a vegetable very difficult to rear, as the seeds do not often come up. The parsnip belongs to the natural order Umbelliferæ, and is closely related to the carrot, celery, and parsley. It is a native of Europe, and is most plentiful on dry banks or on a chalky soil. Pliny tells us that parsnips were cultivated on the banks of the Rhine, and were brought from thence to supply the tables of the Roman emperors. The wild parsnip, if grown for two or three years in rich garden soil, acquires all the characters of the cultivated form; and if the garden plant escape into uncultivated ground, it speedily reverts to its originally wild and degenerate condition. It is consumed in large quantities in Catholic countries, being used with the salt fish eaten during Lent.

PARSONS, ABRAHAM, author of A Voyage from Bombay to Mokha and Suez, London 1808.

PARSWA, the 23d Tirthankara, appeared about two centuries B.C. His symbol is the serpent.—*Tod.*

PARTABGARH, a town in Oudh which gives its name to a district, situated between lat. 25° 34′ and 26° 10′ 30″ N., and long. 81° 22′ and 82° 29′ 45″ E. In Manikpur and Bihar parganas, there are many families of Brahmans, whose ancestors belonged to the lower castes of Hindus, and were invested with the sacred thread by Raja Manik Chand, a brother of Jye-chand, the last Hindu king of Carrouj. Of the lower castes, Kurmis (95,258), Ahir (92,622), Chamars (81,419), and Pasi (46,116) predominate, with a good sprinkling of Murao (26,263) and Gareria (25,232). The Kurmi and Murao are the best cultivating castes, and are almost all agriculturists. The majority of the Ahir, Chamar, Pasi, and Gareria are also cultivators. There are more Lohar (14,828) and Lonias (14,359) in Partabgarh than in any other district in Oudh; but comparatively few of the former are engaged in agricultural pursuits. The latter, salt-makers by hereditary profession, are almost exclusively cultivators. The lower classes, who for the most part pursue some distinctive trade, include the Julaha or weaver (9053), the Dhunia or cotton-corder, the Darzi or tailor and tent-maker, the Manihar or lac-bangle maker, and the Kunjra or fruiterer.—*Imp. Gaz.* vii.

PARTHASARADI, more properly Partthasarati, meaning a charioteer; a name applied to Krishna, because he acted as the charioteer of Arjuna at the great battle of the Mahabharata, between the Kaurava and Pandava princes. It is the name of a deity at the temple in Triplicane, Madras, which the Vaishnava people largely reverence.

PARTHENOPE HORRIDA. *Edw.* A crab of Madagascar, Bourbon, and Mauritius, covered with long sharp rugosities. See Crustacea.

PARTHIA, the country of an ancient dominant race of Scythians, known to the Romans by this name. Under the form Parthava, also Parsa, they are mentioned in the time of the Achæmenidæ. For centuries they maintained the independence in the east against the Romans. The rulers were as under:—

B. C.	A.D.
255 Arsaces I.	(Tiridates) III.
253 Tiridates I.	(Cinnamus.)
216 Artabanus I.	(Artabanus) III.
196 Priapatius.	42 Bardanes.
181 Phrahates I.	45 Gotarzes.
173 Mithridates I.	50 (Meherdates.)
136 Phrahates II.	51 Vonones II.
126 Artabanus II.	51 Vologeses I.
123 Mithridates II.	62 (Arabanus) IV.
87 Mnaskires.	77 Pacorus.
77 Sinatroces.	108 Chosroes.
70 Phrahates III.	115 (Parthamaspates).
60 Mithridates III.	116 Chosroes.
54 Orodes I.	121 Vologeses II.
37 Phrahates IV.	148 Vologeses III.
(Tiridates) II.	192 (Vologeses) IV.
(Phrahates) IV.	209 (Vologeses) V.
A. D.	Artabanus V.
4 Phrahates.	235 Artaxerxes, king of Persia, 1st of the Sassanidæ.
5 Orodes II.	
5 Vonones I.	
13 Artabanus III.	

Parthia proper was a small province, very near to the S.E. extreme of the Caspian Sea, which territory, after the division of Alexander's empire, fell to the share of the Seleucidæ, kings of Syria and of the east, about 300 years before the Christian era. About 50 years after, 250 B.C., under Arsaces, who is variously described as a native of Soghd, as a Bactrian, and by Moses of Chorene as of Balkh, this last author adding that the dynasty was known as Balkhavenses or Pahlavian, Parthia rebelled, and, together with Hyrcania and other adjoining provinces, became an independent state. Arsaces, however, used Greek only on his coins and in his public letters and correspondence. His coinage is ordinarily with the head of the sovereign on one side, and only one coin has a lingual inscription. As the empire of the Seleucidæ grew weaker, the Parthians extended their country westward; and the fine province of Media (now Irak-i-Ajam) fell to them; and within a century after the foundation of their state, it had swallowed up all the countries from the Indus to the Euphrates, Bactria included, and this province had (256 or 252 B.C.) thrown off the yoke of the Seleucidæ, long before Parthia. The Parthian conquests in Armenia, 70 years before Christ, brought them acquainted with the Romans, whose conquests met theirs, both in that country and in Syria. The Parthians, together with their conquests, had advanced their capital westwards, and had established it on the Tigris at Seleucia, or rather Ctesiphon (near the present Baghdad) before their wars with the Romans commenced. Their first wars with the Roman people continued about 65 years, and were noted by the expeditions of Pompey and Anthony, and the defeat of Crassus, B.C. 53, who fell on the plain of Carrhæ, the Haran of the Bible. On this event, the Parthians extended their conquests farther westward, but were afterwards compelled to retire; and they generally lost ground in Armenia and Mesopotamia during the time of the Roman emperors Trajan and Septimus Severus,

who recovered the line of the Euphrates under Trajan, and that of the Tigris under Septimus Severus, whose capture of the capital Ctesiphon gave a fatal blow to the Parthian power (A.D. 198). Trajan penetrated to their capital, and satisfied his curiosity by embarking on the inland sea. The moderation of Adrian restored the ancient boundary of the Euphrates. In A.D. 245, Persis, or Persia proper, which had for some ages ranked as a province of Parthia, gained the ascendency. After they had reigned for nearly 500 years, the Parthian monarchy was overthrown by a native Persian named Ardeshir or Artaxerxes, surnamed Babekan, from his father Babek (A.D. 226).—*Quarterly Review*, 1873; *Prinsep's Antiquities by Thomas*, ii. p. 176; *Weber; Rennell's Memoir*, p. 200; *Malcolm's Per.* i. p. 88; *Tod's Raj.* ii. p. 5.

PARTRIDGE.

Hajal, ... ARAB.	Teetr, ... HIND.
Perdix, ... FR., SP.	Pernice, ... IT.
Rebhuhn, ... GER.	Keklik, ... TURK.

Partridges belong to the Tetraonidæ and subfamily Perdicinæ, and the chief species in the East Indies are as under:—

Lerwa nivicola, *Hodgs.*, snow partridge, Himalaya.
Francolinus vulgaris, *Stephens*, black partridge, North India.
F. pictus, *Jerdon*, *Selby*, painted partridge, Central and Southern India.
F. Phayreii, *Blyth*, North Burma.
F. pintadens, —? —?
Caccabis chukor, *Gray*, chukor partridge, Western Himalaya.
C. Græca,—? Western Asia, South Europe, North Africa.
Ammoperdix bonhami, *Gray*, seesee partridge, Panjab.
A. Hayi, *Gould*, Arabia, Palestine, Western Asia.
Ortygornis Ponticerianus, *Gmelin*, grey partridge, South India.
O. gularis, *Temm.*, kyah partridge, Bengal.
Rhizothera longirostris, *Temm.*, Malayana.
Arboricola torqueola, *Vigors*, black-throated hill partridge, Himalaya.
A. rufogularis, *Blyth*, rufous-throated hill partridge.
A. atrogularis, *Blyth*, Tiperah, Chittagong.
A. intermedia, *Blyth*, Arakan.
A. brunneopectus, —? *Tickell*, Tenasserim.
A. sphenura, —? China.
Perdix personata, *Horsf.*, Java.
P. Javanica, *Gmelin*, Java.
P. Hodgsoniæ, *Gould*, —?
P. punctulata, *Gray*.
P. Charltoni, —?
P. chloropus, *Blyth*.
Rollulus coronatus, —? Malacca crowned partridge.
R. niger, —?

There are three kinds of partridges in the plains of India, called by Indian sportsmen, black, painted, and grey; also rock or sand-grey, or bush and wood partridges. The grey, the least handsome, and far inferior to the English bird, the most nearly approaches it in appearance. The black excels all for the splendour of its plumage. The call of the black and painted partridge is very similar. In the Bombay Presidency the black partridge has not been seen south of Cutch. It is abundant north of it, in Sind, but would appear to be replaced by the painted, farther south. The flesh of all the partridges in India is white, and far inferior to that of either the common English or red-legged bird. The hen of the black partridge is quite different in appearance to the male, is not unlike the painted partridge of both sexes, and is sometimes mistaken for it. The black partridge commences to pair about April in the Himalaya, but earlier in the plains; the young remain with their parents a long time, and are not fit for shooting until the middle or end of October. During the period of incubation the males can be heard answering each other; the call-note is harsh, and composed of four distinct sounds following each other in succession, and not unlike the words, 'Whee wha which a which,' which it repeats at short intervals when perched on a stone in bushy places. The Tibet partridge (P. Hodgsoniæ) was first discovered by Mr. Wilson of Mussoori in 1841, and subsequently described by Mr. Hodgson. It was (1854) met with by Lieutenant Smith, 15th Regiment, near the Pangong Lake in Little Tibet. This partridge seems to be common along the western slopes of the Tibetan Himalaya, and affects barren mountain sides.—*Jerdon; Adams.*

PARUPA. TAM. Soft. Parupu kiré, Chenopodium album. Parupu benda, Abelmoscus ficulneus. Parupu velaga, Feronia elephantum.

PARU-PARISSANA. This name first occurs in the tri-lingual tablets of Darius, where the mountain range of Gandara is termed Paru-Parisanna. Paru merely means a mountain in Sanskrit. The country is not known by this name by its inhabitants, who only speak of it by the tribe dwelling in, or the chief who commands it. Ferrier includes in this name, all the mountain country enclosed by the circle formed by Herat, Maemana, Balkh, Bamian, Ghazni, Kalat, Ghi'zi, Kandahar, Zimindawar, and Sahlin. It may be looked upon as a vast natural fortress, thrown on to the centre, and on the culminating point of the great Asiatic table-land. From whatever side, it must be approached by rugged and high mountains, and it is also intersected by others in various directions, particularly east and west. It is a country of incessant change, the Jamshidi, the Hazara, the Zeidnat, and the Taemuni being in constant movement.—*Ferrier's Journey*, p. 254.

PARUS, a genus of birds, the tit-mice of the sub-family Parinæ, family Ampelidæ, and order Insessores. See Birds.

PARVATA, also Parbatya, a hillman, a mountaineer of Nepal.—*Wils.*

PARVATI or Parvati Peak, lat. 31° 51′ 5″ N., long. 77° 42′ E., in Kulu-Lahol, near the source of the Parbati, an affluent of the Beas, 20,515 feet, G. T. S. Presents a steep broad wall, as seen from Jako.—*Schl.; Herm.*

PARVATI, generally written Parbatti, a hill of considerable height, south of the city of Poona, on the summit of which is a temple in honour of Parvati, consort of Mahadeva. This temple is much resorted to, and when lighted up on great occasions, it shows well, and from its top is a fine view of the city and environs. On the annual Hindu ceremony of Dutchna, or alms-giving, mendicant Brahmans come from considerable distances. A gift on this day tells tenfold of an ordinary alms. Generous people on the road to and from this meritorious pilgrimage, make presents to some Brahmans. The whole month is indeed very fit for the benefits from hospitality and alms-giving, so that the travelling Brahmans are fed, etc., all the way to Poona and home; and it is said that forty thousand have been known to assemble on this occasion at Parbatti. Its chief temple was erected A.D. 1749, at a cost of Rs.10,00,000. It has images of Siva and other deities, one wholly of silver, and one of gold.—*Major Moor*, pp. 376, 377.

PARVATI, in Hindu mythology, a goddess, fabled to be the daughter of Parvata, a mountain, and the sakti or consort of Siva. She has been amalgamated with many Vedic and Puranic and local goddesses. Her forms are more various and powers more extensive than those of any of the other Hindu deities; and she acts sometimes dependent on, at others wholly independent of, her husband. As a girl she was called Gauri. She is known as 'the mother,' Ambika, who at a later period is identified with the wife of Rudra. Uma, daughter of Himavat, or the Himalaya, is another form. Parvati, the mountain goddess, also the daughter of Himalaya, is a still later and now more common title. As Kali, the black goddess, and Durga, she is the most terrible deity of the Hindu pantheon, to be propitiated by human sacrifices, and invoked when the destruction of an enemy was sought. She is also called Bhawani, in which she corresponds with Lucina. As Kamachi, she is the goddess of love-inspiring eyes; and at Madura she is worshipped under the name of Minachi, fish-eyed. Muir supposes that as early as the time of Pliny she was worshipped at Cape Comorin, called after her, Kanyakumari.

Parvati is known in her martial character as Durga, or active virtue, and as such she destroyed the Asura, or demon Mahesha, a personification of wickedness.

As Durga Mata, one of the characters of the Rajput, she is the 'Mother of the Mount,' and her shrine crowns many a pinnacle in Mewar; and, with the prolific Gauri, she is amongst the amiable forms of the universal mother, whose functions are more varied and extensive than her sisters of Egypt and of Greece. As Durga Mata, she is the Mater Montana of Greece and Rome, according to Diodorus, an epithet of Cybele or Vesta as the guardian goddess of children. She seems to be the same as the divinity of Hieropolis, called Rhea, and Cybele in Phrygia.

She is largely worshipped as Mera, and in Bengal as Durga.

Anna Purna Devi, a goddess of the Hindu mythology, is a beneficent form of Parvati. She is described as of a deep yellow colour, standing or sitting on the lotus, or water-lily. She has two arms, and in one hand holds a spoon, in the other a dish. In her dress she is decorated like the other modern images of Durga. Anna Purna is a household goddess, and is extensively worshipped by the Hindus. Her name implies the goddess who fills with food, and they believe that a sincere worshipper of her will never want rice. She is possibly the Anna of Babylon; and she has been considered as the prototype of the Anna Perenna of the Romans, whom Varro places in the same rank with Pallas and Ceres, and who was deified and held in high esteem by the Roman people, in consequence of having supplied them with food when they retired into Mount Aventine. Besides the great similarity of names, there is a singular coincidence in the times of their worship, the festivals of Anna Purna taking place in the early part of the increase of the moon, in the month Choitru (partly in March), and those of the Roman goddess on the Ides of March. In India, she is known simply as Anna, also as Anna Purna or Anna Devati. In a hymn addressed to her by the rishi Agastya, she is personified as Pitu, or material food. Anna Purna is from the Sanskrit, Anna, food, and Purna, full. Another name is Anna, food, and Prashana, feeding. The Rajput rite of Sati or self-sacrifice is traced to Parvati. Sati, to avenge an insult to Iswara, in her own father's omission to ask her lord to an entertainment, consumed herself in the presence of the assembled gods. With this act of fealty (Sati) the name of Daksha's daughter has been identified; and her regeneration and reunion to her husband, as the mountain nymph Mera, or Parvati, have by some been supposed to furnish the incentive to similar acts. In the history of the Hindu celestial Mera, the Rajputni has a memorable lesson before her, that no domestic differences can afford exemption from this proof of faith. Parvati, as the consort of Siva, has maternal claims upon Kartikeya, the leader of the celestial armies, and Ganesha or Ganapati, the god of wisdom. As Parvati she is described of a white, as Kali of a dark blue or black, and as the majestic and tremendous Durga, of a yellow colour.

Parvati by the Saiva sect is identified with the supreme sakti Mahadevi.

Parvati has no particular temples, but her statue has a sanctuary apart in the temples of Siva.

The argha or yoni in Hindu mythology is Parvati's especial emblem.

On one occasion, when Vishnu beheld Siva dancing about frantically with the deceased form of Sati in his arms, he cut it into fifty-one pieces; which Siva, who still continued in his frenzy, scattered in different parts of the earth. These spots he afterwards ordained to be places of worship to his own and his energy's peculiar emblems.

PARWAN or Parman. On the tops of the hills on the island of Bombay, resided in 1842 about 75 families of cultivators. The costume of the women, and many of the words in their language, are similar to the Hindi. They said that they immigrated from Rajputana.

PARWAN DARA, a river and narrow valley of the Koh Daman of Kābul. From the head of the valley to the village of Iangheran, it is a narrow rocky defile, but afterwards assumes a softer character; and the Saralangi erect their castellated houses on the projecting boulders. Parwan is situated in a nook of the Hindu Kush, and has, from its position near the terminus of several of the chief passes, often been famous in Asiatic history. It is evidently the Karwan of Jaubert's Edrisi (a mistranscription for Farwan). The town of Parwan is of no great size, but a nice enough place, with agreeable environs, thronged bazars, and rich inhabitants. At Parwan the army of Chengiz was checked for the moment in 1221, being defeated by the Sultan Jalal-ud-Din of Khwarizm. In the valley near Parwan, in 1840, a brigade of Bengal troops under General Sale was attacked by remnants of Dost Muhammad's army, and a Bengal cavalry regiment fled, which caused the day to be lost, when two officers were wounded, and three officers killed.—*MacGregor*, pp. 620, 621.

PARWANIYA, in Benares, a numerous body of Hindus. Ten or twelve days after the birth of a son in the family of a Hindu, two members of this caste come to the house, where they sing songs of gratulation and joy, keeping time by the beating of a drum.—*Sherring's Tribes.*

PARWAR. PERS., HIND. A patron. Ghrib-parwar, a nourisher of the poor. See Parrapar.

PARWARI. MAHR. Properly, Parawari. In Maharashtra, the dwellers outside the walls. They are of non-Aryan races, whom Hindus consider to be unclean, and do not permit to reside within the walls. They are also called Ati Sudra, or inferior Sudra; also Autyaja, or last-born. Of the Parwari are the Mhar or Dher, who eat animals that have died of disease, make hide ropes, are the village boundary men, scavengers, police, guides. The Mhang is another of the Parwari. The Parwari of the Bombay army, along with the 2d Battalion of the 42d Highlanders, defended Mangalore for six months against a force of 40,000 men, and then capitulated honourably.

PARYSATIS, the Greek mode of writing the name of Pari-zad (fairy born), the mother of the younger Cyrus.

PASA. HIND. A die; plural, Pasé. Those in use by the Hindus are oblong, and both skill and chance are brought into play. The most celebrated match occurred between Yudishtra, the eldest Pandava, and Dhritarashtra. Also, a square ingot of silver, weighing from 32 to 60 tolas. The word is current at Berhampur.—*Wh. H. of I.*

PASA LINIJA, a Penang wood of a light-brown colour. A large tree, used only for planks; it soon decays.—*Col. Frith.*

PASARI, Pasehi, Pasban, or Tinni (Zizania aquatica), are different kinds of rice of spontaneous growth, found on the borders of lakes and swamps of N. India; the Tinni is a larger and better grain than the other. They sell half as much more for a rupee than ordinary rice.

PASBAN, Gorayat, Paik, Douraha, etc., in Hindustan, are the village watchmen, whose places in the Dekhan are taken by the Mhar; in Gujerat, by the Paggi; in Telingana, by the Tillari.

PASH, Pys, or Pashu. HIND. A cord or rope, seen in the hands of some of the Hindu deities to strangle sinners with. Whoever is caught by it cannot get away.—*Myth. Hind.* 391.

PASH, also written Pakh, Push, and Pukh, in the district of Rudak and the highlands of Kashgar, in the Waziri country, the supposed original seat of the Afghan tribes, and of the origin of the words Pushtu and Pukhtu.

PASHA, also Pacha and Padshah. PERS. A king, a noble.

PASHAI, a race mentioned repeatedly by Leech as one of the most numerous tribes in the Punjshir valley and adjoining passes. These are supposed to be Muhammadans; but as the name is mentioned also by Elphinstone as that of one of the Kafir tribes, part of them in the mountains may have retained their heathenism and independence.

PASHANA. SANSK. A stone, a rock; a term used in deeds of sale or grants of land to convey a right to all precious stones, minerals, or ores in the transferred land.

PASHIA, amber necklaces worn by the women of Tibet.

PASHM. HIND. Wool, shawl-wool; the fine wool which forms the material of the shawls generally in the Panjab. Pashm and pashmina are specially applied to the fine shawl-woof of Turfan and Changthan. It is produced abundantly in the eastern provinces of Bod, as far as Lhassa. The people of U-chang, *i.e.* the provinces about Lhassa and Digharcha, wasted it in Lieutenant Strachey's time. The Rudakh pashm was combed out without shearing.

The woollen substances used in the Panjab are—

a. Pashm, or shawl-wool, properly so called, being a downy substance found next the skin and below the thick hair of the Tibetan goat. It is of three colours,—white, drab, and dark lavender (Tusha). The best kind is produced in the semi-Chinese provinces of Turfan Kichar, and exported via Yarkand to Kashmir. All the finest shawls are made of this wool; but as the Maharaja of Kashmir keeps a strict monopoly of the article, the Panjab shawl-weavers cannot procure it, and have to be content with an inferior kind of pashm produced at Changthan, and exported via Leh to Amritsar, Nurpur, Lodhiana, Jalalpur, and other shawl-weaving towns of the Panjab. The price of white pashm in Kashmir is—for uncleaned, 3s. to 4s. per lb.; ditto cleaned, 6s. to 7s. per lb.; of Tusha ditto, uncleaned, 2s. to 3s. per lb.; cleaned, from 5s. to 7s. per lb.

b. The fleece of the Dumba sheep of Kābul and Peshawur, sometimes called Kābuli pashm, is used in the manufacture of the finer sorts of choga, an outer robe or cloak with sleeves, worn by Afghans and other Muhammadans of the western frontier.

The pashm of the wild sheep and ibex is of a delicate grey colour, and finer and softer than that of the shawl goat.

Where the finest shawls are woven, every care is taken to procure the best pashm, and to clean it. The best kind is cleaned with lime and water; but ordinarily the wool is cleaned by being shaken up with flour. The next operation is that of picking the hair from the pashm. This is a tedious operation, but the value of the cloth subsequently manufactured varies with the amount of care bestowed upon it. The wool thus cleaned and sorted is spun into thread with the common charkha or native spinning machine. This is also an operation requiring great care; and white pashmina thread of the finest quality will sell at 25 rupees the pound weight. The thread is next dyed, and is then ready for the loom.

Pashmina fabrics, embroidered with silk, and plain pashmina cloths, are produced extensively at Amritsar and Lodhiana, and a few at Lahore.

PASHPAPUR, an ancient town on the N.W. frontier of British India, mentioned in a Sanskrit play:

Rak. What news from Pashpapur?
Vir. I have not much to tell, sir:
Where shall I commence?
Rak. With Chandragupta's entry in the city.
Whatever my agents since have done, inform me.
Vir. You will remember, sir, when in close league
United by Chanakaya, Parvateswara
And Chandragupta in alliance, led
Their force against the city,—a wild multitude
Of Sakas, Yavanas, and mountaineers,
The fierce Kambojas, with the tribes who dwell
Beyond the western streams, and Persian hosts,
Poured on us like a deluge.

PASHTUN, according to Vigne, is the name of the language of Afghanistan and of this people. It commences at Herat on the west, and is understood and spoken throughout Afghanistan, the Panjab frontier tribes, and Turkestan. See Pash.

PASI, the village watchman of Oudh, paid usually by a plot of land, or 2½ seers of grain from each bigha. The Pasi are also toddy drawers.

PASPALUM, a genus of the Panicaceæ, of which the species P. distichon, *Burmann*, P. scrobiculatum, *Linn.*, and P. stoloniferum are grown in the E. Indies as fodder and food plants.

PASPALUM STOLONIFERUM. *Linn.*

Kodo, Myna, . . HIND. | Aruga, Warugu, . TEL.

This is an inferior grain, only used by the poorest classes. It is cultivated over almost all parts of India. It delights in a light, dry, loose soil, but will grow in a very barren one, or where the soil is barren and unsuited to the cultivation of better grains. Dr. Roxburgh distinguished from this the species which Linnæus called Paspalum kora, but it appears to be only a variety growing in moist situations. Both species are much relished by cattle, either in a green or dry state. The Kakum Rajputs of Ghazipur never cultivate or eat kodo: 'Nefas violare et frangere morsu;' and the reason assigned is that, while under the influence of Mutouna, they were set upon by some of the neighbouring tribes, and lost the greater part of their once extensive possessions. The variety of it called in Tamil Serruku Warrugu, and in Telugu Tikka Arikehlu, if not dressed in a particular manner, is said to produce vertigo, nausea, and other unpleasant symptoms. Dr. D. White, of Bombay, writes that this variety is called in Gujerati, Menya, which, he supposes is taken from the Sanskrit word Mana, signifying causing frenzy. Khesari (Lathyrus sativus) is another grain which is found to have injurious properties.—*Eng. Cyc.; Elliot; Roxb.* i. p. 278; *Ainslie*, p. 220.

PASSAETA. GUJ. Lands allotted for the support of district and village officers.

PASSAGE ISLAND, a name of Barn Island in the Straits of Singapore.

PASSALÆ. See Topes.

PASSALUS, a genus of coleoptera, which abounds over India and the Archipelago.

PASSERINA, Kan-sui, CHINESE, is a Chinese plant which has an acrid and poisonous juice; its tubercular or nodulose roots are sold with the tubers separated; they are given in anasarca, ascites, tympanitis, hernia, hydrocele, and dysuria, and are applied to ease pain, and to the ears in cases of deafness. Passerina chamædaphne, Yuen-hwa, CHINESE. In China the small dried flowers of this plant are infused in a spirit much drunk in central China as a sort of cordial, tonic, and anti-febrile tincture. The leaves, flowers, and root-bark are applied to buboes as counter-irritants. They are said to act on the womb.—*Sm.*

PASSERINÆ, the sparrow sub-family of birds, of the family Fringillidæ, sub-family Passerinæ, as under:—Passer montanus, the tree sparrow of Europe, Asia (commoner to the eastward), Siberia, Tibet, Sikkim, Arakan, Malayan Peninsula, Java, China, Japan. Passer salicarius (vel Hispaniolensis) of Barbary and the southern parts of Europe, Asia Minor, Bokhara, and Afghanistan, visits the Peshawur valley and Kohat in large flocks, being everywhere more highly gregarious than P. domesticus, P. petronia (Petronia stulta), also of S. Europe and N. Africa to Madeira. It is common in Afghanistan. See Sparrow.

PASSES.

Ghat, ... HIND. | To-gé, ... JAP.

The following are the principal passes bounding British India, and traversing many of the provinces and regions within the frontier:—

1. *Dekhan.*

	Feet.		Feet.
Bapdeo,	3499	Pochama,	2446
Katruj,	3019	Nana,	2429
Par,	2698	Jam,	2328
Nagcherri,	2645	Malsej,	2062
Navi,	2617	Tal,	1912
Salpi,	2478	Bhor,	1798

2. *Malwa.*

Pendera,	3498	Poppera,	1560
Silva,	1928	Gumba,	1553
Mandla,	1626	Singrampur,	1437

3. *Karnatic, Neilgherries, and Ceylon.*

Sigur,	7204	Kodur,	2401
Sispara,	6742	Gantvarpilli,	2373
Rangbodde,	6589	Kisnagherri,	2150

4. *In the crest of the Himalaya, from Sikkim to Kishtwar.*

Ibi Gamin,	20,459	Sipu,	17,670
Janti,	18,529	Uta Dhura,	17,620
Parang,	18,500	Birmkanta,	17,615
Donkia,	18,488	Kiungar,	17,331
Mana,	18,406	Niti,	16,814
Kiobrang,	18,313	Vallanchun,	16,756
Nelong,	18,312	Puling,	16,726
Umasi,	18,123	Shinku La,	16,684
Langpia,	17,750	Bara Lacha,	16,186
Mayang,	17,700		

5. *In the crest of the Kara-korum, from long. 76° to 79° 30′ E. Gr.*

Mustagh,	19,019	Kara-korum,	18,345
Chang-chen-mo,	18,800		

6. *In the crest of the Kouen Lun, from long. 78° to 80° E. Gr.*

Elchi,	17,379	Yurungkash,	16,620

The comparison of these with the passes in the Alps and in the Andes will be of interest.

In the Andes.

Alto de Toledo,	15,590	Assuay,	15,526
Lagunillas,	15,590		

In the Alps.

New Weissthor (*a*),	12,136	St. Theodule,	11,001
Old Weissthor (*a*),	11,871		

(*a*) These two passes cannot be used for practical purposes.

In the southern part of the Peninsula of India is the valley and gap or pass of Palghat, leading to the western coast. The Guzzelhutty pass leads up the deep valley separating the Neilgherry Hills from Colligal.

The Mana and the Niti passes are on the Saraswati and the Dooli branches of the Ganges.

Juwahir Darma or Belong and Byans are passes on the Gouri, Dhouli, and Kali rivers, branches of the Gogra. The Rotang pass, in the Himalaya, in lat. 32° 24′ N., and long. 77° 10′ E., is 13,200 feet above the sea. The Rotang pass near Dharmsala leads to the heart of Central Asia. The Beas river rises in a sacred pool called 'Vyas Rikhi' in the Rotang pass, at the head of the Kulu valley. The scenery of the river valley is very beautiful, and is unlike that of the Chenab or Sutlej. The river is fringed with trees, and studded with green islands. There is a good riding path close along the bank, which does not exist upon any other river in the Panjab. Besides deodar in the Upper Beas valley, 'kail,' Pinus excelsa, elm, maple, oak, and walnut are

abundant. On the Parbati, box occurs; also olive and the twisted cypress (C. torulosa) are found in small quantity.

Kanawar is usually divided into Upper and Lower Kanawar, and includes the upper part of the Sutlej basin to the borders of Piti and Guge in Tibet. Its general direction is N.E. and S.W. It has two parallel bounding mountains. On the S.E. it is bounded by the Cis-Sutlej mountains, and to the N.W. by the mountains of Piti. The mountains which descend from the two parallel bounding chains of Kanawar are very lofty. They are crossed in the usual route into Tibet by the Werang pass, 13,200 feet; by the Runang pass, 14,500 feet; the Kuibrang in the north, across the Cis-Sutlej, is 18,300 feet. The Shatul pass across the Cis-Sutlej leading to Simla is 15,560 feet; and the Hangrang into Piti is 14,800 feet. The passes to Upper Piti are more lofty. The bed of the Sutlej, from 8000 to 9000 feet at the upper part of Kanawar, descends to 4000 feet in Lower Kanawar.

The passes from Kanawar through the Outer Himalaya range are fifteen in number:—

(*a*) Shatul, 15,555 feet, leading from Rol to Utharabi. This pass is reckoned worse than most of the others, not on account of its elevation, for it is inferior in altitude to many of the rest farther to the east, but from there being almost 14 miles without even a single bush for fuel. It is open part of June, July, August, September, October, and sometimes November.

(*b*) Sundru, from Tangno to Rasgrami. The people represent it as crossing two ranges, and say it was very seldom attempted, and was never open more than two months in the year; so it is probably little below 16,000 feet.

(*c*) Yusu, 15,877 feet, leading from Janglig to Rasgrami.

(*d*) Burendo, 15,171 feet, is the easiest pass in this quarter, and most frequented; it leads from Janglig to Rasgrami, and is open seven or eight months, and during the rainy season almost all the snow dissolves.

(*e*) Nibrung, 16,035 feet; (*f*) Gunas, 16,026 feet; (*g*) Ghusul, 15,851 feet; from Chuara to Sungla of Tukpa. These three passes cross the top of the range within half a mile of each other.

(*h*) The next is Rupin, 15,480 feet, a very easy pass.

(*i*) Nulgun, 14,891 feet, is the lowest pass seen by Gerard, in the outer Snowy Range.

(*j*) Barga; (*k*) Lumbia; (*l*) Marja; (*m*) Singa. These four passes are contained in the space of little more than a mile; they lead from Sungla, Rakcham, and Chetkul, to Lewar of Garhwal, and, like Gunas, Nibrung, and Ghusul, are crossed in different months. Barga is reckoned lowest, so is probably little above 15,000 feet; it is chiefly travelled by the Sungla people, being on the direct road from that place. The others are most likely between 16,000 and 17,000 feet, and are frequented by the inhabitants of Rakcham and Chetkul.

(*n*) Sungla, from Chetkul to Burasu of Garhwal, is reckoned lower than Kimlia, and may perhaps be 16,000 feet. The road is said to be generally bad, and is travelled for six months.

There are three passes to the westward of Shatul, the Jalsu, Khealig, and Sungri, but they cannot be considered in the Himalaya, being from 2000 to 4000 feet below the circle of congelation. These fifteen passes are almost as good as the Rampur road, and many of them considerably better. Most of the passes to the eastward are said to be better than those mentioned; some of them are—

(*o*) Shear Garh, a difficult pass. c.

(*p*) Burasu, to Chungsa; much snow, and rather difficult.

(*q*) Jannubi, to Chubrung; high, but very easy.

(*r*) Kedarnath, said to be very difficult.

(*s*) Dumnis, from Badrinath to Chubrung; the pass is high, there is much snow, but the road is good, and is travelled by loaded cattle.

(*t*) Birji pass; (*u*) Niti pass; (*v*) Dharma pass; (*w*) Juar pass. These last four passes are travelled by cattle.

The passes leading from Kanawar to Chinese Tartary on the eastward are six in number, all of which are practicable for loaded sheep:—

1. Chungsakhago, from Chetka to Neilung, on the Janki or Jannubi branch of the Ganges; a lofty pass, probably not under 18,000 feet.
2. Kuno pass, from Kuno to Tunge;
3. Tidung, from Charung to Tunge. These two roads are each about five days' journey without an intermediate village, and, like Chungsakhago, cross a high, flat piece of ground.
4. Kiubrang, from Nisung to Bekhur, five stages without a village. The road leads up the Taglakhar river for three and a half days, and is often difficult.
5. Gangtung, from Dabling to Bekhur. This, properly speaking, is not a distinct road.
6. From Numgea to Shipke there are two roads—1st, Piming, the height of which is only 13,661 feet. Part of this path is very rugged, in clearing the deep-worn glen of the Upsung rivulet.

There are four passes leading to Spiti—

1. From Pandrabis, } Open five months.
2. Tari from Wangpo, }
3. From Lipe. c
4. Manerung, from Sungnam, open three and a half or four months.

The Kanawari and Tartar races estimate the altitudes of the passes by the difficulty of breathing they experience in ascending them. Those who cross the outer chain attribute the symptoms from which they suffer, to the noxious qualities of a poisonous plant; but the best informed, who are in the habit of traversing heights where there is no vegetation, know well that they are produced by the height alone.

In the Kouen Lun, all passes above 15,000 feet are closed in winter by the heavy snowfall.

Chang-chen-mo gives its name to a route of about 16 marches between Ladakh and Eastern Turkestan, said to be the easiest from India to Upper Asia, much easier than the more westerly Kara-korum route traversed by Schlagentweit and Mr. Johnson. The heights vary from 19,000 to 21,000 feet, but the mountains are generally rounded, and fuel and grass are abundant save at one stage.

Gumah is equidistant between Ilchi and Yarkand, and the Kara-korum route meets this route at Shadula. The existence of glaciers in Western Tibet was first made known by Vigne, who alludes to them in his Travels in Kashmir. Colonel Richard Strachey was the first who proved their existence in 1847 in the Himalaya.

Dras adjoins Kashmir, the intercommunication being by the Zoji pass, a remarkable depression of 11,300 feet, through which flow the moist winds of Kashmir, and Dras is the most humid and fertile province of Tibet.

In December 1845, when the Chinese fought a battle near Tirthapuri in Gnari Khorsum, the garrison of Takla Khar fled across the pass near the head of the Kali river. Even in this unopposed flight one-half of the men were killed by frost, and many of the remainder lost their fingers and toes; the flight was most disastrous.

The snow-line in the Himalayan regions is 14,000 feet south of the range, and 16,000 feet

north of it. Roses grow in the valleys 13,000 feet above the sea; and in the Tibetan table-land corn is sown at an altitude of 16,500 feet, and in one place nearly 18,000 feet above the sea. There would appear to be three or four passes varying in height from 15,000 feet to 17,000 feet, which enter Tibet. In considering these great altitudes, we must bear in mind that the Kirong pass is available for a very extensive traffic. There would appear to be no doubt that the Jeylub pass, in Chumbi, is still more practicable. The Jeylub pass is the lowest in the Chola range, which, again, is one of the lowest sections of the Himalaya. It leads into the Tibetan territory of Chumbi, and from the pass to Lhassa is from 200 to 300 miles.

The Parijong pass, used by Bogle, Manning, and Turner, was in their day open certainly until November, when the cold was not at all extreme; and by the Donkia and other passes Sikkim has maintained for centuries some sort of communication with Tibet.

Mr. Georgia Bogle, who was sent in 1775 on an embassy to the Grand Lama of Tibet in 1774, travelled by way of Koch-Bahar, Tassasudon, and Paredrong to Chanmanning, the then residence of the Lama, and nearly in the same parallel of latitude with Lhassa.

Passes through Assam lead along the valley of the Dihong; — the northern bank of the Lohit through the Mishmi Hills, leads into Tibet; the Phan-gan pass leads to Man-chi in China, a month's journey over mountains 6000 to 18,000 feet high. The Patkoi pass to Bhamo and China affords means of communication between the Singpho tribes on the north and south of the Patkoi mountains. This was the route followed by the Burmese in their invasion of Assam, which led to the first war between them and the British.

In the south of India the highest pass is the Sigur in the Neilgherries, 7204 feet. The Rangbodde pass in Ceylon, 6589 feet, is little inferior in height. Of the numerous passes occurring in the Western Ghats, the Bapdeo and the Katruj both exceed 3000 feet, the former being 3499 feet, the latter 3019 feet; and the Ramghat is upwards of 2000 feet.—*Trelawney Saunders' Mountains and River-basins.*

PASSEWA. HIND. A semi-fluid extract obtained from the capsules of the poppy after the seeds are extracted; it hardens by exposure, and is used in making up the shell-coverings of the opium cakes for export. It contains a portion of morphia.

PASSIFLOREÆ, the passion-flower tribe of plants, comprise about 14 genera and more than 200 species, of which 20 occur in the E. Indies. The name is derived from a fancied resemblance between the parts of their flower and the emblems of the Messiah's crucifixion. They are all twining plants, often scrambling over trees to a considerable length, and in many cases the large gaily or richly coloured flowers make them favourites in gardens, where many are cultivated, particularly P. alata, P. quadrangularis, P. edulis, P. cærulea, P. racemosa, P. Loudoni, P. onychina, P. palmata, and P. filamentosa. It is, however, chiefly for their fruit that they are valued in the countries where they grow wild, the pulp which envelopes the seeds being cool and refreshing, with something of a fragrant bouquet. The granadilla, P. quadrangularis, fruit is as large as a child's head, and is grown in many parts of the E. Indies. The water-lemon of the W. Indies is the produce of P. laurifolia; P. maliformis bears what is called the sweet calabash; and the pleasant pulp of P. edulis furnishes the confectioner with a most delicate material for the flavouring of ices. Many, however, are of no value for their fruit, and some are actually fetid. There are several wild varieties,—Modecca palmata, Courtallum, Cochin; M. dubia, Sumatra; M. trilobata, Chittagong; M. furfuracea, Prome; M. extensa, Khassya. Passiflora Chinensis, *Wall.*, a native of China. P. fœtida, a species with fetid flowers, but very elegant moss-like involucres, may be often seen creeping over the hedges in Moulmein. P. laurifolia, the laurel-leaved passion-flower, called in the W. Indies water-lemon vine, appears to have been the first of the tribe introduced into Burma. P. quadrangularis, granadilla, flourishes well in Burma and on the Tenasserim coast, and is very prolific. The smooth, oblong fruit grows nearly as large as a cucumber, contains a succulent pulp, which makes a cooling, delicious dish, and, when prepared in tarts, can scarcely be distinguished from green apple. The Rev. Mr. Bennett of Tavoy introduced it among the Karens, by whom it is highly esteemed, and much sought for. It possesses all the attractive qualities of fine fruit, has handsome, fragrant blossoms, and, when trailed over an arbour, gives a rich passing shade. Carica papaya, one of this order, yields the valued papau fruit.—*Riddell's Gardening; Eng. Cyc.; Mason; Jaffrey.*

PASTE, in jewellery, imitative gem.

PASTILLES.

Wan-yen-hiang, . CHIN. | Ood-batti, . . . HIND.

The Ood-batti pastilles in use in India, burned at Muhammadan tombs, are made of benzoin. The Wan-yen-hiang of the Chinese are long, limp torches of bamboo, covered with a composition of elm sawdust, some fragrant substance, and a small quantity of sulphur or orpiment. They are burned to drive away mosquitoes or overcome bad smells. They are sold in China for one cash each.—*Smith.*

PASTINACA, a genus of plants of the order Apiaceæ, from Pastinum, LAT., a two-pronged fork. P. sativa, *Linn.*, has two varieties—(*a*) Sylvestris, the wild parsnip of Europe; and (*b*) Edulis, the cultivated parsnip. P. Hookeriana, P. ringens, P. sprengeliana, and P. sativa are grown in the E. Indies.—*Wight's Icon.* No. 1008.

Pastinaca sativa, *L.*

Hu-lo-pu, . . . CHIN. | Parsnip, ... ENG.

Var. a. Sylvestris is the wild parsnip of Europe and the Caucasus.

Var. b. Edulis is the cultivated parsnip. It is extensively cultivated in Guernsey and Jersey as fodder for cattle. In the north of Ireland, parsnips are used in the composition of a kind of beer, brewed with hops. Wine and ardent spirits are likewise made from the roots.

Pastinaca secacul is the Shakakel misree (Sium sisarum, *Ainslie*), much used by eastern physicians; the root is a very efficacious medicine. Dr. Royle thought it came from Kashmir to Hindustan, but Honigberger heard that it is imported from Egypt; and hence, probably, it is called Egyptian (misree).—*Honigberger; Voigt; Eng. Cyc.*

PASTORAL TRIBES are in all Central and

Southern Asia, and there are many semi-nomades on the borders, and within the confines of British India, amongst the two last being all the frontier Afghans, Baluch, Brahui, and Jat; the desert tribes, Champa, Ahar, Ahir, Dhangar; and the Gadariya, Gujar, and Kurubar, Goala, Gop, Sadgop, Kum, Rangar, and Gurung. In Persia, Kurdistan, and Arabia, the chief part of the population are nomades. See Nomade.

PASTU, the language of the Afghans, also written Pashtu, Pushto. See Pash; Pashtun.

PASU-PATI. SANSK. Lord of animals, a name of Siva.

PASUT of Lahoul, a compound of alum, etc., used in dyeing.

PASWAJ. HIND. A woman's gown of a light texture and gay colour.

PAT. HIND. Part of the sugar-cane mill. A plank.

PAT is the wool of a goat of Kābul and Peshawur, inferior to the real pashmina or shawl-wool of Tibet, from which a texture called Pattu is made.—*Powell's Handbook*, p. 21.

PAT, a desert plain; a desert country between Asnee and the hills west of the Indus, above Mithunkote. It is wandered over by the ghorkhar, the Equus onager.

PAT. HIND. A leaf of a plant, any leaf; a book.

PAT. The five pat in Northern Hindustan, were Panipat, Sonpat, Indrapat, Tilpat, and Baghpat, of which all but the last were situated on the right or western bank of the Jumna. The term Prastha, according to H. H. Wilson, means anything spread out or extended, and is commonly applied to any level piece of ground, including also table-land on the top of a hill. But its more literal or restricted meaning would appear to be that particular extent of land which would require a prastha of seed, that is, 48 double handsful, or about 48 imperial pints, or two-thirds of a bushel. This was no doubt its original meaning, but in the lapse of time it must gradually have acquired the meaning, which it still has, of any good-sized piece of open plain. Indraprastha would therefore mean the plain of Indra, which was seemingly the name of the first settler. Popular tradition assigns the five pat to the five Pandu brothers. The above five pat or prastha were given by Dhritarashtra to the Pandu, and from Pat comes Pati, a township.—*Cunningham; Travels of a Hindoo.*

PAT. HIND. A deity of the Bhuiya, a mountain god; amongst the Kol, sacred high places. See Kisan.

PAT. MAHR. A second marriage of a woman among the lower classes of the Mahrattas, whether of a girl whose betrothed husband has died, or of a widow, or of a divorced woman.

PATAKAM. TAM., TEL. The sectarian mark on the foreheads of Hindus.

PATALA, the Hindus recognise seven regions beneath the earth, viz. Atala, Vitala, Nitala, Gabhastimat, Mahatala, Sutala, and Patala. These are inhabited by the Naga, Daitya, Yaksha, Danava, and others. The Daitya and Danava dwell in Rasatala, the sixth region; and in Patala, the seventh, Vasuki reigns over the chief Nagas or snake demi-gods. The lowest of the seven lower worlds, by Ziegenbalg was identified with Naraka, hell.—*Dowson; Hind. Theat.* ii. p. 270; *As. Res.* xi. 91.

PATALA or Pitasila, the capital of Lower Sind, identified with Nirankot or Hyderabad, also called Patalpur. The position of Nirankot is fixed at Hyderabad by the concurrent testimony of M'Murdo, Masson, Burton, and Eastwick. Sir Henry Elliot alone places it at Jarak, as he thinks that that locality agrees better with the descriptions of the native historians. From a comparison of the narratives of Arrian and Curtius, it appears that the raja of Patala, having made his submission to Alexander at Brahmana, or the city of Brahmans, the conqueror sailed leisurely down the river for three days, when he heard that the Indian prince had suddenly abandoned his country and fled to the desert.—*Cunningham's Ind.* p. 279.

PATALENE, the country about Tatta on the Indus. See Bactria; Greeks of Asia.

PATALIPUTRA, the Palibothra of Greek writers. It was the capital of the Nanda dynasty and of the Maurya dynasty, which was founded by Chandragupta, and which succeeded the Nanda as rulers of Magadha.

When Hiwen Thsang, in the beginning of the 5th century, entered the capital of Magadha, the city, originally called Kusumapura, had been deserted for a long time, and was then in ruins. It was 70 li or 11⅔ miles in circuit, exclusive of the new town of Pataliputra-pura. This name the Greeks slightly altered to Palibothra, on the authority of Megasthenes, whose account is preserved by Arrian. That writer says—The capital city of India is Palibothra, in the confines of the Prasii, near the confluence of the two great rivers Erannoboas and Ganges. Erannoboas is reckoned the third river throughout all India, and is inferior to none but the Indus and the Ganges, into the last of which it discharges its waters. Megasthenes assures us that the length of this city is 80 stadia, the breadth 15; that it is surrounded with a ditch, which takes up 6 acres of ground, and is 30 cubits deep; that the walls are adorned with 570 towers and 64 gates. Diodorus attributes the foundation of the city to Herakles, by whom they mean Bala-Rama, the brother of Krishna, but this early origin is not countenanced by the native authorities. According to the Vayu-Purana, the city of Kusumapura or Pataliputra was founded by raja Udayaswa, the grandson of Ajatasatru, who was the well-known contemporary of Buddha; but the 'Mahawanso' makes Udaya the son of Ajatasatru. According to the Buddhist accounts, when Buddha crossed the Ganges on his last journey from Rajagriha to Vaisali, the two ministers of Ajatasatru, king of Magadha, were engaged in building a fort at the village of Patali as a check upon the Wajji, or people of Vriji. Buddha then predicted that it would become a great city. From these concurring authorities General Cunningham concludes that the building of the city of Pataliputra was actually begun in the reign of Ajatasatru, but was not finished until the reign of his son or grandson Udaya, about B.C. 450. Prior to Hiwen Thsang's visit, Pataliputra had been deserted for Rajagriha or Behar; and another Chinese missionary, who wrote in A.D. 640, states that Pataliputra was a mass of ruins when he had seen it. Dowson says it is the modern Patna.—*Dowson.* See Patna.

PATALPURI is a remarkable place, most probably once above ground, but on which two

united rivers have deposited their silt and formed a soil. A cave leads to a spacious square temple, about seven feet high, the roof of which is supported by thick walls and ranges of pillars. In its middle is a large lingam of Siva, over which water is poured by the pilgrims. Surrounding this presiding deity are other gods and goddesses of the Hindu pantheon. Towards the left is seen a dead forked tree, which with its withered trunk has stood there for several hundred years. General Cunningham's Archæological Report states that, according to Hiwen Thsang, Allahabad was situated at the confluence of the two rivers, but to the west of a large sandy plain. In the midst of the city there was a Brahmanical temple, to which the presentation of a single piece of money procured as much merit as that of one thousand pieces elsewhere. Before the principal room of the temple there was a large tree with wide-spreading branches, which was said to be the dwelling of an anthropophagous demon. The tree was surrounded with human bones, the remains of pilgrims who had sacrificed their lives before the temple,—a custom which had been observed from time immemorial. This tree is now situated underground at one side of a pillared court, which would appear to have been open formerly, and which is supposed to be the remains of the temple described by Hiwen Thsang. Originally both tree and temple must have been on the natural ground-level, but from the constant accumulation of rubbish they have been gradually earthed up, until the whole of the lower portion of the temple has disappeared under ground. The upper portion has long ago been removed, and the only access to the Akshay Bat now available is by a flight of steps which leads down to a square pillared courtyard.—*Tr. of Hind.* i. p. 313.

PATAMAR, a vessel employed in the coasting trade of Bombay to Ceylon. Patamar vessels may be considered the best in India, as they sail remarkably well, and stow a good cargo of merchandise. They are grab-built, that is, with a prow stem, which is the same length as the keel; and the dimensions of the large class are 76 feet 6 inches in length, 21 feet 6 inches in breadth, 11 feet 9 inches in depth, and about 200 tons burden. They are planked with teak, upon jungle-wood frames, and are really very handsome vessels, being put together in the European manner, with nails, bolts, etc.; and their bottoms are sheathed with inch-board, and a layer of chunam mixed with cocoanut oil and a portion of dammer (country rosin). This is a very durable substance, and a great preservative to the plank against worms. Some of the smaller class of these vessels, of about 60 tons burden, are sewed together with coir, as other native boats are. The small class has one, and the large class two masts, with the lateen sail, the foremast raking forward for the purpose of keeping the ponderous yard clear when it is raised or lowered. The yard is slung at one-third of its length; the tack of the sail is brought to the stern-head, through a fixed block, and the sheet hauled aft at the side, as usual. The halyard is a pendent and treble block, from the masthead aft to midships, thus acting as a backstay for the mast's security, together with about two pairs of shrouds. These vessels generally export salt from Bombay to the coast, and take back coir, rice, cocoanuts, copra, oil, timber, sandal-wood, pepper, and various articles, the production of the coast. They are navigated with much skill by men of the Moplah sect and other Muhammadans, and have a crew of ten or twelve men, and a tindal, who are good pilots and navigators off the coast from Bombay to Cape Comorin; generally speaking, honest and trustworthy.

PATANI, a Malaya-Siamese province. The Orang-patani are supposed by Captain Osborn to be identical with the Orang Laut, or men of the sea. They hunt in small groups east and west of the Straits of Malacca. Under fifty different names they are known to the inhabitants of Siam, Java, Sumatra, Borneo, and the Moluccas, and in all cases bear a bad reputation. With the Sarkab or fish-spear and the Parang or chopper as their only implements, they eke out a miserable subsistence from the rivers and forests; rice is a luxury. Tobacco they procure by the barter of fish, and a few marketables collected from the forests and coral reefs. Their personal appearance is unprepossessing, and their deportment lazy and slovenly, united to much filthiness of person.—*Osborn's Quedah*, p. 254.

PATANJALA, SANSK., from the sage Patanjali; which word is made up of Pat, to throw down, and Anjali, joined hands. This conjunction teaches us that people went before him for instruction with joined hands.

PATANJALA. SANSK. A philosophy of the Hindus. In it are five afflictions, viz. Avidya, Asnuta, Abhinivesa, and Dwesha.

PATANJALI. There were two celebrated ancient Hindu authors of this name. One was the founder of the Yoga philosophy, the other the great critic of Panini and Katayayana, styling his book the Great Commentary, Maha-bhashya. It is a commentary on the Vartikka, or critical remarks of Katayayana on Panini. His mother's name was Gonika. He was born at Gonarda (hence his other names, Gonika putra and Gonardhya), in the east of India, but he resided for a time in Kashmir. He wrote between B.C. 140 and 120. There is no grammatical author who can be held superior to him. Mr. Growse (p. 57) mentions that he was a native of Gonda in Oudh, lived about B.C. 150; and adds that Patanjali mentions the local worship of Krishna and Balarama at Mathura, and quotes from poems descriptive of their lives. (This may be the Patanjali noticed by Ward (iv. 9) as the son of Angira and Sati, born in Havrita Varsha, where his parents resided, and he was known also as Pingala-charya and Pingala-naga.) The other Patanjali is the author of the Yoga system of philosophy, which forms one of the great schools of Hindu metaphysical doctrine, and is distinct from the Vedanta, the Nyaya, the Mimansa, and many others of equally marked but indifferent character. It is a theistic philosophy. He was the founder of the doctrine and practice of Hindu asceticism; and his doctrine, if it did not precede Buddhism, must have closely followed.

PATAR. HIND. A dancing girl attached to a Hindu temple; also a Murli, or woman devoted to the gods.

PATAR, also Pathar. HIND. Mountains. Central India is a table-land of unequal surface from 1500 to 2500 feet above the sea, bounded by the Aravalli mountains on the west, and those of the

Vindhya on the south, supported on the east by a lower range in Bundelkhand, and sloping gradually on the north-east into the basin of the Ganges. It is a diversified but fertile tract. The Patar, or plateau of Central India, is distinct from the Vindhya to the south and the Aravalli to the west, and its underlying rock is trap. The whole of the plateau of Central India was once under the princes of Chitore, but the sack of this famed fortress by Ala-ud-Din, and the enormous slaughter of the Gehlotes, had so weakened their authority, that the aboriginal Meenas re-possessed themselves of all their native hills, or leagued with the subordinate vassals of Chitore.—*Tod's Raj.* ii. p. 457.

PATARI, a wandering tribe of people who speak the Telugu language, some of whom have travelled into the Mahratta country, pursuing their avocation of manufacturers of hand-mills, from which they are also named Chakki Karne-walay by Muhammadans, and are seemingly identical with the Takinkar. They have a deity whom they term Satwai, whose emblem is suspended around their necks, and resembles the forms worshipped as Hanumantu. They dwell within the walls, in huts made of a fine grass. They marry at all ages; they do not eat the cow or bullock, and they bury all their dead.

PATEL, amongst the Mahrattas, the headman of a village, from Pati, head of the community. Opinions are various as to the origin and attributes of the Patel, the most important personage in village sway. But there is no doubt that both office and title are of ancient growth. The office of Patel of Mewar was originally elective; he was 'primus inter pares,' the constituted attorney or representative of the commune, and, as the medium between the cultivator and the government, enjoyed benefits from both. Besides his bapota, and the seerana, or one-fortieth of all produce from the ryot, he had a remission of a third or fourth of the rent from such extra lands as he might cultivate in addition to his patrimony. The Patel of the Dekhan, and of the west and centre of Hindustan, is the Mandel of Bengal, and the Makaddam of other districts, especially where there are, or have been, hereditary village landholders.

PATELLA, a large clumsy boat on the Ganges, in use for baggage, cattle, etc.

PATELLIDÆ, the limpet family of molluscs.

PATERA, a small boat-shaped cup, in use in the religious rites of the Hindus. It is called also an Argha, also Argha patera, and also Jhula. The Patera or Jhula of the Jogi ascetic is a hollow gourd; that of the Hindu deity Hari, the god of war, is the human cranium; the Jhula or begging scallop of the Muhammadan fakir is a gourd or a double cocoanut. Fakir ke jhulé mén tūkra kōn dala?—Who threw the piece into the fakir's scallop?—indicates a child of unknown parentage.

PATHA. Hind. Fibre of the Chamærops Ritchiana, of which mats, etc., are made.

PATHAN, a name applied in a loose manner to all the tribes bordering on the common frontiers of India, Afghanistan, Persia, and Balkh. The people are now found in all parts of British India, mixed with the rest of the inhabitants. The greatest colony is that founded chiefly by the Yusufzai at no very remote period. They have been known to the British as Afghan, Pathan, and Rohilla. The source of the name is doubtful. Pihtan or Pathan, given as one source of the term, is said to have been a titular designation bestowed by Mahomed on an Afghan of the name of Kais or Kesh, who visited Mahomed at Medina. It is also claimed to be a corruption of the Arabic Fathan (a conqueror), or a derivation from the Sanskrit Paithna, to penetrate (into the hostile ranks). It is an honourable term in Arabia, where Khurasani (a native of Khorasan) leads men to suspect a Persian. The Karani, Ashtarani, Mashwani, and Wardak of the North-West Frontier call themselves Pathans, but they are deemed of different origin from the Afghan. The Karani includes the Orakzai, Mangal, Khatak, Afridi, and Khugiani tribes, and the Waziri are sometimes included among these. The Wardak are in the valleys of the Sokhta and Ghazni rivers. They are quiet and hospitable, and their country is well cultivated. The Afghans call themselves 'Ban i Israel,' or children of Israel, but consider the name of 'Yahudi,' or Jew, as opprobrious. They affirm that Nebuchadnezzar, after the destruction of the temple of Jerusalem, removed them to Bamian (the present Kābul), and that they were called Afghans, after their leader Afghana, who was a son of the uncle of Asof (Solomon's vizir), who was the son of Berkin. This person's pedigree is derived from a collateral branch, his own father being unknown, which is not at all uncommon in the east. They say that they lived as Jews till Kalid (who obtained the title of khalif), in the 1st century of the Muhammadan era, called on them to take part in the war against the infidels. For these services the khalif gave their commander, Kysee, the title of Abd-ur-Rashid, which means the son of the mighty, and appointed him 'Butan' (an Arabic word), or head of his tribe (answering to a clan in Scotland). It is supposed to be from this title that the Afghans were called, in India, Patan. After the campaign under Kalid, the Afghans returned to their native country, and were governed by a royal race, descended from Kyani or Cyrus, till the 11th century, when they were conquered by Mahmud, who established his power in Ghazni, conquered part of India, and founded the Afghan kingdom, which continued till Baber, a descendant of Tamerlane, founded the Mongol empire. Such is their belief.

Afghans have never migrated in large bodies, but have accompanied the Muhammadan rulers of India, all of whom have entered from Afghanistan, and brought bodies of the Pathan with them. Some of these have settled in many places throughout Northern India, and in some parts of the south, some of them in villages, where they own and cultivate the soil. They have been in considerable numbers in the native army of British India, particularly in the corps of irregular cavalry, and in Northern India, in the civil service of Government. A few Pathan settlements are found in the Panjab and about Dehli. They are numerous in the Upper Doab and Rohilkhand, and, all over India, Pathan principalities, jaghirs, and families were met with till the beginning of the 19th century.

They came in without their women, and have intermarried with other Muhammadans, and with Hindus. Tod relates (Rajasthan, ii. pp. 22, 23) that in S. 1572 (A.D. 1516) a desultory band of Pathans made an incursion during the fair of

the Tij, held at the town of Peepar, and carried off 140 of the maidens of Maroo. Between A.D. 1157 and 1526, 20 Pathan kings ruled in Hindustan. The average duration of their rule was 9¼ years. The only Pathan dynasty now in British India is that of the Begum of Bhopal.

Wherever Pathan dynasties ruled in India, their architectural remains are of a magnificent character. At Dehli, Agra, Mandu, and Burhanpur, ruins of palaces, mosques, and mausoleums attest the magnificence of their founders, and their noble, scientifically constructed fortifications attest their skill. Of the early Pathans of the Ghori and Khilji dynasties, from A.D. 1193 to 1321, there may be noticed the Kutub Minar, of majestic beauty, erected A.D. 1200, and the stern grandeur of Taghalaqabad, A.D. 1321. The style is different of the later Pathan of the Taghalaq and Saida dynasties, A.D. 1321 to 1451, from the Afghan of the Lodi dynasty, A.D. 1451 to 1526. The usual form of a Pathan tomb was an octagonal apartment surmounted by a dome, the apartments surrounded by an arched verandah, the arches rising from square columns.

Pathans to the west of the Indus, as well as a few to the east of it, in the north of the Hazara district, and west of that of Rawal Pindi, speak Pushtu. The Pathan are the only people of Central Asia who in comparatively recent times have come to reside to any considerable extent in India. The Pathan tribes had advanced into the north-east corner of Afghanistan within comparatively recent historical times, for the lower valleys of the Kābul country were once occupied by Hindu races, and the peaks of the Safed Koh, between Jalalabad and Kābul, bear such Hindu names as Sita, Ram, etc. The term Afghan is hardly known to the people whom Europeans so designate, for the tribes have not as yet coalesced into a nation.

PAT'HAR. HIND. Any stone, a monument, a tombstone, a pallia. Pat'har ka phul, a lichen. Haiza-ka pattar, Kalanchoe varians. Mit pattar, Machilus odoratissimus. Til pattar, Acer creticum and A. cultratum. Colonel Tod says he was particularly struck with the monument of a Charan bard, to whose memory they had set up a pallia or tombstone, on which was his effigy, his lance at rest, and shield extended, who most likely fell defending his tanda. The tract had been grievously oppressed by the banditti who dwelt amidst the ravines of the Bunas, on the western declivity of the plateau. 'Who durst,' said his guide, 'have passed the Pat'har eighteen months ago? the Meenas would have killed you for the cakes you had about you; now you may carry gold. These green fields would have been shared, perhaps reaped altogether, by them; but now, though there is no superfluity, there is play for the teeth, and we can put our turban under our heads at night without the fear of missing it in the morning.' At one of the cairns in the midst of the wood, his people all paused for a second; it was raised over the brother of the Bhatti thakur, and each, as he passed, added a stone to this monumental heap.—*Tod*, ii. p. 659.

PA-THA-YOU-SHA. BURM. A bast of Arakan, from a species of Musa; strips 7 feet in length; fine in texture, light coloured; formed of several easily diffusible layers, the outer layers rather dense and compact, and the inner cancellar. —*Royle.*

PATHI. BURM. The term by which, in Burma, native-born Muhammadans are known.

PATHI, HIND., of Shahpur, a weight of wool, equals the shearing of one fleece of a sheep.

PATHRAINI. HIND. An iron graver used in Multan for tracing patterns for gold inlaying work, seemingly a corruption of pattern.

PATI. HIND. A township; in the N.W. Himalaya, a subdivision of a district.

PATIALA, a native state in the Panjab. It belongs to the group known as the Cis-Sutlej States, and is situated between lat. 29° 23′ 15″ and 30° 54′ N., and long. 74° 40′ 30″ and 76° 59′ 15″ E. Its area, 5412 square miles; estimated population (1875), 1,586,000; supposed gross revenue, £457,239. The ruling families of Patiala, of Jind (Jheend), and of Nabha, are called 'the Phulkian houses,' because they are descended from Phul, a Chaudhari, or agricultural notable, who in the middle of the 17th century founded a village in the Nabha territory called after his name. The chiefs of Jind and Nabha are descended from Tiloka, the eldest son of Phul; the Maharaja of Patiala is descended from Rama, the second son, and is a Sikh of the Sidhu Jat tribe. The Patiala maharaja aided the British with supplies in the revolt of 1857, when before Dehli. He was elected a member of the Viceroy's Council, and proposed a bill prohibiting the killing of cows. His widow and her daughters were Christians.—*Aitcheson's Treaties; Imp. Gaz.*

PATINA, in Ceylon, grass land, for the most part rock, barely covered with a superstratum of soil, but producing long grass, and here and there a stunted and thorny bush or tree. Like the prairies of America, the patinas are burned off every year. Grass-covered openings or meadows amount to millions of acres in Ceylon, about the middle of the hills, on which, except the Careya arborea and Emblica officinalis, trees do not grow. In the lower ranges they are covered with tall lemon grass, Andropogon schœnanthus. Coffee, by the use of manures, was unsuccessfully tried on them.—*Simmonds' Dict.*

PATING, HIND., of Tibet, dried apricots brought from Balti.

PATISCHOROEEIS of Strabo, the Patiskhari of the cuneiform inscription, are the Bakhtiari of Luristan.

PATKA. HIND. A girdle, a scarf, a labourer's turban, a sash. Zarri-Patka, a gold sash bestowed as an honour or decoration by sovereigns; the national standard of the Mahrattas.

PAT-KOI, a pass leading to Bamo and China. It was the route followed by the Burmans in their invasions of Assam, and is the means of communication between the Singpho tribes on the north and south of the Patkoi mountains.

PATNA. HIND. Patnam, TAM.; Patnama, TEL., SANSK. Any town or capital; a name of Seringapatam, also of Madras, subjoined to many distinctive names of towns, as Seringapatam, Masulipatam, Chinapatam (Madras).

PATNA, a city on the right bank of the Ganges in Bengal, in lat. 25° 37′ 15″ N., and long. 85° 12′ 31″ E., with a population of 158,900 souls. It gives its name to a revenue district, and to a revenue commissionership, the latter of 23,726 square miles, and a population in 1872 of 13,122,743

persons. Patna has been identified with Pataliputra of the ancient Hindus, the Palibothra mentioned by the Greek historian Megasthenes, who came as ambassador from Seleucus Nicator to the court of Sandracottus or Chandragupta at Pataliputra, about the year 300 B.C.; and the river Erranoboas of Greek writers is the Hiranya baha or gold-bearing stream of the Hindus, the Sone river of the present day. It was also anciently known as Kusumapura, also Pushpapura.

Strabo and Pliny agree with Arrian in calling the people of Palibothra by the name of Prasii, which modern writers have unanimously referred to the Sanskrit Prachya or 'eastern.' But it has seemed to General Cunningham that Prasii is only the Greek form of Palasiya or Parasiya, a 'man of Palasa or Parasa,' which is an actual and well-known name of Magadha, of which Palibothra was the capital. It obtained this name from the Palasa, or Butea frondosa, which still grows as luxuriantly in the province as in the time of Hiwen Thsang. The common form of the name is Paras, or, when quickly pronounced, Pras, which he takes to be the true original of the Greek Prasii. This derivation is supported by the spelling of the name given by Curtius, who calls the people Pharrasii, which is an almost exact transcript of the Indian name Parasiya. The Praxiakos of Ælian is only the derivative from Parasar. The city extends for nearly 9 miles along the Ganges, from the suburb of Bankipore on the west, to Jafar Khan's garden on the east. Patna has a Sikh colony. There is a huge incomplete domed granary, built in 1784-1786, which was utilized in the Bengal famine of 1873. In 1851, Maharaja Jung Bahadur rode up its winding staircase. In 1876-77, the imports and exports of Patna town (excluding Government monopoly of opium, and probably omitting a good deal besides) were registered to a value of 7¼ millions sterling. The imports alone amounted to more than 4 millions. On 6th Oct. 1763, a number of the British were massacred here by order of Mir Kasim. He wrote to the English authorities, 'If you are resolved to proceed in this business, know for a certainty that I will cut off the heads of Mr. Ellis and the rest of your chiefs, and send them to you.' This threat he carried out with the help of Samru, a Swiss (Walter Reinhardt), on the evening of the 6th October. Mr. Ellis and others, according to a contemporary letter, were decoyed one by one out of the room where they were drinking tea, at seven o'clock, and instantly cut down. About 60 British were thus murdered, their bodies being thrown into a well in the compound of the house in which they were confined. It is said that 200 British were killed at this time throughout Bengal.—*As. Res.* v. p. 280, ix. p. 46, xiv. p. 393.

PATNI. HIND. A Hindu wife, the wife first married.

PATOMKAR, on the Malabar coast, a tenant-farmer.

PATONWA. URIYA. A species of Gardenia? of Ganjam and Gumsur; extreme height 20 feet. Used chiefly for firewood, being tolerably common. The fruit thrown into a pond of water kills the fish in it, and it is used for that purpose by the Keyout or fishermen. This mode of catching fish is designated Macho nohneebaro. The fruit is said to be poisonous, but the seeds are used medicinally for fever.—*Capt. Macdonald.*

PATOO or Asta is a bast from Birbhum. It is like the Patwa bast of Bhagulpur.—*Royle.*

PATRA. HIND. The Kataya or wire-drawers' work-bench.

PATRA. TAM. Any leaf used for writing on, the birch bark or palm frond; also a sheet of paper or metal on which grants are engraved. See Patera.

PATRA. HIND. Tha-beit, BURM. Gautama's alms-bowl; it is said to have been sent by king Asoka to Ceylon, and is shown in the Malagawa vihara at Kandy. Fa Hian saw one at Peshawur. It is the Holy Grail of Buddhism.

PAT-RAJ, a Pujari amongst the Mahrattas.

PATRANG. HIND. A silk dress; Æchmanthera gossypina.

PATRI. HIND. A neck-chain of silk, carrying amulets. A hone; also a little iron wedge or plate.

PATSHAING. BURM. A drum-harmonicum, a musical instrument used in Burma. It consists of a circular tub-like frame about 30 inches high, and 4 feet 6 inches in diameter. This frame is formed of separate wooden staves fancifully carved, and fitting by tenon into a hook.—*Yule.*

PATSHALA, a village school of Bengal. The discipline in the Patshalas is very cruel. The Calcutta Review mentions that a boy is made to bend forward with his face towards the ground; a heavy brick is then placed on his back, and another on his neck; and should he let either of them fall, within the prescribed period, he is punished with the cane. A boy is condemned to stand on one foot; and should he shake or quiver or let down the uplifted leg before the time, he is severely punished. A boy is made to sit on the floor in an exceedingly constrained position, with one leg turned up behind his neck. He is made to sit with his feet resting on two bricks, and his head bent down between both legs, with his hands twisted round each leg so as painfully to catch the ears. A boy is made to hang for a few minutes, with his head downwards, from the branch of a neighbouring tree. A boy's hands and feet are bound with cords; to these members so bound a rope is fastened, and the boy is then hoisted up by means of a pulley attached to the beams or rafters of the school. The fingers of both hands are inserted across each other, with a stick between and two sticks without, drawn close together and tied. A boy is made to measure so many cubits on the ground, by marking it along with the tip of his nose. A boy is constrained to pull his own ears, and if he fail to extend them sufficiently he is visited with a severer chastisement. The boy who first comes to school in the morning receives one stroke of the cane on the palm of the hand, the next receives two strokes; and so each in succession, as he arrives, receives a number of strokes equal to the number of boys that preceded him, the first being the privileged administrator of them all. Four boys are made to seize another, two holding the arms and two the feet; they then alternately swing him and throw him violently to the ground. Two boys, when both have given offence, are made to knock their heads several times against each other. Again, two boys are made to seize another by the ears, and with these organs well outstretched he is made to run along for the amusement of the bystanders; which latter clause reminds us of the old Roman poet's line—'Omne tulit punctum qui miscuit utile dulci.' Nettles dipped in water

are applied to the body, which becomes irritated and swollen; the pain is excruciating, and often lasts a whole day; but however great the itching and the pain, the sufferer is not allowed to rub or touch the skin for relief, under the dread of a flagellation in addition. This seems bad enough, but here is something worse: The boy is tied up in a sack along with some nettles, or a cat or some other noisome creature, and then rolled along the ground.

PATSO or Patsau, of particoloured silk, is worn by the Burma court and the wealthy Burmans of the capital. In Akyab it is worn there by the Mug race. The Patso of Burma, however, is the cloth worn by all classes. A piece costs up to 24 rupees.

PATTA, also Pat or Pattr. HIND. Any leaf. A lease of land, a deed of lease, a title or appointment to office; a belt as an office badge.

PATTADARI, a lease of land. In India, under British rule, are three land tenures, one known as the Zamindari, or permanent settlement, made in 1793 by Lord Cornwallis, of Bengal proper, and since then extended to Behar and Orissa. In this the lands are divided amongst landlords, who pay a quit-rent to Government, which in Bengal has been definitely settled. Something similar has been proposed for Oudh, as the Talukdari. (2) The Ryotwari tenure in Madras, favoured by Sir Thomas Munro, under which the cultivators are the co-owners of the soil, and pay direct to Government. A modification of this has been introduced into Bombay. (3) The Pattadari tenure was carried out by Mr. R. Martins Bird in the N.W. Provinces, and it has since been extended to the Panjab. In this, Government deals direct with village communities, who are jointly responsible for the assessment.

In Bombay and Madras, Government transacts its revenue business chiefly direct with the cultivating ryot, who is regarded as the feuar or proprietor, paying a feu-duty, and so long as that is paid he cannot be dispossessed. Neither in Bombay nor Madras is there any middleman. In Bengal, however, the British took up the Zamindar system, who, under Muhammadan rule, had been partly a rent-collector and partly a landed proprietor, and elected him to be owner, to the exclusion, in many cases, of the rights of the cultivators. Subsequently the Government, to the exclusion of the real owner, elected the tenant or the village community. In Bengal and Oudh, the land-tax is still levied on estates; in Northern India, on villages and proprietary holdings; but in Madras, on individual fields. In Bombay, however, the taxes levied on the blocks of 10 or 12 acres accords to the convenience of the occupiers, and they are tenants for 30 years. In copper-plate grants dug from the ruins of the ancient Ujjain (presented to the Royal Asiatic Society), the prince's patents (Patta) conferring gifts are addressed to the Patta-cila and ryots. Colonel Tod never heard an etymology of the former word, but imagined it to be from Patta, grant or patent, and Cila, which means a nail or sharp instrument,—metaphorically, that which binds or unites these patents; all, however, having Pati, or chief, as the basis. — *Tod's Rajasthan*, i. 500; *Trans. Asiatic Society.*

PATTA-ISTRI is the first lawful wife of a king. Pattapu bharya, TEL., the crowned wife of a Hindu ruler.

PATTAL. HIND. Plates made of leaves by the Dosali caste.

PATTAM. TAM. A gold frontlet ornament worn by Hindu women.

PATTANA, Pattan, Patna, Pat'tain. SANSK. A word of Sanskrit origin. Any town or city. It is found in nearly all the languages of British India, as in Masulipatam, Chinipatan (Madras), or simply Patna, Seringapatam. Pattan, the Pattana or Paithana of the ancient Greeks, is supposed to have been the capital of Salivahana. Pattan, in Gujerat, is the ancient Balhara capital. Somanatha and Anhilwara were known as Pattan. Pattan-Somnath is 29 miles N.W. of Diu, in lat. 20° 53′ N., and long. 70° 35′ E.

PATTANG. HIND. A paper kite. Pattang-bazi, flying kites. Pattang saz, a kite maker.

PATTI, the Swastika of the Buddhists, and the monogram of Vishnu and Siva.

PATTŪ. HIND. A white woollen cloth; a blanket or wrapper made of Pattu, a breadth of woollen cloth sewn together. Puttu, a thick woollen blanket woven on the Spiti Hills. A coarse, thick fabric made of the refuse wool and long hair from the shawl goat. It is sold in pieces of 10 inches in width and about 21 feet in length at 2 rupees 8 annas or 3 rupees a-piece, according to the quality.

Pattu abshar, striped woollen cloth.

Pattu chet, woollen cloth stamped with a pattern.

Pattu-Dahzang, cloth made at Dahzang, near Ghazni.

Pattu-foduk, a Ladakh woollen fabric.

Pattu Ramnagri, the Pattu fabric made at Ramnagar.

PATTUAH, a name of the Juanga race. See Juanga.

PATTY and Pajel are short and pointed-headed chanks; and the Wallampory are the right-hand chanks. Bertolacci mentions, as a peculiarity observed by the Ceylon fishermen, that all shells found to the northward of a line drawn from a point about midway from Manaar to the opposite coast of India, are of the kind called Patty, and are distinguished by a short flat head; and all those found to the southward of that line are of the kind called Pajel, and are known from having a longer and more pointed head than the former. The Wallampory or right-hand chanks are found of both kinds.

PATWA. HIND. A braider, a maker of fringe and tape.

PATWA or Patahra manufacture and sell ornaments made of zinc and tin and other inferior metals, worn by men and women, but chiefly by the latter. They also make trinkets of silk and silk cloth, edged with gold.

The Patwa knit silken cords; and in Behar, where silk is produced, many families are employed in weaving silk cloth, or silk and cotton mixed, or cotton alone.

PATWA. HIND. String and rope made from the fibre of Bauhinia racemosa.

PATWA. HIND. The red juicy calyx of Hibiscus subdariffa used for making jelly, etc.

PATWARI. HIND. In Hindustan, a village accountant, responsible for keeping the accounts of the village, noticing changes in the list of pro-

prietors, and accounting between the headman or Lamberdar and the proprietors for the share of revenue paid by each. In the Dekhan and Southern India, the village accountant is the Kulkarni and Karnam, and in Gujerat the Tallati.

PAUCHONTEE, or Indian gutta tree, is common in the densely-crowded tracts of Coorg, abounding at the foot of the ghats N.E. of Trevandrum, the eastern part of Wynad, Animallay mountains, and Cochin territories, from 8° 30′ to 10° 30′ N., and at an elevation of 2500 to 3000 feet above the sea. The tree abounds in the Cochin Sircar territory, and on the cardamom table-lands of Travancore, and at the Pool on the summit of the ghats above Chocuraputtee. It appears to be common in all the forest tracts at all within the influence of the S.W. rains. It attains a height of 80 to 100 feet, and a diameter of 2 to 4 feet, and it rises up to a great height without giving off any branches. It is the Pauley tree of Wynad, and the Pauchontee of Cochin. It is the Isonandra acuminata of Lindley, and the Bassia elliptica of Dalzell. It yields a milky juice, which concretes, and is brittle at an ordinary temperature. It softens by the heat of the hand and mouth, and may be moulded between the fingers. It readily melts by the application of heat, and becomes very sticky. This stickiness is gradually destroyed by contact with water. It forms a paste with coal-tar, naphtha, and oil of turpentine. It has excellent insulating powers, and may be used successfully for coating the wires of telegraphs. It is probable that several thousands of these trees fall annually under the axe of the wood-cutter, as the Government forests in Wynad give way to the extension of coffee-planting, and the private forests in Malabar to raggi cultivation. In 1855, General Cullen forwarded a drawing and description of it. The wood of the Pauchontee tree is in gravity not less than 55 lbs. the cubic foot; and a bar of one inch square, with 18 inches clear of the supports at each end, broke with a long fibrous fracture, after a weight of 440 lbs. had been imposed, though not till this weight had for some minutes been suspended from the bar. This tenacity is as high if not higher than that of teak. A tree when tapped, two taps at every three feet from the base to sixty feet high, or 40 taps in all, yielded in twelve hours about eight pints or pounds of the sap. The exudation from the trunk has some resemblance to the gutta-percha of commerce. According to General Cullen, in 5 or 6 hours upwards of 1½ lbs. was collected from 4 or 5 incisions in one tree.—*Balfour's Report of the Madras Museum of* 1856.

PAULOWNIA IMPERIALIS. Tung, Peh-tung, CHIN. A tree of China and Japan, furnishing an excellent timber, much prized for musical instruments. The large cordate leaves are used as a wash for sores, and to strengthen the hair when turning grey. Bark vermifuge and diuretic.—*Smith.*

PAUMBEN, a small mercantile town on the W. extremity of the island of Ramisseram, in lat. 9° 37′ N., long. 77° 17′ E. It derives its name from the serpentine character (Pamu, TAM., a snake) of the Paumben channel, which separates the island from the mainland. The population are chiefly Labbai Muhammadans. The Paumben channel is between the islands of Ramisseram and Manaar. These two almost connect Ceylon and the continent, and form what is known as Adam's Bridge at the head of the Gulf of Manaar. The British Government since 1828 have been deepening the channel to thirteen feet of water, so as to render the rounding of Ceylon unnecessary.

PAUNDRAKA, an opponent of Krishna at Benares. Krishna is said to have defeated and killed him, and burned Benares.

PAURAVA, descendants of Puru of the Lunar race.—*Dowson.*

PAUSSIDÆ, a family of insects, comprising the genera Cerapterus, *Swed.*; Pleuropterus, *West.* Mr. Westwood mentions sixty-two known species, a great portion of which belong to the East Indies.

PAVANA, the Hindu god of the winds. He is by some represented sitting on a deer, holding in his hand a hook for guiding the elephant.—*Cole.'s Myth. Hind.* p. 111.

PAVANANTI, a Jaina who lived at Sanakapuram. Under the patronage of a king, he commenced the Nannul, the most celebrated Tamil grammar, but died after completing the first two parts.

PAVETTA INDICA. *Linn.*

Pavetta alba, *Vahl.*	Ixora pavetta, *Roxb.*,
Ixora paniculata, *Lam.*	*Rheede.*
Kukura chura, . . BENG.	Pavatti maram, . . TAM.
Kakra, ... HIND.	Papatta chettu, . . TEL.
Malia mothi, . MALBAL.	Nune papata, . . ,,
Pappana, . . . SANSK.	Papatn, Tella papata, ,,
Pavetta, . . . SINGH.	

An ornamental shrub, 4 or 5 feet high, with white flowers, timber very small. The berries are not very palatable. In Ceylon, very abundant up to an elevation of 3000 feet. β var. Ambagamowa district. γ var. Common at an elevation of 3000 to 4000 feet; a third var. occurs at Batticaloa. P. tomentosa, found at Tavoy, has flowers resembling a white ixora. P. breviflora, *D.C.*, occurs on the Neilgherries.—*M.E.J.R.; Ainslie; Thw. Zeyl.; Mason.*

PAVIA INDICA. *Wall.* Indian horse-chesnut.

Gugu, gagai-gugai, CHEN.	Hane, Hanudan, . PANJ.
Pu . . . of KANAWAR.	Kanor knor, Kanur, ,,
Gun, Guah, Juah, KULU.	Tonjaga, . . PUSHTU.
Banakhor, Ban-khor, PANJ.	Jauz makkaddam, ,,
Ban-akhrot, . . . ,,	

This fine picturesque tree yields a grateful shade. It grows in most of the higher hills, Cis and Trans Indus, at from 4000 to 9000 feet, is found in the Sutlej valley between Rampur and Sungnam, at Kulu at an elevation of 5000 to 8000 feet, on the mountains at elevations of from 8000 to 10,000 feet, in Kamaon, Garhwal, and Sirmore, also near the sources of the Ganges and in Kanawar, and attains girths up to 10 and 15 feet. The wood is light-coloured and easily worked, but is not much valued, being used for ordinary building purposes, packing-cases, water-troughs, tea-boxes, and rough pattern-making. Some of the Tibetan drinking-cups are made from it. The root, called Jauz-mukaddam bankhor, is used for horses in colic, and is recommended as an external application in rheumatism. The seeds contain much fecula, and are eaten by the hill people in times of scarcity, but require long maceration in water first, as they are very acrid. Grows to a very great size and strength; wood soft and strong, of a white colour, veined, fine grained; polishes well; used for building and cabinet-making purposes.—*Royle's*

Ill. p. 135; *Powell; Balfour*, p. 185; *Commr. Jullundur Division; Dr. Stewart; Cleghorn's Panj.*

PAVONIA ODORATA. *Willd.*

P. sidoides, *Horn, D.C.*	Hibiscus chitlbenda, *Roxb.*
Hibiscus odoratus, *Roxb.*	
Bulla, ... SANSK.	Mutopolagum, . . TEL.
Peramutie pu, . . TAM.	Chitli benda, ... ,,
Erra kati, . . . TEL.	Muttava-pulagam, . ,,

It has a most delightful smelling flower, and is one of those with which the arrows of Kama, the god of love, are said to be tipped. P. rosea, *Wall.*, is of Burma.—*Ains. Mat. Med.; Moor, Pantheon.*

PAVONIA ZEYLANICA. *Cav.*

Hibiscus Zeylanicus, Linn.

Sitramuti, ... TAM. | Tsinna mutapolgum, TEL.

Grows in Southern India, and is used in infusion in fevers.

PAVONINÆ, or pea-fowl, a sub-family of the Phasianidæ, includes—

Pavo cristatus, *L.*	P. bicalcaratum, *L.*
P. Japonensis, *Bennett.*	P. Napoleonis, *Massena.*
P. muticus, *Linn.*	P. chalcurus, *Temm.*
Near these are—	Argusanus giganteus, *Temm.*
Polyplectron Tibetanum, *Temm.*	

Pavo cristatus, *Linn.*, Pea-fowl.

Taon, Taos, . ARAB., GR.	Pavon, Pavone, . IT., SP.
Mah-ja, ... BHOT.	Mong-yung, . . . LEP.
Paon, ... FR.	Pavon, ... ,,
Pfau, ... GER.	Myloo, Mail, . . . TAM.
Mohr, Mor, . . . HIND.	Nimili, ... TEL.

The head is surmounted by an aigrette of 24 upright feathers. In the male the tail-coverts consist of feathers with loose barbs and of unequal size, the upper one shortest, each terminated by numerous eyes or circlets of a metallic iridescent brilliancy; these the bird has the power of erecting into a circle or wheel, which presents, when the sun shines on it, an object of dazzling splendour. The female has the aigrette, but has not the splendid ornament with which the male is gifted; her colours generally are sombre. This species is spread over India; it is readily domesticated, and many Hindu temples have considerable flocks of them. The bird, as domesticated in Europe, is identical with the wild bird of India. Colonel Williamson, in his account of peacock-shooting, states that he had seen about the passes in the Jungleterai district surprising quantities of wild pea-fowls. Whole woods were covered with their beautiful plumage, to which the rising sun imparted additional brilliancy. He says there could not be less than twelve or fifteen hundred pea-fowls, of various sizes, within sight of the spot where he stood for near an hour.

Pavo Japonensis, *Aldrov.*, P. Javanicus, *Horsfield.* Prevailing tints, blue and green, varying intensity, and mutually changing into each other, according as the light falls more or less directly upon them. In size and proportions the two species are nearly similar, but the crest of P. Javanicus is twice as long as that of P. cristatus, and the feathers of which it is composed are regularly barbed from the base upwards in the adult bird, and of equal breadth throughout. Head and crest interchangeably blue and green.

The Javan pea-fowl is a splendid bird. It replaces the common pea-fowl in the Malay Peninsula and Java, and is readily distinguished by its different colouring and peculiar crest.

Pavo muticus, *Linn.*, P. Assamicus, *M'Clelland*, is found in all the countries from Assam through Burma to Malacca, and the islands. It has spurs; its crest is composed of about ten or more slender barbed feathers. It has more green and gold and less blue in its plumage than P. cristatus.

The black-shouldered pea-fowl, Pavo nigripennis, is commonly called the Japan peacock, but is not found in Japan. It occurs wild in Cochin-China. —*Eng. Cyc.; Jerdon, Birds of India.* See Peacock.

PAWA or Padraona, an ancient city on the Gandak river, between Kapilavasta and Kasinagara. In the Ceylonese chronicles the town of Pawa is mentioned as the last halting-place of Buddha before reaching Kasinagara, where he died beneath a sal tree.—*Cunningham, Ancient Geog. of India*, p. 434.

PAWAN. HIND. The wind. Pawan-ka-put, lit. Son of the wind. The general of the monkey army that Rama took with him in his expedition against Ceylon.

PAWAN BANS, the name by which the Bhuiya to the south of Singbhum designate themselves.

PAWANG. The Rev. P. Favre, apostolic missionary of Malacca, mentions that the Pawang are priests, teachers, physicians, and sorcerers. Many members of their own nation do not believe that the Pawang have any supernatural powers as sorcerers or as priests. Amongst the Malays their skill is much in honour, and their persons objects both of veneration and of fear. The Malays have a firm faith in the efficacy of the supplications of the Pawang, and an extraordinary dread of their supposed supernatural power. Malays imagine that they are endowed with the power of curing every kind of sickness, and of killing an enemy however distant he may be, by the force of spells; and with the gift of discovering mines and hidden treasures. It is not uncommon to see Malay men and women, at the sight of a Binua Pawang, throw themselves on the ground before him.—*Journ. Ind. Arch.*, Feb. 1849, p. 115.

PAWARUJA, a class of dancers at public festivals. They are found in the districts east of Oudh.—*Sherring's Hindus.*

PAXITIRTHA. Taranatha, in his history of Indian Buddhism, mentions Paxitirtha in Tibetan as a Buddhist temple, or, in the Tibetan corresponding name, Bird convent. It is now called the Tirukkaz Hukkunram, and is 36 miles S. of Madras; and the kites at it are fed at noon. The temple is now devoted to Siva, but the inscriptions show that it was once a Jain temple.

PAXIUBA, a palm of the Rio Negro, is the Iriartea exorrhiza.

PAYAKARI. KARN., TEL. A temporary cultivator.

PAYANELIA MULTIJUGA. *D.C.* A timber tree of the Andamans.

PAYASA, in Brahmanism, sacred food, consisting of rice and milk. It is prepared at Brahmanical sacrifices. Payasa-homa, a Hindu sacrifice with ghi and fire, also with rice and milk, but products of the cow are mixed with them.

PAYUNG in Malay and Javanese, and Songsong in Javanese only, an umbrella. Among the civilised nations of the Malayan Archipelago, this is the universal badge of rank, from the prince to the humblest office-bearer, and stands instead of the crowns, coronets, stars, and ribbons of the

nations of Europe. The quality of the party is expressed by its size, colour, or material.—*Crawfurd's Dict.* p. 330.

PA-ZEND. The book containing the religious code of the present Parsees is called the Vendidad. It has undergone three various processes of composition, of the Avesta, Zend, and Pa-zend. The Avesta is of very ancient date, and is the groundwork of the present Vendidad, though all of it almost is post-Zertushtrian. In the course of time, several explanations and interpretations of the laws were made, which acquired as much force as the original, and were incorporated with it. This is the Zend, and the incorporation of further explanations was styled the Pa-zend. Avesta means direct higher knowledge, divine regulation. Zend means the explanation of this, and Pa-zend the supplement to the Zend, or further explanation of the Zend doctrine. All the three steps exist in the present Zend Avesta, or more properly Avesta Zend.—*Bunsen.*

PE, in the weights of Burma, is the 1-20th part of a kyat or tikal.

PE. Tam. Wild, uncultivated; a devil.

PEA, Pisum arvense, P. sativum.

Tsing-sian-tau, . . Chin.	Kachang, . . . Malay.
Wan-tau, ... ,,	Kirseneh, . . . Pers.
Erwten, ... Dut.	Goroch, ... Rus.
Pois, ... Fr.	Harenso, . . . Sansk.
Erbsen, ... Ger.	Pesoles, Guisantes, . Sp.
Battana, ... Hind.	Pattani, ... Tam.
Bisi, Piselli, ... It.	Gundu sanighelu, Tel.
Wan, ... Jap.	Burtshak, . . . Turk.

The pea is grown as a vegetable throughout all the southern and eastern parts of Asia, wherever Europeans reside. It is a well-known leguminous plant, of which two species are commonly distinguished in Britain,—the grey field-pea, and the white or yellow pea. Of these two species there are many varieties. The large white, green, and brown are the common pea in the Dekhan; the latter sort are boiled, and eaten often in the shell. Peas may be sown there in the beginning of June, and continued at pleasure until February. In sowing, they should not be too thin, or placed deeper in drills than two inches, and a space of three feet between the rows; the first crop in double rows, with a space of a foot between. When they are ready to climb, earth up both sides well, leaving room for the water to run in the middle. Then place good strong sticks in the centre of the rows, and on the outer side of each lay good old manure, after which little trouble is required. Keeping them free from weeds is of course essential; and to preserve the seed, take care and remove any of the plants that appear of a different kind when in blossom; also draw out all the thin and bad-looking plants, to prevent the pollen impregnating the good, and if this seed be the produce of the rain-crop, if sown again in the cold weather they will be much finer and last longer than the seeds of the former season. For late crops, put down in single rows, and in lines from east to west; this enables the sun to act upon the whole, and tends to prevent mildew from damp on the stalks. In growing crops that you do not intend to stick, it is advisable to put brushwood on one side for them to creep over, and prevent much loss in seed from damp and otherwise. The kinds that grow best at Madras are the Bangalore and Cape seed, sown in drills after the heavy rains are over. The best manure for this vegetable is street sweepings and wood ashes.

The country pea of British India is sown after the rains in drills, and varies in price according to the quality; when green they are tolerable as a vegetable, but are best in soup. Procurable in December and January.

The Japan pea has been introduced into the United States, and returns 200 and 300 per cent.

In chemical composition the P. sativum of India has moisture, 12·65; nitrogenous matter, 23·50; starchy matter, 60·28; fatty or oily matter, 1·61; and mineral constituents, 2·41.

The chick-pea, or Bengal gram of India, is the Cicer arietinum, the pigeon-pea is the Cajanus Indicus, and the pea-nut is the Arachis hypogea. —*Agricultural Report for* 1854 *from Commissioners of Patents to House of Assembly; Faulkner; Riddell; Jaffrey.*

PEACH, Amygdalus Persica.

Khookh, . . . Arab.	Aroo, Shaft-alu, . Hind.
T'au, Ping-t'au, . Chin.	Accusare, ... It.
Hoh-t'au, Sien-kwo, ,,	Shaft-alu, . Pers., Turk.
Peche, ... Fr.	Kardi, Kulloo, Aroo, ,,
Pfirsiche, ... Ger.	Malo coton, . . . Sp.

The peach was introduced into Europe from Persia, a country in which the fruit is very fine, and where both the free and cling stone varieties are known, and called Kulloo and Kardi. It has been supposed to be a native of the oases of Egypt, in consequence of its name, Burkook, being probably the original of the old term apricoke and præcocia.

There are two varieties in the Panjab plains, one, a round fruit, which is elongated to a point on one side; this is called Noki (Nok, a point). The other is a flat fruit, like the Chinese peach, and is called Tiki; the latter is much superior both in juiciness and flavour. At Kandahar there are two sorts, one small and strong flavoured, called Babri, and one large and luscious, called Tirwah.

At Kābul it is said to be preserved in fourteen different ways, with and without the stones, or the kernel left, or an almond substituted. It is generally brought in this state into N. India, under the name Khoobani; the Arabic name is Mishmish; in Bokhara, where they are particularly fine, they are called Bakur khani. In the Himalaya the fruit is called Zard-aloo, Chooloo, and Chinaroo; in Kanawar the fruit is dried on the tops of their houses, and, when pounded, mixed with their meal. It is chiefly cultivated on account of the beautiful oil which is expressed from the kernels. These may also be found in the bazars, under the name of Badam-kohi, or hill-almonds. The oil has a slight smell of hydrocyanic acid, and must resemble that from almonds, especially the bitter kind, or that obtained from Prunus brigantiaca. They ripen well and are of a fine flavour in Peshawur; also in the north of India, with the well-flavoured flat peach from China. With care, it succeeds also in the elevated lands of Mysore, Ahmadnaggur, and Dowlatabad. It is found wild in different parts of the Himalaya, as about Mussoori, at elevations of 5000 and 6000 feet. In the district of Bissehur there is a distinct kind, called Bhemi by the natives, Persica saligna, *Royle*, which, though small, is juicy and very sweet.

In the vicinity of Shanghai is a fine and large

variety of peach, which comes into the markets there about the middle of August, and remains in perfection for about ten days. It is grown in the peach orchards a few miles to the south of the city; and it is quite a usual thing to see peaches of this variety 11 inches in circumference and 12 ounces in weight. Trees of the Shanghai variety are now in the garden of the Horticultural Society of London. In China, Yu-t'au is the nectarine; Ping-t'au and Hoh-t'au are names of the flat peach; and the Kin-t'au is a yellow-fruited peach. The peach is supposed to be a modified almond under cultivation; and though many hundred varieties have been produced, the peach and the almond are believed by Professor Koch to be of the same stock.

The nectarine is found in gardens in Northern India, where it is called Shaft-alu and Moondla-aroo (smooth), though it does not perfectly ripen its fruit, nor is it known from whence it was introduced, though probably from Kābul. The apricot is very abundant around almost every village in the Himalaya, rendering it difficult to ascertain whether it be ever found wild, as the trees remain the only vestiges of deserted villages. —*Drs. Wall. Cat.; Royle, Ill. Him. Bot.; Riddell; J. L. Stewart.*

PEACH GUM, T'au kiau, CHIN. In China employed medicinally.

PEA-FOWL.

ταως, . . .	ARAB., GR.	Marak, .	MALAY., JAV.
Pea-fowl, ...	ENG.	To-gei, ...	MALEAL.
Paon, ...	FR.	Manura, .	SANSK., JAV.
Pfau, ...	GER.	Sikhin, . .	,,
Tukeyiun, . . .	HEB.	Tokei, ...	SINGH.
Tukhi-im, . . .	,,	Mail, ...	TAM.
Pavo, ...	LAT.	Tawuss-kushu, . .	TURK.

There are three species of pea-fowl known in India, Pavo cristatus, P. Japonensis, and P. muticus, *Linn.*, the former of British India; the latter is from Assam to the Malay Peninsula, Java, and Sumatra, and has never been domesticated by the natives of the Archipelago. P. cristatus and P. muticus are wild species; and Mr. Sclater has lately named P. nigripennis, but its country is unknown. Peacocks are called in Hebrew, Tukhi-im; and the name still used on the coast of Malabar is To-gei, which in turn has been derived from the Sanskrit Sikhin, meaning crested. In many parts of India they live in a semi-domestic state in and about the villages. The peacock is said to have been introduced to Europe by Alexander the Great. Pea-fowl were so rare in Greece, that a male and female were valued at Athens at a thousand drachmæ, or £32, 5s. 10d. Samos possibly was the next place they were known at, where they were preserved about the temple of Juno, being a bird sacred to that goddess. But their use was afterwards permitted to mortals, for Gellius, in his Noctes Alticæ (c. 16), commends the excellency of the Samian peacocks. They were, however, known in Judea many years before the days of Alexander, and are noticed, with apes, in 1 Kings x. 22, 2 Chronicles ix. 21, the words translated being found in the Sanskrit.

The peacock was a favourite armorial emblem of the Rajput warrior; it is the bird sacred to their Mars (Kumara), as it was to Juno, his mother, in the west. The feather of the peacock is used to decorate the turban of the Rajput, as that of the warrior of the Crusade, adopted from the Hindu through the Saracens. 'Le paon a toujours été l'embleme de la noblesse. Plusieurs chevaliers avaient leurs casques des plumes de cet oiseau, un grand nombre de familles nobles le portaient dans leur blazon ou sur leur cimier, quelques uns n'en portaient que la queue.' A bunch of peacock's feathers is still the implement of conjuring, and is carried by mendicants in India who pretend to skill in magic; it is especially borne about by Jaina vagrants. The peacock enters into the Hindu mythology. Siva, for the amusement of Parvati, his bride, originated a particular dance, to the musical accompaniment of the tabor, struck by his attendant Nandi. His sons were present,—Kartikeya, mounted on his peacock, and Ganesa with the head and trunk of an elephant. Siva is embellished with a collar of the hooded snake twining round his neck and surmounting his head. The peacock is supposed to be particularly delighted by the approach of the rainy season; and the bird of Kartikeya, mistaking the deep sound of the drum for the rolling of thunder indicative of a storm, screams with delight. The peacock is considered the natural enemy of snakes; and the snake of Siva, alarmed at the approach of his mortal foe, deserts his place on the neck of the deity, and makes for the first hiding-place he can find. This happens to be the tip of Ganesa's elephant trunk, his entrance into which disturbs the bees that are supposed to settle on the temples of an elephant. The European fable of the jackdaw borrowing the plumage of the peacock, has its counterpart in Ceylon, where the popular legend runs that the pea-fowl stole the plumage of a bird called by the natives Avitchia. This bird utters a cry resembling the word Matkiang! which in Singhalese means, 'I will complain.' This they believe is addressed by the bird to the rising of the sun, imploring redress for its wrongs. The Avitchia is described as somewhat less than a crow, the colours of its plumage being green mingled with red. The wild pea-fowl of the jungles is a good bird for the table, and when young is no despicable food.

The throne of Shah Jahan was in the form of a peacock with a spread tail, and is famed in history as the Peacock Throne, which Nadir Shah carried off from the sack of Dehli. The colours of the tail were represented in natural colours by sapphires, emeralds, rubies, and other appropriate gems, which formed the chief ornament of a mass of diamonds and precious stones that dazzled every beholder. Tavernier, a jeweller by profession, mentions the common belief that it cost 160,500,000 livres, nearly six millions and a half sterling. But the author of the Nadir Namah only names two millions, and Scott only one million sterling.—*Elphinstone*, p. 530; *Crawfurd's Dict.; Darwin, Origin of Species; Muller's Lectures*, p. 190; *Tod's Rajasthan*, i. p. 137; *Hind. Theat.* ii. pp. 10, 306; *Tennant's Nat. Hist.* p. 244; *Pennant's Hindoostan*, i. 211. See Pavoninæ; Sacti; Vahan.

PEAH SAL, or Yegasee, a timber of the Northern Circars.

PEAR, Pyrus communis.

Kwo-tsung, . . .	CHIN.	Naspati, .	HIND., PERS.
Po-li, Peh-li, . .	,,	Pera, . .	IT., PORT., SP.
Hiang-li, Sineh-li,	,,	Nakh, ...	PUSHTU.
Pare, ...	DAN.	Ghrusha, . . .	RUS.
Pure, ...	DUT.	Paron, ...	SWED.
Poire, ...	FR.	Armud, ...	TURK.
Birne, ...	GER.		

The fruit of the Pyrus communis, a tree of Europe, China, and Kashmir, and introduced into India from China, in the north of which countries are several varieties. But the term pear is given to several other fruits, as see Holy Garlick pear, Anchovy pear, Sand pear, Prickly pear.

PEARL.

Looloo, Lulu, . . . ARAB.	Mutiyara lulu, . MALAY.
Yang-chu, ... CHIN.	Marwarid, . . . PERS.
Perle, . . DAN., FR., IT.	Porola, ... PORT.
Paarlen, Parel, . . DUT.	Shemtschug, Perlii, RUS.
Perlen, ... GER.	Maracata, . . . SANSK.
Maragdos, Margarites, GR.	Mootoo, Mutu, . SINGH.
Mutti, ... GUJ.	Perlas, ... SP.
Moti, ... HIND.	Perla, ... SW.
Kaine-tamma, . . JAP.	Muttu, ... TAM.
Margarita, . . . LAT.	Mutiamu, ... TEL.
Muti, Mutya, . MALAY.	Inji, ... TURK.

Pearls are found in several molluscs inhabiting shallow seas and sandbanks in the old and new world, but the most productive mollusc is the Meleagrina margaritifera or Avicula margaritifera, the pearl oyster; and the best known localities are the Persian Gulf, the west coast of Ceylon in the Gulf of Manaar, Panama, the shores of California, Australia, Red Sea, Arabian coasts, the Aru Islands, Zebu, the Sulu Archipelago, Mindanao, coast of New Guinea, Torres Straits, Gulf of Omra, and coasts of Japan.

Friar Jordanus, a quaint old missionary bishop, who was in India in 1330, says that 8000 boats were engaged in this fishery and that of Ceylon, and that the quantity of pearls was astounding and almost incredible. The headquarters of the fishery was then, and indeed from the days of Ptolemy to the 17th century continued to be, at Chayl or Coil, literally, the temple, on the sandy promontory of Ramnad, which sends off a reef of rocks towards Ceylon, known as Adam's Bridge. And Ludovico di Varthema mentions having seen the pearls fished for in the sea near the town of Chayl, in about A.D. 1500; and Barbosa, who travelled about the same time, says that the people of Chayl are jewellers who trade in pearls. This place is, as Dr. Vincent has clearly shown, the Koru of Ptolemy, the Kolkhi of the author of Periplus, the Coli or Chayl of the travellers of the Middle Ages, the Ramana-Koil (temple of Rama) of the natives, the same as the sacred promontory of Ramnad and isle of Rameswaram, the headquarters of the Indian pearl fishery from time immemorial.

In Arabic poetry, pearls are fabled to be drops of vernal rain congealed in oyster shells. Benjamin of Tudela says that in the month of March the drops of rain-water which fall on the surface of the sea are swallowed by the mothers-of-pearl, and carried to the bottom of the sea, where, being fished for and opened in September, they are found to contain pearls. The Hindus poetically describe them as drops of dew falling into the shells when the molluscs rise to the surface of the sea in the month of May, and becoming, by some unexplained action of the sun's rays, transformed into pearls. Pliny and Dioscorides believed that pearls were productions of dew; but that observant old Elizabethan navigator, Sir Richard Hawkins, shrewdly remarked that 'this must be some old philosopher's conceit, for it cannot be made probable how the dew should come *into* the oyster.'

Modern writers suggest various causes for the intrusion of the nucleus round which the pearl is formed. The free border of mantle, lining each valve of the shell dips downwards to meet a similar edge on the opposite side, thus forming a double-fringed veil. The tentacles of this fringe consist of long and short flat filaments, which are exceedingly sensitive, so that even the approach of a foreign substance makes them draw forwards and shut out the intruder. They doubtless prevent the pearls from dropping out of the shell, and preserve the fish from the host of carnivorous creatures which infest its place of abode; and if it be true that particles of sand form the nuclei of pearls, they must run the gauntlet of these ever-watchful sentinels before they can intrude themselves amongst the interstices of the mantle. The food of pearl-oysters consists of foraminifera, minute algæ, and diatoms; and Dr. Kelaart has suggested that the silicious internal skeletons of these microscopic diatoms may possibly permeate the coats of the mantle, and become nuclei of pearls.

It is suggested that pearls are produced when the transparent envelope of the animal, called the mantle, is wounded or irritated. That small boring worms pierce the shell and penetrate to the body of the animal. The mantle then sends forth a quantity of pearly matter over the wounded spot, and this becomes a little knob or pearl. This is supported by the fact that nearly all the shells in which pearls are found are outwardly contorted, and that a smooth regular shell is a pretty sure sign of the absence of the pearl.

The Chinese are said to thread upon fine silk, small beads of mother-of-pearl, and fasten them within shells of pearl oysters when they rise to the surface of the water at the beginning of summer. The animals are then restored to their bed, where they soon cover the beads with calcareous matter, and thus convert them into pearls. Small figures of Buddha are the stock subjects introduced, and these are highly valued by Buddhists in all countries. Small pearls which have been immersed in acetous acids, and thus reduced to their membranous constituents, have the appearance of being formed of concentric coats of membrane and carbonate of lime, thus resembling in composition the mother-of-pearl with which oyster-shells are lined. Mr. Robert Garner, F.L.S., particularly examined those formed in the mantle of the Conway and Lancashire salt-water mussel; and he attributes the same origin to all pearls, the oxidation of a minute species of diatoma causing their formation, much in the same way that galls are formed in plants.

Sections of pearls show very fine concentric laminæ surrounding a grain of sand or other extraneous matter. The nacreous lustre has been attributed to the diffraction of light from the outcropping edges of the laminæ; but Dr. Carpenter says it may result from the minute plication of a single lamina.

In whatever way produced, pearls of considerable size, on account of their beauty and rarity, have been valued at enormous prices in past ages, and are still among the choicest objects of the jeweller's art. Their delicate and silvery lustre has been as widely celebrated as the brilliance of the diamond. The Meleagrina margaritifera furnishes the finest pearls and finest nacre. When secreted in the globular form, it is the pearl; on the inner walls of the shell, it is the nacre.

A pearl, to be pure, should be of perfect white-

ness, be spherical or of a regular pear shape; those of blue reflection are less valued, and the yellow pearls still less. Tavernier was of opinion that the yellow colour was a stain from the rotting mollusc.

The pearl mollusc multiplies by means of what is technically called spat or spawn, which is thrown out in some years in great quantities,—perhaps similar to the edible oyster of Britain, which threw much spat in 1849, and not again until 1860, and not then up at least to 1866. The spat floats in and on the water, and attaches itself to anything it comes in contact with, attaining, it is said, the size of a shilling in six months. In its seventh year the pearl mussel attains its maturity as a pearl producer; pearls obtained from a seven-year mussel being of double the value of those from one of six years of age. In mussels under four years the pearls are not of any mercantile value, and after seven years the pearls deteriorate. Those from mussels of about four years old have a yellow tinge, and the older kinds a pinky hue; but pearls of a red and even black, as also with other colours, are likewise met with. Of all the substances used for personal decoration, the pearl alone derives nothing from art. The Baghdad dealers prefer the round white pearl. Those of Bombay esteem pearls of a yellow hue and perfect sphericity. According to European taste, a perfect pearl should be round or drop-shaped, of a pure white, slightly transparent, free from specks, spots, or blemish, and possess the peculiar lustre characteristic of the gem. In India and China, the bright yellow colour is preferred. The rose-tinted pearl of Scotland is in large esteem amongst Paris ladies. The pearls of Scotland of the best kind range in price from £5 to £50, but £100 has been paid for a fine specimen. Pearls of the Persian Gulf and Ceylon realize from Rs. 1000 to Rs. 1500 a tola of 180 grains.

A pair of very fine black pearls was recently sold to a rich iron merchant in Paris for 500,000 francs. The pink pearl ranks with the clear white pearl in value. Some specimens have been found with purple, cream, and salmon colours.

Pearls are designated in Europe by their colours, white, yellow, or black; or by their size, as seed-pearl. The best pearls are of a clear, bright whiteness, free from spots or stains, with the surface naturally smooth and glossy. Those of a round form are preferred, but the larger pear-shaped ones are esteemed for ear-rings. Seed-pearls are those of the smallest size.

The dealers in Ceylon recognise twelve classes, in none of which is the actual weight taken into consideration—

1. Called Ani, comprising those pearls to which Pliny first applied the term 'unio,' in which all the highest perfections of lustre and sphericity are centred; 2. Anathari are such as fail a little in one point, either in lustre or sphericity; 3. Sanadayam, and 4. Kayeral, such as fail in both; 5. Massagu, or confusion; 6. Vadivu, beauty; 7. Medangu, bent or 'folded' pearls; 8. Kurwal, double pearls; 9. Kalippu, signifying abundance; 10. Pœsal, and 11. Kural, mis-shapen. These find a ready sale in India, all kinds and shapes being indiscriminately used to adorn the roughly made breastplates of gold worn by women of high caste. 12. Thool, literally 'powder.' These are all easily disposed of in India, where they are sometimes made into lime to chew with betle.

Pearls are found in the Unio marginalis, *Lam.*, and Unio flavidus, *Benson*, of the Bhandardah lake near Berhampore.

In the salt-water inlets along the entire seacoast of Sind, a thin-shelled variety of the oyster occurs; on the sandbanks, called Kenjur, that are left dry at low tides, but chiefly in the creeks near Kurachee, a seed-pearl is found, selling at Rs. 15 the tola. The seed-pearl fishery was let by the Amirs successively for Rs. 650, Rs. 1300, and Rs. 19,000. After 1839, they let them out for Rs. 1100, Rs. 21,000, and Rs. 35,000, but the contractors failed.

The produce of the fisheries in the Gulf of Manaar has varied greatly at long intervals. From 1838 to 1854 there was no fishery at all. A similar interruption had been experienced between 1820 and 1828. The Dutch had no fishery for 27 years, from 1768 to 1796; and they were equally unsuccessful from 1732 to 1746. It has now been satisfactorily proved that the pearl-oyster's occasional disappearance is perfectly natural. The Arabs of the Persian Gulf, according to Colonel Pelly, attribute the decay of the Sind and Ceylon fisheries to the mixture of mud and earthy substance with the sand of the beds.

In the Persian Gulf the pearl banks extend 300 miles in a straight line, and the best beds are level and of white sand, overlying the coral in clear water; and any mixture of mud or earthy substance with the sand is considered to be detrimental to the pearl mollusc. These banks are from 3 to 6 miles off shore, in 6 to 7 fathoms water. 400 boats of all sizes are annually employed, carrying crews of from 13 to 25 persons, half of them divers. The yearly produce was estimated at 40,000 tomans, each toman 18 piastres Rumi. —the masters drawing three shares, divers two shares, and assistants one share. Some of the Arab colonies on the Persian littoral retain a right to fish on the banks, which are appanages of the parent Arabian tribe.

In the Persian Gulf there is both a spring and a summer fishery, and as many as 5000 boats will assemble from Bahrein and the islands, and continue fishing from April to September. The total amount derived in the pearl fisheries of the Persian Gulf has been estimated at £400,000, employing about 30,000 persons. During a recent year, 30 divers engaged in the pearl fishery in the Persian Gulf lost their lives, most of them being victims of sea monsters. The value of the pearls taken in 1879 in the Persian Gulf was set down at about £300,000. There were 7,000,000 fished, and it was believed that but for the frequent interruption by weather, 2,000,000 more might have been lifted.

Off the coast of Ceylon the fishing season is inaugurated by numerous ceremonies, and the fleet, sometimes of 150 boats, then puts to sea. Each boat has a stage at its side, and is manned by ten rowers, ten divers, a steersman, and a shark charmer (Pillal karras). The men go down five at a time, each expediting his descent by means of a stone 20 to 25 lbs. in weight, and, holding their nostrils, gather into a net or basket about 100 shells in the minute or so which they remain under water. Each man makes 40 to 50 descents daily. The pearl-oysters are thrown on the beach

and left to putrefy. It has been ascertained that no diving apparatus could, with any advantage, be substituted. The common time for remaining under water is 50 or 60 seconds, but Sir Henry Ward timed one man at 80 seconds, and another at 84 seconds. When the oysters reach the Government kottus, they are divided into four heaps. The divers then remove their share, and the remaining three-fourths, belonging to Government, divided into heaps of 1000 each, are sold by auction to the highest bidder. Sir Henry Ward says,—I have seen myself 32 pearls taken out of one oyster, three of which were worth £1 a piece, while even the smallest had a marketable value.

The Ceylon receipts have been £1,117,992, viz.:—

1796 to 1809, . .	£517,481	1855 to 1863, . .	£168,470
1814 to 1820, . .	89,909	1874 to 1881, . .	155,000
1828 to 1837, . .	227,132		

The revenue derived from this source is of a very uncertain and precarious nature.

1855, . .	£10,922	1	0	1859, . .	£48,215	18	10
1857, . .	20,363	6	6	1880, . .	20,015	0	0
1858, . .	24,120	0	2	1881, . .	59,953	0	0

Pearl banks dot the coast from the sandy island of Rameswaram southwards to the mouth of the Tambraparni river.

In 1881, about 27 millions of oysters were fished, which were sold for an average of Rs. 33 per 1000, about 3000 men being employed at the work.

About the year 1794, the Madras Government undertook the management of the pearl fisheries on the S.E. coast of the Peninsula, and in the 83 years realized about 12 lakhs of rupees, their annual expenditure being about Rs. 6000.

In the Aru Islands on the coast of New Guinea, the great sources of wealth are the pearl and trepang banks, which lie on the eastern side of the group, and are often several miles in width, being intersected by deep channels, some of which will admit vessels of burden.

The pearl fisheries in Western Australia are yearly becoming more valuable to the colony. In 1875 the value of pearls and pearl shells exported was £65,000; in 1876, £74,143. Some £30,000 worth of pearl shells also were fished up from Champion and Nicholl bays last year, and shipped to Europe for manufacture into buttons, knife-handles, etc. Some valuable pearls are also being discovered in the oysters. One was recently sold at Perth for £215; and another, worn in a scarf-ring, worth nearly as much, being as big as a small nut. Three years before, a pearl valued at £1500 was fished up. Sharks' Bay, in the 25th degree of south latitude, is the locality where the best pearls are found; it is here where the Avicula margaritifera has made a home. A good many Malays, imported from the Dutch islands in the Eastern Archipelago, are engaged in pearl-fishing, but the best divers are the natives of Australia.

Eleven firms are engaged in the trade in Torres Straits, of whom ten have their headquarters at Sydney, employing nearly 100 boats in the work. The imports of pearl shell into N. S. Wales from Queensland and Torres Straits ranged from £2500 in 1871 to £62,468 in 1878. The amount of pearl shell exported in 1878 was 449½ tons, valued at from £60,000 to £70,000. The price of the shell ranges between £120 and £280 per ton. The divers principally consist of Kanaka, Maori, and Malay, only some 20 white men being engaged in the operations, with a few Australian blacks; the divers' earnings seldom being less than £200 a year, while in very good years, such as 1878, they have been known to make £340 each. Although there are a good number of sharks in these seas, the loss of life on the part of the pearl fishers is very small, averaging about two per annum; and it is a curious fact that the sharks almost always disappear as soon as the fishing operations commence.

Captain Moresby says that pearl shell fishing near the islands of Torres Straits is carried on by Europeans, who engage divers from the Loyalty, Solomon, and New Hebrides groups. Large open boats are employed, each with eight or ten divers. The pearl shell sells at Sydney at £150 to £180 per ton. The divers go down in 4 and 6 fathoms water. The mollusc cannot be the Meleagrina, for he says it weighs from 3 to 10 lbs.; the divers bring up one under each arm. The pearls, he says, are few, small, and of poor quality, and become the property of the divers. The mollusc is eaten.

Two thousand years ago, the Romans found pearls in Britain; and in modern times the rivers of Scotland have afforded considerable quantities, though not of the best quality. Several rivers of Saxony, Silesia, Bavaria, and Bohemia afford pearls, and they are also found in two or three Russian provinces. The coast of Columbia and the Bay of Panama have furnished considerable quantities, but they are not considered equal to the pearls of the east in shape or colour. Pearls to the amount of £500,000 are annually brought to Canton; coral is also a part of cargoes from the Archipelago to China.

The larger pearls are considered the more valuable. Cleopatra is said to have dissolved in vinegar a pearl of the value of 150,000 aureos or golden crowns, in the presence of Anthony, and to have drunk it off; but it would have required a larger quantity and stronger acid than any one could have taken with impunity to have done so. Cæsar is said to have paid a sum equal to £50,000 sterling for a single pearl. The fellow drop to the pendant destroyed by Cleopatra is said to have been sawn in two by command of the Emperor Augustus, and used to adorn the statue of Venus.

Tavernier mentions one which an Arab had found in the Parages de Catifa, which the king of Persia purchased in 1633 for £54,000. A pearl from Panama, called Peregrina, bought by Philip II. of Spain, weighed 134 carats. It was pear-shaped, of the size of a pigeon's egg; it was valued at 50,000 ducats. Another, sold by Gorackes? de Calais to Philip IV. of Spain, weighed 126 carats. When the crown jewels of France were examined in 1789, the value of the pearls was estimated at £40,000. Amongst them were, one of 27$\frac{5}{16}$ carats, valued at £8000; two of 57$\frac{1}{16}$ carats, valued at £12,000; two of 99$\frac{6}{16}$ carats, estimated at £2580. France has a magnificent pearl, brought from Berlin by Napoleon. Mr. Hope's pearl, said to be the largest known, measures 2 inches long, 4 inches round, and weighs 1800 grains. One taken from India in 1660, and now in the possession of Princess Youssopoff, weighs 126 carats, and is valued at £16,000.

When the Princess Royal married the king of Prussia's son, she had, amongst other articles, a necklace of 32 pearls. They are said not to have been all of the first kind, nevertheless its cost was estimated at £20,000.

The prices of the smaller-sized pearls, like those of the smaller-sized diamonds, are rapidly increasing. A pearl of 3 grains will cost about £1; a pearl of 30 grains, £110. The Imam of Muscat has one worth £32,000. A few years ago, a pearl was sold in London for £2600, which weighed 116 grains; and in 1878 another of 114 grains was sold. These two were purchased by Baroness Alphonse Rothschild.—*Faulkner; Pliny's Nat. Hist.* lib. xxxii. ch. 31; *Tennant's Ceylon*, p. 371; *Walton's Discourse*, p. 70; *Forrest's New Guinea*, p. 43; *Rumph.* tab. 47; *Da Costa, Conchyll*, vii. p. 4; *Chemnitz*, vii. ix. p. 495; *Gmelin; Linn. Syst.* p. 3300; *Bonan*, i. pp. 83, 84; *Argenvill*, p. 23; *Dampier's Voyage to New Britain, in Harris*, i. p. 124; *quoted in St. John's Indian Archipelago*, i. p. 137; *Woodward's Fossil Shells; E. Gray in Annals of Philosophy*, Nov. 1825; *Jameson's Ed. Journ.* 1826, p. 199; *Rebeyro's Ceylon; Moresby*, p. 31; *Intellectual Observer; Woodward.*

PEARL, ARTIFICIAL. These are largely made in China, for domestic use and for export; also largely in France from the scales of the small fish called ablette or bleak (Cyprinus alburnus). These fishy particles can be kept for a long time in solution of ammonia, and this enables the manufacturers of artificial pearls to carry on a considerable traffic with distant places where the fish is plentiful, the supply from the Seine, though abundant, being insufficient for the purposes of the trade of Paris. Slender tubes of glass are prepared, called girasols; the pearl essence is then mixed with a solution of isinglass, and is blown while hot into each bead by means of a fine glass pipe. The solution is spread equally over the whole internal surface, by shaking the pearls in a vessel placed over the table where the workman sits, and to which he gives motion by his foot. When the varnish is equally diffused and dry, the beads are filled with white wax; this gives them the necessary weight and solidity, and renders them less fragile. They are then bored with a needle, and threaded on strings for sale. The holes in the finer sort are lined with thin paper, that the thread may not adhere to the wax. To produce one pound of scales 4000 fishes are required; but this quantity of scales only yields 4 ounces of pearl essence. The fishes are about 4 inches long; they are sold at a cheap rate in the markets after being deprived of their scales. The value of a pound of washed scales in the Chalonnais is from 15 to 25 livres.

PEARL-ASH. Kien-sha, CHIN. The term is applied to calcined potash. It has a spongy texture, and a whitish pearly lustre. Pearl-ash can be prepared from nitre and charcoal.

PEARL-BARLEY. P'i'mi, CHIN. Husked barley. The seeds rounded, and all the outer coat removed.

PEARL, MOTHER OF.

Mère-perle,	FR.	Indong mutiara,	MALAY.
Sadf,	HIND.	Gohur parwar,	PERS.
Madre perla,	IT., SP.	Sipi muthu,	TAM.

Mother-of-pearl used to be sold by the Labbai stone merchants, cut into beads and other ornaments, which at first they called Surat Munnie, owing to their being brought from Surat. The beautiful lining of shells known as mother-of-pearl is manufactured into articles of great beauty. Pearl substance is dissimilar from nacre, and all attempts to make pearl from nacre have failed. The layers of the pearl are concentric, but the nacre is in straight lines; also nacre is harder.

PEARL-OYSTER. The Meleagrina margaritifera is not, however, an oyster proper, but a genus of the Aviculidæ or wing-shell family of molluscs. The pearl-oysters are less oblique than the other aviculæ, and their valves are flatter and nearly equal. They are found in about 12 fathoms water at Madagascar, Ceylon, the Persian Gulf, Swan River, Panama. Seed-pearl is a name given to the small-sized pearls, called in China Yang-chu.

PEARL SAGO, granulated sago meal, sago.

PEARLY NAUTILUS, Nautilus pompilius. Like all cephalopods, it swims backwards. It lives at great depths, down to 200 fathoms.

PEAT is composed chiefly of the decayed fibres of mosses, and is used as fuel. Dr. Falconer obtained very modern peat out of the banks of the Hoogly, a few feet below the surface of the soil, in which were seeds of the Euryale ferox. Peat is generally distributed on the Neilgherries over the entire range of the hill tract. The plants producing Neilgherry peat are different from those of Europe. Large peat bogs occur on the Kundahs, and run as far east as Jakatallah or Wellington. Good peat has been found in the Mid Himalayas at the Sach pass, resembling Irish turf in its character, and in the genera of producing plants. Dr. Angus Smith largely recommended the use of the peat in the Panjab.—*Faulkner; Hooker's Jour.* ii. p. 341; *Cleghorn's Forests of S. India; Cleghorn, P. Rep.*

PEBBLES, the silicious minerals of Cambay, are sold in Europe and America. Scotch, Irish, Chamouni, Niagara, and Isle of Wight pebbles are so called, according to the locality whence brought.

PECHA. HIND. A scarf worn by Lahouli women.

PECHAK. HIND. A reel for gold thread.

PE-CHI-LI, a province of China, the principal length of which extends from 38° to 40½° N. It is bounded by Chinese Tartary on the N., by Ho-nan on the S.W., by the Imperial Sea and Shan-tung on the E., and by Shan-si on the W. Pekin, the capital of the empire, is situate in this province, together with 9 other cities of the first class, 40 of the second class, and 180 of the third class. The Gulf of Pe-chi-li has been surveyed. The tide, being retarded by islands, rises only about 10 feet, but the greater part of the land being only about 3 feet above high-water mark, and there being but few mountains, the rivers are navigable for a considerable distance, notwithstanding their comparatively small size, and in the rainy season they frequently overflow the country. The river Pei-ho experiences a tidal rise 100 miles inland from the bay; it flows through a completely level country, the soil of which is composed of light sand and micaceous particles, blended together with portions of clay and vegetable mould, without a single rock, stone, pebble, or gravel of any kind.—*Sirr's China*, i. p. 410.

PECHWAN. HIND. A hookah with a long twisted pipe.

PEDALIUM MUREX. *Linn.*

Khussuke kabir,	ARAB.	Kaka mulu,	TAM.
Gokaru,	HIND.	Ani-neringi,	,,
Gheja-sudu-moostra,	SANS.	Yenuga-palleru,	TEL.
Eet-neringi,	SINGH.		

A succulent, pretty large ramous annual, with small yellow flowers, which appear in the rains. It grows generally over all India, but chiefly on the Coromandel coast, in a moist sandy soil; flowers in the rainy and cold seasons. The fresh plant renders water or milk very mucilaginous, without altering the taste, colour, or smell of the liquid. This thickening disappears in a few hours. Butter-milk is often fraudulently thickened by the use of the leaf; the plant is a good mucilaginous demulcent, much used by the natives as a drink in gonorrhœa, and is useful as a diuretic in urinary diseases. It is considered cool and tonic.—*Riddell; Ains.; Roxb.; O'Sh.; Powell.*

PEDANG. JAV. A kris of Java.

PEDARI, in Hinduism, a fierce Gramma-deva.

PEDDA. TEL. Great. Pedda manushulu, great persons. Chinna peddalu, great and small.

PEDILANTHUS TITHYMALOIDES, the Jew bush of the W. Indies, now common everywhere about Calcutta in hedges. A shrub about 6 feet high, abounding in white bitter milk, known and used in America and W. Indies as ipecacuanha; but in numerous trials no proof was obtained of its efficacy.—*O'Sh.* p. 566; *Mason.*

PEDIR coast on the north part of Sumatra, extends from Point Pedro 40 leagues to Diamond Point. Pedir Point, or Batoo-Pedir, is in lat. 5° 31′ N., and long. 95° 52½′ E.—*Horsb.*

PEDRA BRANCA, or White Rock, in lat. 1° 19′ N., and long. 104° 25½′ E., lies in the middle of the entrance of the Straits of Singapore, 7½ miles west from the east peak of Pulo Aor, on which is erected the Horsburgh lighthouse, lighted 15th October 1851. The tides near it are very irregular in time, velocity, and direction.—*Horsb.*

PEDRA BRANCA, or Tysing-Cham, a rock on the south coast of China, in lat. 22° 18½′ N., and long. 115° 7¾′ E., 49 miles eastward of Lema Island.—*Horsb.*

PEDRONS, a colonel in Sindia's army, who served under Perron. He raised and commanded the 3d Brigade, and was in command of Alighur, and was taken prisoner when Lord Lake stormed and took it.

PEDRO-TALLA-GALLA, the highest peak in the mountains of Ceylon, 8280 feet above the sea.

PEENASH. HIND. ? A disease which occurs in man in the north-west of India, caused by the larva of an insect taking up its abode in the cribriform plate of the ethmoid bone. The larva is small, articulated, and terminates in a spiral tail. The mouth and eyes are very distinct.—*Taruk Chandar Lahori; Moquin Tandon.*

PEEPSA, a troublesome dipterous insect, very small and black, which floats like a speck before the eye. Its bite leaves a small spot of extravasated blood under the cuticle, very irritating if not opened.—*J. B. As. Soc.* No. xxxix. p. 426. See Insect.

PEGANUM HARMALA. *Linn.* Syrian rue.

Hurmaro, . . .	DUKH.	Islam lahori, . .	HIND.
Harmal, Isband, .	HIND.	Spelane, . .	TR.-INDUS.
Harhar? . . .	?	Harmala ruta, .	?

This plant occurs in many parts of India, on waste, broken ground. The seeds are used in native medicine, and called Lahori Hurmul. In the Makhzan-ul-Adwiah, the seed is called Moolie. It is the same as the πήγανον of Dioscorides. P. harmala and Lactuca virosa are both said to possess narcotic properties like opium. The seeds were at one time imported into England. It is principally used as a fumigatory agent to avert evil influences. The plant is considered proper only for sweepers, and not to be touched by Sikhs or Hindus, but the seeds are burned on a fire if any person enter a room who may have any discharge which could render him unclean.—*Hook. and Th. Fl. Ind.* pp. 83, 115; *Powell*, i. pp. 295, 355, 452; *Royle*, p. 155; *O'Sh.* p. 260.

PEGASUS, a genus of fishes of the section Syngnathidæ. One of the species is known as the flying horse; the flying fish and flying gurnard are other flying fish. P. natans, *Linn.*, 3 inches long, a small fish with two largish fins near the head. P. draconis, *Linn.*, 3 inches long, dark coloured, with two very large fins near the head.

PEGU. TIB. The yak cow; small, like the cow of Bengal, hair long. Sauh, cross between cow and yak. Sauh Yak, produce of cow by yak bull. Ba Sauh, produce of female yak by bull. These are great milkers, better than yak or cow; tail, half-cow, half-yak. Females give young with bulls or yaks, best produce with yaks. Elevation of shoulder less than in the yak. Hair long, but less so than the yak.

PEGU or Pai-gu, an administrative division of the province of British Burma. Area, 9159 square miles; population (1881), 2,323,512. Pegu, its chief town, was captured 3d June 1852, and Pegu district was annexed by proclamation on 20th December 1852. Pegu has four great mountain ranges: the range separating Arakan from Pegu is about 4000 feet high; the range separating the valley of the Irawadi from that of the Sitang, about 2000 feet high; the Martaban and Tenasserim ranges, about 5000 feet; and the fourth or most eastern separates the Sitang and Salwin rivers, and extends into the large and compact mountain group of Younzallen to the south-east of Tounghoo. The area of this lofty region is about 100 square miles, and several peaks rise to 7000 and 8000 feet. The inhabitants consist principally of Burmans, Talaing or Mon, Karen, Karen-nee or Red Karen; Khyin, whose women tattoo their faces; the Yeh-baing of the Yoma range and the Shan, who form separate communities. Pegu is described by European travellers in the 16th century as of great size, strength, and magnificence. Cæsar Frederick was here in the latter portion of the 16th century. When Aloung-bhura overran and conquered Pegu in the middle of the 18th century, he used every effort to annihilate all traces of Talaing nationality. He destroyed every house in the town, and dispersed the inhabitants.

The Pegu or Zamayee valley lies to the [illegible] Phoungye, from which it is separated by a branch of the Yoma. This valley is enclosed on all sides by hills; it is about 40 or 50 miles in length from S.S.E. to N.N.W., which is the direction in which it lies, and 20 miles in breadth from E. to W. The Zamayee river is large and navigable for small craft in the rains for a distance of 60 or 80 miles above Pegu, to the extremity of the valley; and although only about knee deep in the dry season, it rises 40 feet in the rains. The mountains extending along the N.W. side of the valley, separating it from Phoungye, Hlaine, and Tharawaddy, are of considerable extent and elevation, and form a part of the Yoma range. On the E. side it is separated

the plains of Tounghoo and Shoay-gyeen by a lower branch of the same chain, and finally it is enclosed on the S. by a low hilly tract, through which the river passes by a series of small defiles to Pegu. The rains pour down at the rate of 150 inches in the course of a monsoon, and the rivers rise 30 to 40 feet. The silting up of the alluvial deposit at the mouth of the Pyne-Choung creek is doubtless due to this cause. If native tradition is correct, 2000 years ago the sea washed within 8 or 10 miles of the old royal city of Pegu.—*Dr. M'Clelland, in Selec. Records, Govt. of India, Foreign Dept.* No. ix. p. 8; *Imp. Gaz.* vii.

PEH. CHIN. White. Peh-chi, Iris florentina. The root is a favourite cosmetic with the ladies of China. Peh-fen, white lead. Peh-kiang, Zingiber officinale. Peh-kih, a Zingiberaceous rhizome obtained in China, in Shan-si, Kwei-Chau, Kiangnan, used in hæmoptysis, phthisis, and other ailments.—*Smith.*

PEH-HO, written Pei-ho, the White River of China. Below Pekin it and the Sha-ho river join, and the united streams bear the name of Pe-ho, and disembogue into the Gulf of Pe-chi-li. —*Yule, Cathay*, ii. p. 259.

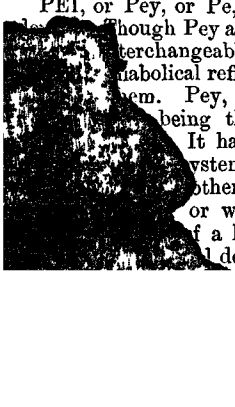
PEH-LAH. CHIN. Insect-wax, a product of the province of Sze-chuen, where the tree on which it feeds, the Peh-lah shrub, flourishes; but though the insect thrives there, it is found necessary to keep up the supply of insects by the constant importation of eggs from beyond the western frontier of the province. The insect is about an inch in length, and of pale-grey colour, and one insect exudes an ounce of wax in the season, of the summer months. The insect is not affected by rain, but when the leaves fall it dies. The wax is then collected and melted in a cloth over boiling water. It is pure white. On the largest cakes in Hankow is often observed written, 'It mocks the frost and rivals the snow.' The price was 40 dollars a pikul, or about 15d. a pound. The vegetable tallow of which candles are usually made melts with great facility; in order, therefore, to prevent them from running, they are coated with a thin crust of finest insect wax, which is extremely hard, and slow to melt, so that it retains the vegetable tallow in a liquid state, and is a clean and economical ingredient.—*Oliphant*, p. 405.

PEHLAVI, an ancient language used in the time of Ardeshir, now called Huzvarish. It was the ancient language of the Persians prior to the Muhammadan conquest by the Khalifs, in A.D. 636. See Pahlavi.

PEH-TIEH. CHIN. A textile fibre from the country of the Uigur.

PEH-TUN-TSZE, also Tun. CHIN. This is a quartzose mineral used by the Chinese in making porcelain.

PEI, or Pey, or Pe, also Pisacha. TAM. A



though Pey and Pisacha are to a certain terchangeable, yet people who are iabolical refinements draw a distinction em. Pey, they say, means the ghost being that has become powerful It has a name and a place of ystematically worshipped. The other hand, they say, has no or worship. The Bhuta, they f a higher order, an attendant demon-gods. It is likewise worthy of notice that Pey has meanings which Pisacha has not. In combination with names of plants, Pey means wild, uncultivated, useless for human food; in combination with names of animals, it means insane. The use of a word in combination often throws light on its original meaning. It is possible that this application to plants and animals may be only a metaphorical transfer of the older meaning of 'devil.' Still, in either case, the direct derivation of Pey from Pisacha, a word which is never used in this way, may be regarded as improbable. Pei-puja, devil worship, still prevails in Tinnevelly. When the Brahmans in A.D. 1800 (?) introduced the worship of Vishnu into Southern India, they abolished the demon worship as far as their power extended.—*Garrett.*

PEIN-GO. BURM. A boat on the Burmese rivers. See Boat.

PEI-TAN. CHIN. The altar of the earth.

PEKEA, a genus of plants inhabiting Guiana, of the genus Caryocar of modern botanists, and which might advantageously be introduced into India. Caryocar nuciferum bears the Suwarrow or Saouari nuts of commerce. The fruit is in form like an egg, covered with a thick rough brown rind, beneath which is a soft greenish buttery substance. The nut has a stinging surface, and contains a very excellent kernel, from which may be extracted an oil like that from sweet almonds.

P. butyrosa is a large tree with a trunk 80 feet high, and 3 feet in diameter. The berries are covered by a rind 2 or 3 lines thick, and consisting internally of a buttery yellow substance, which melts between the fingers, and which is sometimes used in cooking instead of animal butter. Under the rind lies a stone covered all over with slender stings, which easily separate, and become very troublesome to those who open the stones; within is a kidney-shaped kernel covered with a brownish membrane, and very good to eat; it is commonly served at table. It is called Pekea by the blacks in the neighbourhood of Oyapoco in French Guiana, where it is much cultivated.

P. tuberculosa, *Aublet*, the Caryocar tomentosum of modern botanists, is a very large tree inhabiting the woods of Guiana, where it is called Tatayouba by the Garipou Indians. The fruit consists of greenish compressed drupes, which adhere around a common centre, and contain a single seed of large size, covered with a brownish rugged woody shell, and enclosing a kernel of a soft consistence, and of the most delicate buttery quality. It is much superior to English walnuts, almonds, and filberts. Differs in having no stings upon the surface of the stone of its fruits.

PEKING or Pekin, in lat. 39° 54′ N., long. 116° 32′ E., lies north-west from the entrance of the Pei-ho river, about 114 or 120 miles inward. Pekin means court of the north, and Nankin court of the south, both of them large towns.

Pekin is the present capital of China. It bore the name of Yew-chau, from the Hun dynasty B.C. 202 to the Wu-tae A.D. 950, through five kingdoms or princedoms. During the Liau dynasty, A.D. 1000, it was called Nan-king, because the northern capital was beyond the great wall; but the Hun dynasty called it Pe-king, or northern place, and the Ming dynasty called it Hung-wu. In B.C. 1111, Wan-wang of the Chau dynasty gave his

brother the title of Prince of Yen, who built a city called Yen-king, and the ornamental marblework of this old city forms the foundation-stones of the western portion of the walls of the present city of Peking. About A.D. 1200, Chengiz Khan took Yen-king, and after him his son Oktai put an end to the Kin dynasty. In 1267, Kachilai Khan, nephew of Oktai, and grandson of Chengiz Khan, destroyed Yen-king, and a little to the north-east of its site built another city, called Tatu, or King-ching, or Shun-teen-fu, now called Peking. This is the Kambalu, the city of the Kablai Khan of Marco Polo. The Mongol dynasty subsequently ruled from Peking from A.D. 1280 to 1368, but in 1369 was succeeded by Hung-wu of the King dynasty, who removed the court to Nan-king, where it remained till Yung-lo, the third of the Ming, embellished Peking, and in A.D. 1410 made it his capital, since which time it has continued to be the capital, the centre of all the administrations.

Peking resembles an immense village. It is situated in a large plain, but, from the peculiar formation of the land, it is not to be seen from a distance. The wall is of a considerable height, 35 to 40 feet, and surrounded by a canal which communicates with the Pei-ho, so that a portion of the supplies intended for the capital can reach Peking in very light boats. Peking consists of two cities, separated by a wall, — the Manchu city, Zein-tchau, and the Chinese city, Wai-lo-tchau. In the centre of the former, surrounded by a wall, is the Imperial quarter, Nouan-chau, composed exclusively of buildings set apart for the emperor and his suite, whose roofs, covered with yellow tiles, glitter in the sun's rays like burnished gold. All these edifices, kiosks, and temples are surrounded by gardens, ornamented with lakes and artificial rockwork. In the Manchu city, not far from the Imperial quarter, are the different departments of government for the Manchu employees. To the east of the Manchu city is the hall of examination, similar to the one at Canton, but more spacious. The Chinese city consists mostly of shops. The temples of Heaven and Agriculture are at the south of the city. These are large establishments (surrounded by walls), comprising several buildings in themselves.

The most remarkable spot near Peking is the Hai Dian, the residence of the Bagdochan, his majesty the emperor, situated about seven miles west of the city. The emperor only appears in the capital on occasions of great festivals or sacrifices. The grounds around the palace are laid out in vast gardens. Still farther to the west lie a range of mountains whose summits are crowned with temples more or less picturesque.

At Peking, the temple of the Great Dragon, a circular pyramid, and a Buddhist monastery, the pagoda, and a pavilion in the summer palace, and the Tung Cheu pagoda, all merit notice.

The Tartar city, officially Nei-chhing or Inner town, encloses a second, called Hoang-chhing or Imperial (yellow) town, which no doubt represents the outer palace of Odoric's day, and that includes a third, called Fseu-kin-chhing or Red City, which is the actual residence. The Green Mount, to which Kablai caused remarkable trees of every bulk to be transferred, still stands conspicuous within the palace walls. It is called by the Chinese King-shan, Court Mountain, Wan-su-shan, Ten thousand years Mount or Meishan, Coal Hill, the last from the material of which it is traditionally said to be composed, as a reserve store in case of siege. It rises 160 feet above the natural soil, and on it the last Ming emperor met a miserable end. The lake also (called Thai-i-chi) still exists as a swampy hollow, and the Beautiful Bridge is there in decay. In the Peking or court pronunciation, the Sheng differ materially from those in the Canton and Fu-chien dialects. In the court pronunciation, only four Sheng are heard; in the Nankin, five; and in the Canton and Fu-chien, seven or eight. The Sheng are produced solely by the sinking, rising, or non-alternation of the sound. The Peking dialect holds the same place in China that the London English, as spoken by the educated classes, does in Britain. When the missionaries of the Society of Jesus made their way in the 17th century to Peking, and startled the wise men of the Celestial Empire by their superior knowledge, they found in the eastern part of the city, on the rampart or wall surrounding it, an astronomical observatory, furnished with several old instruments. Father Verbiest so gained the confidence of the Emperor, by repeatedly calculating beforehand the exact length of the shadow which a gnomon would throw at noon, that he was authorized to have six new large instruments made. An account of these he published in 1687. To the old instruments, which had to be removed to make room for his own, he seems to have paid little attention. These instruments, as well as those erected by Verbiest, are, however, even still in existence. Verbiest's instruments, sextant, quadrant, azimuth circle, zodiacal armillary sphere, etc., were copies of the astronomical instruments devised and constructed by Tycho Brahe; but besides these were the two large instruments which had been made during the Yuen dynasty, and four large instruments are said to have been constructed A.D. 1279. In this year, Kablai Khan, the great Mongol monarch, finished the conquest of China, and moved his residence to the new city Taydo, now Peking. This monarch favoured the arts and sciences, and he supported and protected the astronomer Ko Show-King. There are found, thus, in the 13th century, the equatorial armillæ of Tycho Brahe, and an equatorial instrument quite like those with which Tycho observed the comet of 1585. These instruments of Ko Show-King were examined in one of the first years of the 17th century by the Jesuit Matteo Ricci; and in Colonel Yule's translation of The Book of Ser Marco Polo, they are described at length. By them it is proved that the Chinese astronomers anticipated some of the ideas of the great Danish astronomer some three centuries before his time. —*Swinhoe, N. China Campaign; Polo*, i. p. 10; *Exped. de Chine, par P. Varin*, 1862; *Davis*, ii. p. 75; *Timkowski*, ii. p. 154; *Panthier, Chine Moderne*, p. 19, quoted in *Yule, Cathay*; *Meadows' Desultory Notes.*

PELAN, a very hard, fine, close-grained wood of Ceylon.

PELARGONIUM, a genus of plants usually called geraniums. Many species thrive well in India, and are easily raised from seed. The horse-shoe and oak-leaf bear flowers although but it is generally remarked that plants from English seed do not bloom [illegible] the

species thrive well when put out in the garden, but are better for being grown in large pots, and if so placed as only to receive the morning and evening sun, will blossom most abundantly. The tubers of Pelargonium triste are eaten at the Cape of Good Hope. Pelargonium odoratissimum, *Aiton*, a perennial trailing herb of S. Asia, yields by distillation a fragrant oil from its leaves.—*Von Mueller; Riddell.*

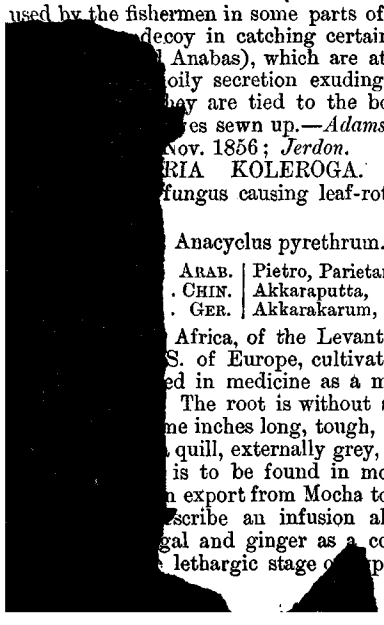
PELASGI, ancient races whose language and civilisation are supposed to have been the prototypes of Hellenism and Ionianism. Pococke derives this term from Pelasa, the ancient name of the province of Behar. Pelasgus, the ancestor of the Pelasgi, is said by Asius, the Greek poet, to have sprung from the black earth, B.C. 700.

PELICAN, a genus of birds of the family Pelecanidæ. The pelican is said to breed on palmyra trees on the Godavery, in the midst of populous villages, within reach of the hand. Pelicans and a species of stork have for long built their nests in a tope near the village of Pulguralapully, about 39 miles N.E. of Cuddapah. Dr. Jerdon mentions a pelicanry in the Carnatic, where for ages past the pelicans had built their rude nests on rather low trees in the midst of a village, undisturbed by the presence of the people. The pelican is a favourite food with the Lohanna of Sind. Pelicans feed chiefly on fishes, but do not dive for their food. The Pelicanidæ of the E. Indies are as under:—

Pelecanus crispus of E. Europe.
P. inflatifrons, *Blyth.*
P. Javanicus, *Horsf.*, lesser white pelican.
P. mitratus, *Licht.*, crested pelican.
P. onocrotalus, *Linn.*, European pelican.
P. Philippensis, *Gmel.*, grey pelican.

P. onocrotalus is a regular visitant to India during the cold weather, sometimes appearing in considerable flocks, and clearing whole tanks and jhils of their fish, to the dismay of the fishermen. They form a dense line across the tank, and regularly hunt it from one end to the other.

P. mitratus is spread through S.E. Europe, part of Africa and Asia. P. Philippensis is the most abundant in India. P. Philippensis is used by the fishermen in some parts of the E. of



decoy in catching certain kinds of Anabas), which are attracted, it oily secretion exuding from the ay are tied to the boat, some- es sewn up.—*Adams; Blyth in* Nov. 1856; *Jerdon.*

RIA KOLEROGA. *Graham* fungus causing leaf-rot in coffee

Anacyclus pyrethrum.

ARAB. | Pietro, Parietaria, . IT.
. CHIN. | Akkaraputta, . SINGH.
. GER. | Akkarakarum, . . TAM.

Africa, of the Levant, Barbary, S. of Europe, cultivated for its ed in medicine as a masticatory The root is without smell, and ne inches long, tough, fibrous, of quill, externally grey, internally is to be found in most Indian n export from Mocha to Bombay. scribe an infusion along with gal and ginger as a cordial and lethargic stage o phus fever, and in paralytic affections. They also use it as a masticatory for the toothache. — *Ben. Phar.; Faulkner; Ains. Mat. Med.*

PELLY, COLONEL SIR LEWIS, author of Journey from Persia to India; Account of the Province of Fars; Letters on Herat, Bokhara, Bandar Abbas; Notes on Lingah, Kishm, and Bandar Abbas; On the Coast between Bandar Abbas and Cape Jashk; On Bushahr and Shiraz; On Bushahr and its Districts.

PELOPÆUS, or dirt dauber, a genus of neuropterous insects, constructs earthen cells side by side, and sticks them on walls and rafters. Pelopæus spinolea is the wasp-mason.

PELTIPHORUM LINNÆI. *Bentham.* Cæsalpinia Braziliensis, *Linn.*, a small tree which yields the orange-coloured Brasilletto wood.—*Mueller.*

PELUSIUM, an ancient port on the Red Sea.

PEMBANOO, a root of Arakan, from which an arrow-root is prepared, and sold at four rupees the maund. The root is obtainable in large quantities.

PEMBERTON, CAPTAIN R. B., author of a Mission to Bootan, As. Jl., 1840, xxxi. part 1, 81; also a Report on the Eastern Frontier of British India, Lond. Geo. Trans., 1838, viii.

PEMMICAN, preserved meat, baked dry and reduced to powder.

PEMPHERIS MOLUCCA. *Cuv.* Length, 3½ inch. Inhabits Sea of Penang, Moluccas, Batavia, and Japan. Its air-vessel is large and thick.—*Cantor.*

PEN.

Plumes a écrire, . FR. | Penne da scrivere, . IT.
Schreibfedrren, . . GER. | Pera stwoli, . . . RUS.
Kalm, GUJ., HIND., PERS.

Pens for writing are formed of the quills of the goose, swan, fowl, or other bird. Metal pens, now extensively used, are manufactured in vast quantities at Birmingham, London, and Sheffield, the materials used being steel, copper, brass, gold, zinc. Pens for writing in the Arabic and Persian and Deva-nagari characters are made of reeds, and the pens or styles for writing on palm leaves are points of steel.

The reed pens for writing Persian, Urdu, and other characters are called—

Beroo, Burro, . HIND. | Pedda relloo, . . TEL.
Perin nanil, . . . TAM.

The reed pens used by all Muhammadans in writing the Arabic or Persian character, are the product of the Saccharum sara, a thin, hollow-jointed reed. Persian reeds are most esteemed, being tougher, and capable of being used much longer than the Indian reed. The Arundo karka, *Linn.*, is also similarly used in Sind. Jeremiah, xvii. 1, says,—'The sin of Judah is written with a pen of iron.' In many parts of British India and in Burma, iron styles are alone used, forming the letters by making incisions into the palm leaf. Books thus written are very durable. This style is broad at the top, and at one side is sharp like a knife, to prepare the palm leaves.—*Ains. Mat. Med.* p. 194.

PENÆA MUCRONATA.

Anzerut, . . . ARAB. | Sarcocolla, . . . LAT.

A gum-resin obtained from the bark of the Penæa mucronata, brought chiefly from Kābul, is sometimes called Sarcocolla. It is taken as a laxative both in powder or in infusion. It formerly was used in Europe for wounds.—*Cat. Ex.*, 1862.

PENÆUS, a genus of the crustacea, viz.—

Penæus canaliculatus, *Edws.*, Celebes, Mauritius.
P. monoceros, *Edws.*, India.
P. Indicus, *Edws.*, Coromandel.
P. monodon, *Edws.*, Indian coasts.
P. affinis, *Edws.*, Malabar.
P. brevicornis, *Edws.*, Indian coasts.
P. crassicornis, *Edws.*, Indian coasts.
P. styliferus, *Edws.*, Bombay.

PENANCE, called Tapas, practised by Hindu gods, Rishis, Rakshasas, and men, to obtain boons.

PENANG, also called Pulo-Penang and Prince of Wales' Island, an island in lat. 5° 25′ N., long. 100° 19′ E., is about 15 miles in length, and from 7 to 12 miles in breadth. It contained a population of about 150,000 in 1871,—Chinese, 22,720; Malays, 20,110; Indians, 71,100; and Europeans, 513. Until the year 1870, it was a dependency of the Bengal presidency, under the Governor of Singapore. Bell Retiro, or Government Hill, 4½ miles west of the fort, is 2550 feet above the level of the sea; and West Hill, lying a mile farther west, is 2713 feet. Nothing can exceed the beautiful luxuriant vegetation of this island, which was an uninhabited forest, when given by the king of Qedah to Captain Light in 1785, as the marriage portion of the king's daughter, whom Captain Light married; but it was sold to the British by the king in 1800. The traveller looks down from the summit of Penang Hill on Province Wellesley, opposite the Strait. Malacca is 250 miles from Penang, and Singapore half as much farther. Province Wellesley is 24 miles long by 8 in breadth. Until lately, Penang supplied the London market with nutmegs, but cocoanut trees have taken their place. Tapioca, for the American market, has been grown to a great extent in the province, realizing fortunes to the planters. Water is brought by pipes into the town from the base of a hill six miles off, and there is a plentiful supply throughout the year. Penang, like the other settlements in the Straits, is a free port. —*Woods of Penang, by Colonel Frith; Rambles in Java; Wathen's Voyages*, p. 144.

PENANG LAWYER, a walking-stick, a young plant of the Licuala acutifida, *Mass.*, the Plass tikoos of the Malays. It is a small palm, attaining generally only 3 or 5 feet, but in exceptional cases from 15 to 20 feet, in height. The Penang lawyers are prepared by scraping the young trunk with glass, so as to wholly remove the epidermis and nothing more, the inside being the substance of rattan. It is on this account that the smaller thin sticks are so much more sought after than the larger thicker ones, and are so rare. The sticks are ultimately straightened by fire, and then polished. They are imported into England as walking-sticks. About 400 reached Liverpool annually, from 1851 to 1855. Other species of Licuala are longipes, paludosa, and peltata.—*Seem.*

PENATES, amongst the ancient Romans, were gods corresponding to the Pitri of the Hindus. A knowledge of their gods is useful in explaining the Hindu deities. Amongst the Romans the gods were arranged into Dii majorum gentium, and Dii minorum gentium. The Dii majorum gentium were the great celestial deities, and those called Dii selecti. The great celestial deities were twelve in number,—Jupiter, Juno, Minerva, Vesta, Ceres, Neptune, Venus, Vulcanus, Mars, Mercurius, Apollo, and Diana.

The Dii selecti were eight,—Saturnus, Janus, Rhea, Pluto, Bacchus, Sol, Luna, and Genius, the dæmon or tutelary god, who was supposed to take care of every one from his birth, during the whole of life.

Nearly allied to the genii were the Lares and Penates, household gods, who presided over families.

The Lares of the Romans appear to have been the manes of their ancestors; and there were Lares domestici et familiares, campitales et viales, militares et marini. Small waxen images of them were made, and covered with dog-skin, and at festivals brought to the hearth and sacrifices offered to them.

The Penates were of two kinds, Patrii penates familiaresque. Those of the ancestors were worshipped in the innermost part of the house, which was called penetralia, also impluvium or compluvium. The city and temples were under the protection of the Publici penates, and these were worshipped in the Capitol.

The Dii minorum gentium were Dii indegetes or heroes, of whom were Hercules, Castor and Pollux, Æneas and Romulus, as also the Roman emperors.

The gods called Semones were Pan, Faunus, Sylvanus, Vertumnus, Pomona, Flora, Terminus, Pales, Hymen, Laverna, Vacuna, Averruncas, Fascinus, Robigus, Mephitis, Cloacina; also Nymphs in the earth, Orcades in mountains, Dryades in woods, Hamadryades, Napææ, Naiades, Nereides, and Oceanides; and each river had a particular deity. The Semones also included the infernal judges, Minos, Æacus, and Rhadamanthus, Charon, and Cerberus; also the virtues and affections, such as Piety, Faith, Hope, Concord, Fortune; also foreign deities, the winds and the tempests, Eurus, Auster or Notus, Zephyrus, Boreas, Africus, Corus, Æolus, and Auræ.

The Romans worshipped some gods that they might do them good, and others that they might not hurt them, as Averruncas and Robigus. There was both a good Jupiter and a bad; the former was called Dijovis or Diespiter, and the latter Vejovis or Vedius. But Ovid makes Vejovis the same with Jupiter parvus or non magnus.—*Adams' Roman Antiquities.* See Hindu

PENCIL.

Surme-ka-kalm, . HIND. | Kalam,

A leaden pencil in the Russ

Karan-dash, supposed of Tur

meaning black, and Dash a ston

PENDIENG. JAV. A girdl

plates.

PENDOPPO. JAV. An aw

leafy branches.

PENEBARROO. SINGH.

eastern province of Ceylon. A c

61 lbs., and it is said to last 50

is used for rafters, etc. Fenc

sticks of this tree are the most

Mr. Mendis.

PENG-LAY-OUN. BURM.

timber used for spear handles;

wood, compact, homogeneous,

deep brown colour and fine g

tendency to split, and exempt

insects. In Tavoy is a wood o

scribed as a strong, rough, red

serissa.—*Ca Ex.*, 1851; *Mr. B*

PEPPER.

Filfil (Abiad, white; Aswad, black),	ARAB.	Sahan, . . .	PALEMBANG.
Micha, ...	BALI.	Perez, Peretz, . .	RUS.
Hu-tsiau, ...	CHIN.	Maricha, . . .	SANSK.
Mirch, ...	HIND.	Gammiris, . . .	SINGH.
Nero (black), . . .	IT.	Mulagu, . .	TAM., TEL.
Chabai, . . .	MALAY.	Beber, ...	TURK.

There are several peppers, black, white, and long pepper, melegueta pepper, cayenne or Chili pepper, Guinea and Jamaica pepper, and cubeb pepper, the last used as a medicine, the others in food as condiments. The black pepper of commerce is obtained from the dried unripe fruit (drupes) of Piper nigrum, a climbing plant common in the East Indies. Three kinds of black pepper are distinguished by wholesale dealers. *Malabar pepper*, the most valuable, is brownish-black, free from stalks, and nearly free from dust. *Penang pepper* is brownish-black, larger, smoother, free from stalks, but very dusty. It is sometimes used in England to manufacture white pepper. *Sumatra pepper*, the cheapest sort, is black mixed with stalks, and contains much dust. Under the name of Sumatra pepper, some dealers include the Penang or brownish-black sort, and the black Sumatra sort. Three kinds of varieties of white pepper have also been distinguished. *Tellicherry* [illegible] which is of two kinds; large fine Telli[illegible]pper is larger and whiter than any other [illegible]n of white pepper, and fetches a higher [illegible]nall or coriander-like pepper is shrivelled. [illegible] *white pepper* comes from Penang by [illegible]e; it is round, and not shrivelled; its [illegible]pends on its size and whiteness. *English*, or white pepper. When the two preced[illegible]s are scarce, brown Penang pepper is [illegible]. The yellowest and largest are chosen [illegible] purpose, for neither an expensive nor [illegible]t would pay.

[illegible]orted into India.		Exported from India.	
Lbs.	Rs.	Lbs.	Rs.
5,906,764	12,37,090	6,195,089	10,96,320
6,461,897	13,34,536	5,611,507	10,50,962
8,360,069	15,73,398	4,832,998	8,82,124
6,842,010	11,62,477	7,149,823	12,17,365
9,040,141	16,00,224	3,164,701	6,42,853
5,168,286	12,36,707	9,265,411	23,06,721

[illegible]ost all from the Straits. A small quantity [illegible]eylon.

[illegible] states that the price of pepper in the [illegible] of Rome in his time was, in English [illegible]9s. 4d. a pound. The pepper alluded to [illegible]ve been the produce of Malabar, the [illegible]rt of India to Europe that produced the [illegible] its prime cost could not have exceeded [illegible]one, or about 2d. a pound. After the [illegible]very of Vasco da Gama, the price of [illegible] to about 1s. 3d. a pound, a fall of [illegible]om that of the time of Pliny, and of [illegible]from that of the Muhammadan Arabs, [illegible]nd Venetians.

Black Pepper.

Hu-tsiau, ...	CHIN.	Lada, Lada-itam,	MALAY.
Kala mirch, . . .	HIND.	Maricha, ...	"

White Pepper.

Safed mirch, . . .	HIND.	Lada puteh, . .	MALAY.

Black pepper and white pepper are the fruit of the Piper nigrum, the former being the whole berry dried, while the white pepper is the ripe berry deprived of its skin by soaking it in water, rubbing it off, and drying it in the sun. This has less of the peculiar virtues of the spice than black pepper, and is not so generally used. Pepper is a warm carminative stimulant; it is used largely in Europe, but in the south and east of Asia, the capsicum, chilli, or cayenne spice, is preferred. It strengthens the stomach, gives tone to the system, and assists digestion. In the Northern Circars of the Madras Presidency, the Piper trioecum, an excessively pungent pepper, is largely used as a substitute for black pepper; in America, the plants Peltobryon longifolium, Serronia jaborandi, are similarly used, also at the Cape, Cocobryon Capense.

The black pepper vine is indigenous to the forests of Malabar and Travancore, and for centuries has been an article of exportation to European countries from that coast. Although growing in other countries of the east, Malabar pepper is considered to be the best. Its cultivation is very simple, and is effected by cuttings or suckers put down before the commencement of the rains in June. The soil should be rich; but if too much moisture be allowed to accumulate near the roots, the young plants are apt to rot. In three years the vine begins to bear. They are planted chiefly in hilly districts, but thrive well enough in the low country in the moist climate of Malabar. They are usually planted at the base of trees which have rough or prickly bark, such as the jack, the erythrina, cashew-nut, mango tree, and others of similar description. They will climb about 20 or 30 feet, but are purposely kept lower than that. During their growth it is requisite to remove all suckers, and the vine should be pruned, thinned, and kept clear of weeds. After the berries have been gathered, they are dried on mats in the sun, turning from red to black. They must be plucked before quite ripe, and if too early they will spoil. White pepper is the same fruit freed from its outer skin. In this latter state they are smaller, of a greyish-white colour, and have a less aromatic or pungent taste. The pepper vine is very common in the hilly districts of Travancore, especially in Cottayam, Meenachel, and Chenganacherry districts, where, at an average calculation, about 5000 candies are produced annually.

To prepare white pepper, the berries are allowed to ripen and become of a beautiful bright red colour; the outer or fruity skin becomes tender and soft, and is of a sweetish taste. When plucked, the berries are collected in loosely woven bags, and steeped for a day or two in water, either hot or cold. This serves to loosen and detach the red pulpy seed covering, and when taken out and dried in the sun, a little hand-friction is all that is required to clear the seeds. They are then winnowed, and thus made ready for the market.

Long pepper, the Chavica Roxburghii, or Piper longum, is another cultivated species. It is readily propagated by cuttings. The stems are annual, and the roots live for several years, and, when cultivated, usually yield three or four crops, after which they seem to become exhausted, and require to be renewed by fresh planting. The berries of this kind of pepper are lodged in a pulpy matter, like those of P. nigrum. They are first green, becoming red when ripe. Being hotter when unripe, they are then gathered and dried in the sun, when they change to a dark-grey colour.

Japan pepper, Xanthoxylum (Fagara) piperitum, *D.C.*, is used as a condiment in China and Japan. The fruit capsules are remarkably fragrant when

bruised, from a pungent aromatic principle residing in the tubercles of the rind.

Ethiopian pepper is the fruit of Xylopia aromatica.

The seeds of some species of fennel-flowers (Nigella sativa and arvensis), natives of the south of Europe, were formerly used instead of pepper, and are said to be still extensively employed in adulterating it; and a substitute for pepper is the fruit of Tasmania aromatica in Van Diemen's Land. Wild pepper, Filfil burree, the fruits of several species of Vitex.—*Ben. Ph.* p. 30; *Hogg; R. Brown; Eng. Cyc.; Drury's Letters from Malabar; Drury's Useful Plants; Faulkner; M'Culloch's Dict.; Simmonds; Smith.*

PEPPER COAST, the line of coast in Sumatra from Ayer Bangie to the north point.

PEPPERMINT, Mentha piperita, an aromatic herb, raised from seed. This plant might be grown for distillation on the hills of India, and become a valuable article of commerce; grows freely on the plains.—*Jaffrey.*

PEPPER ROOT.

Filfil-mooeh, . . . ARAB.	Pippali-mula, . . SANSK.
Pipili-mool, . . . HIND.	Tipili moolum, . . TAM.
Granthika, . . SANSK.	

The root of the long pepper is a favourite medicine of the Hindus; it possesses the virtues of the berry, but in a weaker degree, and is prescribed by them in cases of palsy, tetanus, and apoplexy. Pepper root is procurable in most Indian bazars.—*Ainslie.*

PEPUL. HIND. Urostigma religiosum or Ficus religiosa. Its Sanskrit names are Chaladala, quivering branches; Peppala, the preserver; Kungarasan, elephant's food; Ashvatter, not durable. The trunk, when old, has many ridges and hollows, as if many trunks were united; the bark is deemed a good tonic.

PERA. HIND. A kind of sweetmeat, made in round cakes.

PERAK territory, on the Malay coast, has a coast line of 100 miles, the depth inland being about 50, and the Dending and Sambilan islands belong to its chief. On the banks of the Perak river are situated the bulk of the inhabitants, consisting of Malays and a few Chinese, who, with some wild and wandering tribes of the Malayan race in the interior, prey upon each other on land and sea. The pirates of Laroot and Perak infested the seaboard for fully half a century after the settlement of Penang. Perak is said to produce graphite, galena, antimony, iron, tin, gold, diamonds, and garnets.—*M'Nair*, p. 25.

PERAK. HIND. A head ornament, worn by married women in Spiti, Ladakh.

PERCH, Perca fluviatilis, is the most beautiful of the fresh-water fishes of Europe, and it extends into Asia. It is very prolific, and 250,000 eggs have been counted in one of middle size.

PERE PONS, a native of France, who resided in India. In A.D. 1740, he sent home a report on Sanskrit literature.

PERGANNAH or Pargana, in the Muhammadan land revenue system, a subdivision of a subah. Pergannah, under the revenue system of the Hindus, was a district of 100 villages. It is still recognised throughout Northern India, but the number of villages greatly varies, and the officers employed in it are only known by their enjoyment of lands or fees hereditarily, or by being the depositaries of all registers and records connected with the land. The province in Bengal called the Twenty-four Pergannahs was acquired by treaty from the Nawab of Bengal on the 20th Dec. 1757. In the ancient Hindu system of government, the administrative officers are ordered to be lords of 10, 100, and 1000 towns, but the Pergannah alone corresponds to the 100 towns. The townships everywhere remain entire, and are the indestructible atoms from an aggregate of which the most extensive Indian empires have been formed.

PERGULARIA ODORATISSIMA. *Smith.*

Asclepias odoratissima, *Roxb.*	Cynanchum odoratissimum, *Lour.*
Ye-lan-hiang, . . CHIN.	Sita manoharam, . . TEL.

A creeper with a climbing woody stem, cracked bark, flowers yellow and very fragrant, well adapted for covering trellis work. It furnishes a perfume. Often cultivated in the gardens in Moulmein. P. pallida is described by Wight.—*Jaffrey; Mason.*

PERICLYTE. The Muhammadan doctors so read the word Paraclete. Periclyte means illustrious, and they quote it from the gospel of St. Barnabas, of which the Moriscoes in Africa have a Spanish translation.—*Sale's Koran*, p. 9; *Chatfield's Hindustan*, p. 271.

PERICOPSIS MOONIANA. *Thw.*

Dalbergia Mooniana, *Thw.* | Nadoong, . .

This large and very valuable timber tre
mon about Colombo and the southern an
parts of Ceylon at no great elevation. Th
is used for building purposes and for f
—*Beddome.*

PERILLA ARGUTA. *Bentham.* Ar
herb of Japan. An infusion of this plant
to give a deep red colour to table vegeta
ocimoides, *Linn.*, of Upper India, is simila
—*Von Mueller.*

PERIM ISLAND, in the Gulf of Ca
little more than a mile in length, and 30
yards broad. Its lighthouse is in lat. 21° 3
and long. 72° 20′ E., and lies 3 miles f
nearest point of the Kattyawar coast.
vast quantities of fossils were found in it
the Baiones Island of the Periplus. It is surr
by an extensive rocky reef on all sides
the south, and rises so sheer from the bot
the sea, that in some places, a few yards f
shore, there is a depth of 11 and 12 fath
water.—*Imp. Gaz.; Findlay.*

PERIM ISLAND, situated in lat. 12° 40
and long. 43° 23′ E. (King), in the narro
of the straits of Bab-ul-Mandab, is di
the Arabian coast nearly 1½ miles, an
African between 9 and 10 miles; grea
3½ miles; average width about 1¼. I
by the author of the Periplus of the
Sea, the island of Diodorus, and is known
the Arabs as Mayoon. Its formation i
volcanic, and consists of long, low, and g
sloping ranges of hills. Albuquerque land
it in 1513, on his return from the Red Sea, and,
having erected a high cross on an eminence, called
the island Vera Cruz (Portuguese in Asia, i. p.
193). It was again occupied for a short time by
the pirates who frequented the mouth of the Red
Sea, plundering the native vessels engaged in the
Indian trade; but, having made a fruitless search
for water, they removed to Mary's Island, on the
east side of Madagascar (Hamilton, i. p. 43). In

March or April 1799, it was taken possession of by the E. I. Company, and a force under Lieutenant-Colonel Murray was sent from Bombay to garrison it, with the view of preventing the French troops, then engaged in the occupation of Egypt, from proceeding to India to effect a junction with Tipu Sultan, but it was found untenable as a military position, and the troops were accordingly withdrawn. In consequence of increasing steam navigation in the Red Sea, Perim was re-occupied in the beginning of 1857, and a lighthouse erected 1861. The island is trachytic.

PERINTALU. TEL. A wife, a domestic woman, but generally applied to deified women. Many of the small temples in Telingana villages are dedicated to goddesses so called, the spirits of dead women.—*W. E.*

PERIOPTHALMUS. A species of this, a little mud fish, is found in great quantities on the mud banks of the Ganges delta, in company with the scarlet crab. This little fish skips along the surface of the water by a series of jumps. It leaps on land. The species in Fiji is the P. kolrenteri, *Gunther*. These fishes are able to progress out of the water in humid places, and to hunt after their prey, which consists of terrestrial insects.—*Moseley*, p. 295.

PERIPLOCA APHYLLA. *Duch.* The Bata, [illegible]a, Barre of the Panjab. A plant with erect stems, common in many places, [illegible]ndus and in the Salt Range, and occurring [illegible]uter hills east to the Chenab, occasionally [illegible]500 feet. In parts of the Peshawur valley [illegible]o common as [illegible] to be used for fuel. It is [illegible]y goats. The buds are eaten raw, or [illegible]as a vegetable, and as food they are con[illegible] to have a beneficial effect on wounds.—[illegible]. *Stewart.*

[illegible]PLUS, a work by Arrian.

[illegible]PLUS of the Erythræan Sea, a book by a [illegible]erchant, which contains the best account [illegible]mmerce carried on in the early part of [illegible]tian era, from the Red Sea and the coast [illegible]ca to the E. Indies. He seems to have traded [illegible] Berenike, a great seaport in the southern extremity of Egypt, from which he made several voyages to India. It gives an account of six voyages. It describes the whole coast of the Red Sea, and of the S.E. of Arabia, and that of India from the Indus round Cape Comorin to a point high up on the coast of Coromandel, and gives accounts of the commerce carried on within those limits, and in some places beyond them. Until near his time, the ships from India continued to cross the mouth of the Persian Gulf, and creep along the shore of Arabia to the mouth of the Red Sea, but at about the time of this author, the Greeks from Egypt and the Arabs used to quit the coast soon after leaving the Red Sea, and stretch across the Indian Ocean to the Malabar coast.

Letronne supposes that the author of the voyages wrote in the time of the Emperor Septimus Severus and his son, namely, between the years 198 and 210 of the Christian era. C. Muller gives A.D. 89 or 90. Dean Vincent supposes it to have taken place about the tenth year of the reign of Nero (A.D. 64). It was doubtless near, but subsequent to this era. The author had navigated the Red Sea, the Persian Gulf, and the coasts of Malabar and Coromandel, and had resided many years at Baroach, in the court of a Hindu raja. He describes Arabia as having pilots, sailors, and persons following maritime pursuits. He mentions that large vessels were navigating the Bay of Bengal to the Ganges and Chryse. See Aden; Kalian.—*Elph.* p. 107.

PERIYA ALVAR, a native of Villipattur. He was one of the twelve Alvars who flourished in the reign of Vallabadeva Pandiyan, king of Madura. He wrote 400 stanzas of the Nalavira Sirunantam.

PERIYA-TAMBIRAN. TAM. Lit. the great god, the name of an image in the temples of the Grama Devata.

PERMANENT SETTLEMENT is a revenue term in British India, usually applied to an agreement introduced in 1793, during the administration of Lord Cornwallis, by which certain agents for collecting the rents or taxes on the land were granted the right of occupying that position permanently, on making annual payment to the Government of the amount of rents then being paid. The object in view was to create a body of landlords like those of Great Britain. It is an immemorial law that 'the resident ryot, simply as such, is, throughout the continent of India, possessed, as a rule, of hereditary occupancy at the customary rates of the vicinity.' Lord Cornwallis insisted that 'whoever cultivates the land, the landlord can receive no more than the established rent. To permit him to dispossess one cultivator for the sole purpose of giving the land to another [illegible] would be vesting him with a power to commit a wanton act of oppression, from which he could derive no benefit.' The enhancement of rent was positively prohibited, unless the ryots could be induced to 'cultivate the more valuable articles of produce, and to clear the extensive tracts of waste which are to be found in almost every zamindari in Bengal.' The zamindar of those days was perfectly cognisant of the conditions attached to his position, among which was the right reserved by the Court of Directors, as successors of the Moghul Government, to make 'from time to time all such regulations as may be necessary to prevent the ryots being improperly disturbed in their possessions, or loaded with unwarrantable exactions.' The court added that their 'interposition, where it is necessary, seems also to be clearly consistent with the practice of the Moghul Government, under which it appeared to be a general maxim that the immediate cultivator of the soil, paying the rent, should not be dispossessed of the land he occupied.' The zamindars, in the year 1880, were supposed to be receiving about 16 millions sterling from their ryots, but paying to the Government only the amount fixed in 1793, and the cultivators have not shared in the increase of wealth of the country. Three times since the middle of the 19th century, the Government has tried to alleviate the cultivators' condition in British India, but hitherto without success. The exact number of occupancy ryots is not known, but there are nearly ten millions who pay less than £10 a year rent for their holdings, and of these upwards of six millions pay less than 10s. Below these two classes, again, come the untold millions of day-labourers, who barely exist from hand to mouth, and whose unparalleled fecundity is becoming a positive danger to the State. See Pattadari; Ryotwari.

PERNIS APIVORA, honey buzzard of Europe, Asia, N. Africa; migratory. In India, common (if identically the same), in addition to P. cristata. In the crestless or sub-crested Indian specimens (adults) there is a marked tendency to the development of three dark stripes on a white throat, and in the Astur trivirgatus and sundry other Indian species. Such may be a hybrid race between P. apivora and P. cristata.

PEROO, SIND., is a term applied, with some prefix, to the fruits of four plants. Salvadora Persica is called Khari peroo, S. Indica is Mitha peroo, Solanum incertum, *Dun*, is Kan peroo, and Phyllanthus multiflorus is Phika peroo.

PERQUISITES from cultivators, called in N. India, Amgaunga, Anjali, Siaodi, Thapa, are given from the threshing-floor to the Brahmans, Purohit, Guru, herd, and village god.

PERRON, a French sailor on board the frigate *Sardaigne*, which came to India in the year 1774. He became acquainted with De Boigne in 1789, and was appointed Captain-Lieutenant in the 2d brigade of Sindia's army. He distinguished himself at the battles of Mirta and Patan, and he obtained an independent command. At the battle of Kardla, he was in command of ten of De Boigne's trained battalions, with cavalry and artillery, with 5000 men under Filoze, and 3000 under Hessing; the total number of the Peshwa's troops, with those of Sindia and Holkar, was 130,000, and 10,000 Pindari. The Nizam's army, under M. Raymond, 20,000 horse, besides artillery. The armies met between Parinda and Khardla, 12th March 1795, and, after a brief success, the Nizami fled, but Raymond retreated in order. Perron ruled the territory from Lahore to Kota, and between Aligarh and Jodhpur. About the 5th September 1803, he surrendered to Lord Lake, and went to reside at Chandernuggur. Perron at one time enjoyed a revenue of nearly half a million, and when he surrendered to Lord Lake he carried away with him whatever property he was able to save. Perron had succeeded the veteran De Boigne in the command of Sindia's army, when de Boigne, after many years' service, returned to Savoy with a fortune of nearly half a million sterling. He was an able commander, and was assisted by several able officers of his own, with the object of disciplining Sindia's troops; lands had been assigned between the Ganges and the Jumna, over which, and at Dehli, Agra, and Futtehghur, Perron ruled with almost regal power; and though ruling ostensibly as Sindia's deputy, it was in the name of the Moghul emperor, or the blind Shah Alam, who was in fact no more than a helpless captive and puppet in his hands.—*Havelock.*

PERRON, ANQUETIL DE, an oriental scholar, with the desire to learn Zand; in November 1754 he joined the French army.

PERRY. Sir Thomas Erskine Perry, Knight. For fifty years he led a very active life as lawyer, politician, law reformer, as seen in his book on Oriental Cases; was Chief Justice of Bombay, and President of the Bombay Asiatic Society, Member of Parliament seven years, Member of the Indian Council twenty years. Author of a Letter to Lord Campbell on Law Reform, Lond. 1850; Translation of Savigny's Law of Possession, Lond. 1848; Character of the Hindoo King Asoka, Bom. As. Trans. iv.; On the Aboriginal Tongues of India, in Bom. As. Trans. 1852; A Bird's-eye View of India.—*Dr. Buist's Catal.*

PERRY, COMMODORE, of the United States, in 1854 negotiated a treaty with Japan.

PERSEA of the ancients, fruit of Balanites Egyptiaca.

PERSEA GRATISSIMA. *Gærtn.* The alligator pear or avocado pear of the West Indies, receives its name in consequence of the resemblance in form between its fruit and that of the Pyrus. It is about the size of an apple tree; the leaves are oblong, veiny, and the flowers small, and of a greenish-yellow colour. The fruit is the size of a large pear; inside it is yellow, and contains a kernel enclosed in a soft rind. In taste it resembles the peach, but more agreeable, though not so sweet. It is sometimes eaten with pepper and salt, but more frequently with a little sugar and lime-juice. Three varieties are mentioned, the red, the purple, and the green.—*Icones; Eng. Cyc.*

PERSEPOLIS of the Greeks, Elymais of the Hebrews, and Istakhr of the Persians, in the province of Fars, is now a series of ruined remains, known to the people of the country as the Chahl Minar (forty pillars) and Takht-i-Jamshid (Throne of Jamshid). They are supposed to comprise the palaces of Darius, Xerxes, and Artaxerxes, each on a separate terrace. The area of the Chahl Minar is 50,000 square feet. In the vicinity are the tures known as the Naksh-i-Rustum, and 30 miles distant are ruins called Madar-i-S

Persepolis is about 12 miles from th Bendamir, at the foot of the rocky spu confines the northern end of the Marvdash on its eastern side. From the foot of th a platform 500 yards long and 312 br been built out into the plain. Of the po marble columns and four bulls are standin two columns have fallen. Of 72 pilla great hall, at the top of the steps, onl now standing. The breadth of the g is 127 yards. The hall of Darius is 60 y that of Xerxes 33 yards. An inner hall columns. The columns stood on inverte flowers, beautifully carved. The reputed t Darius is higher up.

The tombs of Persepolis are on oppos of the Marvdasht plain, which here b narrow between spurs of the mountain bound it on the north. Persepolis stan foot of the eastern spur. The tombs a in the face of the western spur, the cliff rise from 90 to 500 feet, the tombs, five being excavated at heights from 90 t The bodies of the kings have long away, and the broken slabs that co lie on or in each empty sarcophagus. ing their sepulchres, the first thing t Persian monarchs did was to carve a on the face of the cliff. At the onl tomb, near the top of the cross, is a gi of a king, bow in hand, worshipping fi on an altar. Along the foot of the sculptured tablets, spiritedly executed, ing equestrian combats on a gigantic one huge carving portrays the su Valerian kneeling to Shahpur, expla inscription in Pehlavi, with an illeg inscription. A marble fire-temple in servation is a few yards from the foot

It is not known whether it was

called Elamais, Istakhr, or Takht-i-Jamshid. After the establishment of the empire by Cyrus, he and his immediate descendants divided their residence chiefly between Babylon, Susa, and Ecbatana. He was a conquerer long before he was a king; and while Cambyses, his father, reigned in Persia, and occupied his own capital, and Cyaxares, his uncle, yet lived, and maintained his state in Ecbatana, the principal city of the Medes, the present Hamadan, Cyrus resided at times in Babylon, which he had subdued, and then afterwards at Susa, when the death of Abradates gave the whole province to his generous prince and friend. Cyrus did not live more than eight years after he became master of the empire; and therefore could not have had much time to distinguish Persepolis by any long residence there, though he often went thither. We learn from several writers that at different periods both Cyrus and his successors had added to the splendours of the city which the Greeks called Persepolis. Xenophon clearly points out its situation (Strabo, Diod. Siculus). — *Porter's Travels*, i. pp. 576, 577.

PERSIA lies between lat. 25° 40′ to 39° 50′ N., and long. 44° 20′ to 61° 35′ E., with a population variously estimated at 5 to 7 millions. It is about 1400 miles long from the Khoi and Bayazad road to Gwadar, and 900 miles broad from the Mahran coast to the Atrak river. It has 18 great divisions,—Astrabad, Azarbijan, Ardelan, Fars, Ghilan, Isfahan, Kirmanshah, Khuzistan, Khorasan, Kirman, Khemseh, Laristan, Luristan, Mazandaran, Mullayer, Nain, Tehran, and Yezd.

Modern Persia consists of three principal parts, viz. Fars proper (Persis proper), Laristan near the Persian Gulf, and Behbehan, or the country of the Khogilu, which represents the circle of Kobad. Behbehan is bounded on the north by the great belt of mountains which separate Irak-i-Ajam from the southern provinces of Persia. The northern and north-eastern shores of the Persian Gulf form its boundary to the south, Ram-Hormuz and the Ka'b country lie to the west, while Shuzistan separates Behbehan on the east from the direct dependencies of Fars. On the east and south-east, Behbehan is surrounded by the Mamaseni tribe; on the north and north-west by the Bakhtiyari; and on the west and south by the Ka'b Arabs. Also the mountainous region to the north and north-east of the plain of Behbehan is occupied by the Khogilu tribes.

The greater part of the most important region of modern Persia corresponds to the ancient Media; the province of Azerbijan, west of the Caspian, answering to Media Atropatene, and that of Irak-Ajami to Great Media. The northern part of Khorasan is the ancient Parthia, and the lowland round the south-east of the Caspian was Hyrcania.

The whole of the centre of Persia is composed of immense salt deserts, with such oases as Yezd and Beerjan scattered about it, at too extended intervals, however, to afford cohesion and mutual support. The desert may be roughly said to extend all the way along the Afghan frontier from a point 100 miles south-west of Herat to the Persian Gulf, and from this broad base it projects to within 100 miles of Teheran. North of this salt desert lies the magnificent province of Khorasan; west of it the fertile provinces of the Caspian, including Azerbijan; and south-west and south, the rich mountain region running conterminous with the Turkish frontier and the waters of the Persian Gulf; the great range on the north, joining the Hindu Kush south of Herat.

The general aspect is desolate and bare in the extreme. On its north and east, Persia is nearly enclosed by deserts. On the north is the great desert of Khiva, or, as it is called, the Kara-Kum. This stretches along the whole north border of Khorasan and Afghan-Turkestan as far as Balkh. It is more of a waste than a desert, and in spring is covered with grass, and is said then to be quite practicable for light troops. Its greatest breadth is from the Aral S.W. to the Atrak river, about 250 miles, and the breadth gradually lessens as it goes eastwards till near Balkh it has a breadth of only a few miles. Its general breadth, however, is from 180 to 150 miles. Its length from the Caspian to the vicinity of Balkh cannot be less than 600 miles.

The great salt desert of Khorasan extends from Kum and Kashan to the east for a distance of 300 miles, and is probably continuous with that of Seistan, and if so, it probably runs to the south of Tabas.

The desert of Kirman stretches to the N.E. of Kirman, and is supposed to be continuous with that of Seistan and Makran. It stretches from Khubbis to the lake of Seistan, 150 miles, thence along to the S. bank of the Helmand, up to the vicinity of the valley of Peshin on the Kandahar and Quetta road; then it turns S.W., keeping away from Nushki Sarawan and Kharan, and then runs S. between Banpur and Panigur to near the sea at Gwadar. To the west of this it keeps north of Jalk and Sib, and the continuation of the mountains of Kirman, till it again intervenes between Khubbis and Seistan. Its length is about 400 miles, and breadth 200 miles, from the Helmand to the parallel of Kohuk. The sand of this desert is of a reddish colour, and so light that when taken into the hand it is scarcely palpable. It is raised by the wind into longitudinal waves, sloping to the leeward side to the height of 10 or 20 feet, and is there perpendicular.

The mirage is common; and the dangerous Bad-i-simum often blows between the months of May and August, injurious to everything with life,—even camels and other hardy animals perish,—and killing men sometimes instantaneously, or after hours or even days of suffering.

Nowhere else than in Persia is the zodiacal light, known as the Subh-i-sadiq, more beautifully seen.

Azerbijan climate is healthy and bracing, the soil is remarkably fertile, and the inhabitants are hardy, active, and industrious. Khorasan contains more fertile territory than the British Isles, and could easily furnish sustenance for twenty million people. Bailie Fraser described the Georgan part of Khorasan as 'one of the loveliest regions in the world.' Baron de Bode, a Russian traveller in Khorasan in 1836 and 1848, affirmed the district south of the Kopet Dagh to combine the 'excellences of an English landscape and the scenery of the Caucasus.'

The most ancient of the races that ruled in Persia was the *Peshdadian* dynasty. Of the fourteen known names of this dynasty, the first was Kaiumars, who reigned at Balkh. In this line, the

names occur of Jamshid, who reigned at Persepolis; Feridun, who was restored by Kawa, the blacksmith; and Afrasiab, who was king of Turkestan.

The *Kaianian* dynasty followed the Peshdadian, and amongst its rulers were Kai Kobad (Kai signifies the mighty); Kai Kaus, son or grandson; Rustam, his general; Kai-Khūsru, grandson, Cyrus the Great; Lohrasb, son of Orond Shah; Gushtasp, his son, Hystaspes of Grecian history; Isfendiar, his son, Apanda or Astyages of Ardashir; Darab and Dara, the Darius overcome by Alexander.

The authentic history of this region begins about B.C. 710 with Djoces, a Mede, who, as also his son Phraortes, fell in attacks on Assyria. Cyaxares, king of the Medes, son of Phraortes, about B.C. 606, combining with Nabopolassar, king of Babylon, and with the Arabians, Persians, and Armenians, overran Assyria, and took and destroyed Nineveh.

After the death of Alexander, Persia as well as Syria fell to the lot of Seleucus Nicator, who established the dynasty of the Seleucidæ. Antiochus Soter succeeded Seleucus Nicator; and in the reign of his successor, Antiochus Theos, Arsaces, a Scythian, who came from the north of the sea of Azof, induced the Persians to throw off the Greek yoke, founded the Parthian empire, and made Rhages his capital. This was likewise the period of the foundation of the Bactrian kingdom by Theodotus, the governor of it, who, finding himself cut off from Syria by the Persian revolution, declared his independence. Arsaces is called Asteh by eastern writers, and is said to have been a descendant of the ancient Persian kings. When he gained the kingdom, it is said he promised to exact no tribute, and merely to consider himself as the head of a confederacy of princes, united for the double object of maintaining their independence and freeing Persia from a foreign yoke. This is the commencement of that era of Persian history called by eastern writers Muluk-ut-tuwaif, or commonwealth of tribes, called by the Persians the Ashkanians and Ashganians, known to the Greeks as the Arsacidæ, from B.C. 253 to A.D. 223, in which year Ardashir Babegan-bin-Sasan, the Artaxerxes of the Greeks and Romans, founded the Sassanian dynasty, which ruled till A.D. 632. Amongst this dynasty were Shahpur, who defeated the emperor Valerian near Edessa; also Khusru Nushirwan, famed for his benevolence, and who largely extended his dominions, took Antioch and Jerusalem, and all Egypt southwards to Nubia. 90,000 Christians are said to have been slain when Jerusalem was then taken.

Persia was overrun by the Arabs, A.D. 632–636, and was held by the khalifs for 600 years.

It was at Nahavend, in A.D. 632 (Hijira 21), that the celebrated battle of Kadesia was fought, in which, after three days, the troops of the khalif Omar, commanded by the Arab chief Noman, who was there slain, defeated the Persians, in the reign of Yezdejird, one of the Sassanide princes. This monarch, shortly after his defeat, was killed by a miller of Merv, with whom he had taken refuge. The dynasty of the Sassanides had reigned in Persia 415 years. It became extinct with Yezdejird, and Persia then fell under the dominion of the khalifs, who compelled the population to embrace Islamism. The town of Nahavend is built just at the foot of the north-east range of hills, upon some craggy points. In the centre of the town rises the citadel, a most imposing-looking structure, and really of some strength. It crowns the top of the highest of the craggy points upon which the place is built, and is supported by immensely solid mud walls from without, rising at least 100 feet high.

Persia has since been under many dynasties, either ruling in whole as it now is, or in parts of it. The khalifs ruled from A.D. 632 to 1258, when Mustasem was put to death by Hulaku, the grandson of Chengiz Khan; the Samani of Bokhara, Khorasan, and Persia held sway A.D. 874 to 998; the Ghaznavi of Persia and India, A.D. 975 to 1183; the Seljuk in Iran, Kirman, and Anatolia, A.D. 1037 to 1283; the Mosul branch of the Atabegs of Irak, under the Seljuk, from A.D. 1127 to 1197; the Il-Khani of Persia, a Moghul dynasty, A.D. 1259 to 1346; and the Sufi and Zand of Persia, A.D. 1499 to 1797.

Under the Kaianian, Parthian, and Sassanian dynasties, the metropolis of the empire was moved from Persepolis to Pasargadæ, and thence to Susa; and in modern times the Sufi, Zand, and Kajar reigning families have successively chosen as their respective capitals, Isfahan, Shiraz, and Teheran. The last place is within a few days' march of the native districts of the ruling Kajar tribe near Astrabad—Aga Muhammad Khan, Kajar, [illegible]788 having founded the present dynasty.

Kurna is one of three Apameas b[illegible]t by Seleucus in honour of his first wife, Apamea, daughter of Artabazus. It is situated at the point of a triangle formed by the confluence of the rivers Euphrates and Tigris, and was formerly a place of consequence. Kurna is situated on a low flat, with apparently a rich soil, and along the river are low banks to prevent the country being flooded. Meshed, the capital of Khorasan, forms the connecting link of Central Asia and Persia, the Caspian and Afghanistan. Meshed lies on the highway from the Caspian to Herat, distant about 215 miles from the latter place. Its garrison consists of nine battalions of infantry, a regiment of cavalry, and a couple of field batteries, in all about 8000 men. A force of about 1000 horsemen employed in patrolling the road between Mashad and Khosan, the frontier town. Tabreez, the administrative centre of Azerbijan, draws to itself the commerce of Turkey, of Persia, and of Russia, and distributes around the manufactures for which it has ever been famed.

The men of Kasvin, Tabreez, Hamadan, Shiraz, and Yezd are as remarkable for their courage as those of Kum, Kashan, and Isfahan are for their cowardice. The nomade tribes are all predatory, and glory in that, but they hold thieving in detestation; they delight to listen to romantic tales. The Iliyat nomade tribes are sincere, hospitable, and brave, but rude, violent, and rapacious. The chiefs of the military tribes form the hereditary nobility.

From time immemorial, the three races, Persian or Pehlavi, Arab, and Turkoman, have been striving for mastery, but the Persian inhabitants of the towns and those of them engaged in cultivation are not warlike, and the contest has been between the Persian nomade and the Turkoman nomade, the two great military classes of the population.

The Persian nomades all belong to the Pehlavi stock, though their dialects are different. They inhabit Kirman, nearly all Fars, a part of Irak, and the whole of Kurdistan, a region stretching through the ranges of highlands from near the entrance of the Persian Gulf in a north-west direction, along the left bank of the Tigris as far as Armenia.

The Turkoman nomades entered Persia with conquering armies, and have come from the banks of the Volga, from beyond the Oxus, and from the plains of Syria. Their habits are the same as the Persian nomades, but they speak a different language, and from the invasion of the Arabs till the death of Nadir Shah, the rulers of Persia had either been Arab or Turkoman. No member of the Persian nomade tribes had ever ascended the throne. It is this, probably, that gave rise to the bloody strife between the Zand and the Kajar tribes.

The Zand are the most illustrious of all the Persian tribes, and one of their chiefs, Karim Khan, after the death of Nadir Shah, succeeded in establishing himself in Isfahan and the southern provinces. The Kajar are a Turkish tribe brought by Timur from Syria, and settled between Elburz and the Caspian. After the death of Nadir Shah, a deadly war raged between Karim Khan, Zand, and Muhammad Hasan Khan, Kajar, which ended in Karim Khan's accession. Lutf Ali Khan (1795) was the last of the Zand rulers. —*Kinneir; Watson; Malcolm; Wheeler; Morier; Fraser; Monteith; Shiel, by Lt.-Col. MacGregor*, iv. pp. 358–516.

In addition to the revolutions resulting from contests by the different races within, these territories have been repeatedly overrun by foreign armies, and since the beginning of the 18th century their armies have been defeated by Afghans, Russians, and British; and Russia has compelled Persia to renounce the right of keeping war-ships on the Caspian Sea, and has established for herself a naval station on the island of Ashurada, at the south-east corner of the sea commanding the approach to Asterabad.

Under the present organization, the Persian army consists of 77 battalions of infantry, of an average strength of 800 men; 79 regiments of cavalry, consisting of eight troops of 50 sabres; a strong regiment of engineers, and 200 guns. The various grades are—Amir-i-toman, or general of division; Amir-i-pung, or general of brigade; Surtip, or colonel. The regimental ranks are represented by Sarhang, or lieutenant-colonel; Yawar, or major; Sultan, or captain; Naib-i-awwal, or first lieutenant; Naib-i-doyum, or second lieutenant. A sergeant is called Vakeel, a corporal a Dahbashi, and a private Sarbaz. The bone and sinew of the Persian army is derived from the Turk tribes of Azerbijan, from the Kurds of the mountainous districts of Persian Kurdistan, and from the Lur, Bakhtiyar, and Iliyat tribes who inhabit the mountain chains extending southward and eastward from the great range of Zagros. The standing army of Persia is, with the exception of the Shah's body-guard, made up of regiments nominally raised in the above districts; the chiefs and khans of the various tribes are nominated to commissions in the regiments furnished by these clans. The men are brave, but need leading. In 1861, 20,000 Persian troops and 32 cannon surrendered, almost without fighting, to 5000 Merv Tekke horsemen, armed only with spears and matchlocks. That terrible disaster to Persian arms destroyed the Shah's prestige on the Turkoman border. Its population, composed of townspeople 1½ millions, nomades and villagers 2½ millions, is under 5 millions; and Teheran and Tabreez have each 120,000, Meshed 70,000, Isfahan 60,000, and Shiraz 40,000. The most powerful of the nomades, the Il-Khani of Kaskai, has 25,000 or 30,000 black tents; Kelhor of Kermanshah have 11,000; Zengeneh, 10,000; the Sheqhagi of Azerbijan, 15,000 tents and houses; and besides these are about 100 minor tribes.

The Persians are all of fair complexion. The Arab, the Persian, the Afghan, and Sikh, when speaking of the people of India, call them 'black men;' even in India, the descendants of the Arab, Persian, Moghul, and Afghan conquerors use the same designation,—'Kala Admi,' literally black man, being ever in their mouths; and Hindus themselves, in their various tongues, likewise so distinguish themselves from all the fair foreign races.

Persia is a thoroughly aristocratic country, where high birth and polished manners are much considered. In this point it differs much from Turkey. Owing to his politeness towards strangers, and an apparently hospitable disposition, the first meeting with a Persian usually makes a favourable impression. He is quick-sighted, sociable, witty, and affable, buoyant in spirits, well acquainted with the forms of politeness, and to a certain extent inquisitive in matters of science and art. The offering from an inferior is called Peshkash. A gift or recompense from a prince or superior is called Inam, or Khelat, also Bakhshish, a Persian word much used in this sense by the Turks. Among themselves, with their equals, the Persians of the higher classes who are settled in towns are affable and polite, to their superiors servile and obsequious, and towards their inferiors haughty and domineering.

Marriages are of two kinds, one the Aqdi, with a girl of the bridegroom's own rank, the other the Seegha, with a woman of humbler birth. A practice prevails of marrying under a contract for a period. Many of the women read and write, especially the Kajar women. Persians consider the number thirteen so unlucky, that in general they will not even name it. When they have occasion to allude to this number, instead of mentioning Sezdeh (thirteen), they say Ziyad (much more), or Hech (nothing). The Persians shave the crown and hind part of the head, leaving a tuft on the top, and hair on either side, which some keep closely clipped above the ears, and others wear in long masses of ringlets.

The usual riding costume of a Persian gentleman consists of a black lambskin cap, pitched into a conical shape. An open shawl surcoat, lined with fur, reaches about half-way down the thigh; the sleeves are cut off a little below the elbow. These surcoats seldom cost less than £25, often much more. Under this a light gown is worn, reaching nearly to the ankle, open on the sides for about a foot from the bottom, and with slits left open under the arms and inside the elbows. A shawl is tied round the waist, and supports a long dagger with a handle of ivory or bone, sometimes

ornamented with jewels. In cities, the surcoat is usually laid aside, and in winter a cloak of cloth is substituted. On horseback, a pair of roomy Hessian boots, of black or red leather, are drawn over the voluminous shalnar or Cossack trousers.

The natives of Persia do not recline on cushions in the luxurious manner of the Turks, but sit in an erect posture on a thick felt, called a namad. They have seldom or ever fires in their apartments, even in the coldest season; and in order to be warm, wrap themselves in a fur pelisse, or a barouni, which is a handsome robe of crimson cloth, lined with shawls or velvet. Like other oriental nations, they rise with the sun.

The dress of Persian women consists of a pair of immensely wide trousers, like a couple of petticoats tacked together, made of silk or cotton, and fastening round the middle by a running string; a very short chemise of gauze, reaching only to the waist; a kurtni or jacket reaching to the hips, having open sleeves, which may be buttoned close if required; an arackchin or small skull-cap upon the head, and sometimes a charkud or handkerchief thrown over the head and descending on the shoulders and back. In full dress a Muhammadan lady wears the Peshwaz or Persian robe, in which dancing women usually perform. It has long tight sleeves, a tight body crossed in front, and a very voluminous muslin skirt, the most fashionable amplitude being about forty, or even sixty yards in circumference. This garment is often trimmed in a costly manner with gold or silver lace, and is only worn as a bridal dress or at domestic festivals. The Persian ladies regard the bath as the place of their greatest amusement. They make appointments to meet there; and often pass seven or eight hours together in the carpeted saloon, telling stories, relating anecdotes, sharing their kaliouns, and completing their beautiful forms into all the fancied perfections of the east,—dyeing their hair and eyebrows, and curiously staining their fair bodies with a variety of fantastic devices, not unfrequently with the figures of trees, birds, and beasts, sun, moon, and stars. This sort of pencil-work spreads over the bosom, and continues down as low as the navel, round which some radiated figure is generally painted.

There are two harvests in the year; that of the Saifi or summer, reaped in the end of autumn, consists of rice, cotton, maize, Holcus sorghum, Panicum Italicum, Cicer arietinum, Ervum lens, mashek, Phaseolus radiatus, the castor-oil plant, sesamum, and some garden vegetables. An exhaustive system of agriculture is practised in Persia, which keeps her impoverished.

In several parts of the country are copper, lead, and iron mines, and Fars yields sulphur in abundance; and if these mines were properly worked, the profits would be very great.

Persian weights are:—

Nokhood (Cicer arietinum).

24 nokhood = 1 miscal, about one-sixth of an ounce.

90 miscals = 1 vakka, nearly 1 lb. avoirdupois.

8 vakkas or 720 miscals = one man of Tabreez. In different places varying from 7 to 7½ lbs.

2 Tabreez man = 1 kharwar or ass-load, 725 lbs.

The value of its external commerce has been estimated at four or five millions sterling. The port of Abushahr (Bushire) trades chiefly with India, and of its five great caravan lines, one passes westward from Central Persia towards Baghdad, Mesopotamia, Syria, and Asia Minor; a second runs northward through Erzerum, and into Europe by the way of Constantinople; a third goes also to Europe by Tiflis. The fourth runs eastward to Bokhara and China. And the fifth proceeds to India by two distinct lines, which unite at Herat. One of these routes comes to this town from Irak and the south-western provinces of the kingdom; and the other route leads from the north-west, by Teheran, Nishapur, and Mashed. Eastward of Herat, the united lines pass through Kandahar, Kābul, and Jalalabad, to Attock, from whence it branches out to different parts of India. The manufactures are shawls, carpets, felts, silks, velvets, cotton piece-goods, weapons, paper, leather, and furs. The merchants have each a cypher in which they carry on all their correspondence. Merchants of Yezd are found in Bombay, the Mauritius, Java, and China.

After Persia was overrun by the Muhammadans from Arabia, most of the people seem to have become Muhammadans, and from that time little is known of the funeral customs of the fire-worshippers in the years preceding the arrival of a small remnant of them on the coast of Gujerat. In ancient Persia, the dead were exposed in natural caves or dokhmas, or in the mountain valleys. At the present day, unless a death happen to take place during the night, the funeral follows immediately after it. The body is washed with rose-water; then, being wrapped in a white sheet and cotton shroud, it is carried on a bier to the grave. If the deceased be rich, a funeral feast is kept for several days after the ceremony, and alms are distributed at particular intervals. But when a person of rank dies, it is not unusual for the king to command the body to be conveyed to Meshed-Ali, or one of the other places of Shiah pilgrimage; followed by his charger bearing the arms, clothes, etc., of the deceased, and also by numerous led horses, with the badges, banners, and other expensive insignia of funeral state.

Mr. Stack, a recent traveller, came to the conclusion that a residence in Persia is calculated to beget a positively 'Lucretian hatred' of religion. Of the city and shrine of Kum he speaks with abhorrence, as the stronghold of the most dismal superstitions. The plains and city of Kum are shrouded in a haze of heat and dust, blown up by the hot winds.

The Persian language was the court and official language of the Dehli rulers and of all their allies and subordinate Muhammadan and Hindu kingdoms, and the principal Hindu states still continue its use. For a long time, at Dehli, two languages were used by the emperors, and there were two parties in the court, the one speaking Persian, and the other Turki, the mother-tongue of Baber, who was a Chaghtai Turk. In A.D. 1871–72, in eight districts of the N.W. Provinces, the Urdu or Persian reading pupils of the Tahsili and Halkabundi schools largely exceeded the Hindi or Nagri reading scholars, ranging from two-fifths to three-fourths. All educated Muhammadan men in India write in Persian, but speak Urdu. Women always write in Urdu. The more celebrated of the Persian writers are Fardusi, Ferishta, Hafiz, Jelal-ud-Din, Jami, Khusru, Nizami, and Sadi. Several of the books are not placed in schoolboys' hands; for instance, the Persian Bahar-i-Danish on

woman's guile, the fifth chapter of the Gulistan of Sadi, also the love-story of the Zulikha of Jami, Laili and Majnun, Lazzat-un-Nissa, Tuhfa Shahi, Tuhfa-ul-Ashakin.

The modern tongue of Persia is derived from Zand, as Italian was derived from Latin; but the Persians now speak a language which is neither Semitic, like Arabic, nor Turanian, like Turkish; it is a branch of the Indo-European or Aryan family of speech. Also, a large infusion of Persian words, however, found its way into Arabic, and through Arabic into Turkish, and the result is that at the present moment the Turkish language, as spoken by the higher ranks at Constantinople, is so entirely overgrown with Persian and Arabic words, that an uneducated Turk from the country understands but little of the so-called Osmanli, though its grammar is exactly the same as the grammar which he uses in his Tartaric utterance. Throughout Persia the inhabitants of towns all speak the Persian language. It is spoken in Erivan, and a great part of Azerbijan, Shirvan, and Daghestan, north of Caucasus. The tribes to the west of India, especially those of Khorasan, understand Persian generally; and their dress, arms, and habitations, while they retain their national peculiarities, approach to those of Persia. The Persian language is met with amongst the Hazara Mongols of Ghito in Seistan, Ghorband, Badakhshan, and Baluchistan. Persian is the official language of Afghanistan, but the Pushtu is alike the common tongue of the uneducated people and of the Amir. The Afghans have a few Pushtu works, but they read Persian authors by preference, and through them have formed imperfect ideas of geography, astronomy, medicine, and history; these works, full of fictions and deficiencies, have not assisted in developing their faculties. Throughout British India, the written language of the educated Muhammadan is the Persian. This language was formed after the Muhammadan conquest, and its literature is essentially of the middle ages and of modern times. The literatures of the West Aryans, Persia, and of the East Aryans are thus separated by time as well as by space, for the great literature of India belongs strictly to antiquity. The natives of Persia are enthusiastically devoted to poetry. The meanest artisan of the principal cities of that kingdom can read or repeat some of the finest passages from their most admired writers; and even the rude and unlettered soldier leaves his tent, to listen with rapture to the strain of the minstrel, who sings a mystic song of divine love, or recites the tale of a battle of his forefathers. The very essence of Suffeeism is poetry. Many of the tales and stories current throughout central Europe came to it through the Persian.

During the reign of Shah Abbas the Great, the English first established commercial settlements in Persia. Two enterprising Englishmen, Sir Anthony Sherely and his brother, with a few followers, had made their way to the court of Persia, where they met with a distinguished reception. Sir Anthony returned as envoy from Shah Abbas, to establish an alliance with the Christian monarchs of Europe for the destruction of the Turks, and with a grant, permitting all Christian merchants to trade freely with Persia. Under the patronage of Shah Abbas, the English, the French, and the Dutch had established factories at Gombroon, to which place the Persian monarch afterwards gave the name of Bandar Abbas, or the Port of Abbas, by which it is now known. Shah Abbas, however, had less toleration for the Portuguese, who in 1507, under Albuquerque, had conquered and occupied the island of Hormuz, at the entrance of the Persian Gulf, not far from Gombroon, and he resolved on their expulsion. He was joined in this enterprise by the English, then at war with Portugal, with whom in 1622 he entered into an engagement, granting them half the plunder of the island, and half the future customs of Gombroon and Hormuz. The Portuguese were driven out, but the promises of the king of Persia to the English were not kept. The factory at Gombroon was maintained through many losses and disasters till 1761, when it was withdrawn, in consequence of oppressions of the provincial governor of Lar. The death of Shah Abbas, in 1628, was followed by the rapid fall of the Suffavean dynasty. Four weak princes of that house successively ascended the throne of Persia. During their reign the Turks severed from the Persian empire some of the best of the western provinces, the Arab ruler of Muscat possessed himself of the islands in the Persian Gulf, the Afghans of the Abdali tribe made themselves independent in Herat, and the Ghilzies in Kandahar; and in 1722, within a century after the death of Shah Abbas, Isfahan was besieged by Mahmud of Kandahar, to whom Shah Husain formally resigned his crown. The Afghan dynasty was short-lived. Mahmud died insane in 1725. His cousin and only successor, Ashraf, was slain in 1730, while fleeing in the desert before his conqueror, Nadir Kuli Khan, the warrior Nadir Shah. After the abdication of Shah Husain, his son Tamasp had assumed the name and state of king, and was unceasing in his feeble efforts to recover the crown. Shah Tamasp was permitted to enjoy his nominal sovereignty only two years, when he was dethroned by Nadir Kuli, who with affected reluctance accepted the crown. Little had remained of Persia in the feeble grasp of Shah Tamasp, when in the year 1726, Nadir Shah, after a life of vicissitudes, found himself at the head of a predatory band in Khorasan, at the age of about thirty-five. The genius of this man alone quickly changed the aspect of affairs, and Persia, from being trodden under foot by all, became during his lifetime a formidable power. Within a few years after his murder in 1747, the mighty empire which he had re-created was dismembered. Ahmed Khan, Abdali, proclaimed himself king of the Afghans, took Kandahar and Herat, and laid the foundation of an empire, which he extended by conquests more brilliant than those of Nadir Shah. The province of Khorasan was all that was left to Shah Rukh, the blinded grandson of Nadir Shah. This was guaranteed in his independent possession by Ahmed Khan, but was soon broken up into a number of independent principalities. The southern and western provinces of Lar, Fars, Irak, Azerbijan, and Mazenderan were subdued by Karim Khan of the tribe of Zand, and a prince of the Suffavean house, named Shah Ismail, a son of the sister of Shah Husain, was set up as a king. But he was a mere puppet, and was soon cast into prison, and Karim Khan ruled alone. He was a just ruler. In 1763, he granted to the

British a firman for a factory at Bushire, and for the trade of the Persian rule. Karim Khan died in 1779, after a vigorous rule of 26 years. His death was the signal for fresh revolutions, marked by the most atrocious cruelties, in the course of which the four surviving sons of Karim Khan were savagely mutilated. This state of things ended in 1795, in the elevation to the throne of Persia of Aga Mahmud Khan of the Kajar tribe, the founder of the present dynasty. In 1788, during the brief rule of Jafar Khan, nephew of Karim Khan, and the last representative but one of the Zand family, the British, who during the revolution had been subjected to many oppressive exactions, obtained, through the chief of their factory at Bussora, another firman for unrestricted trade in the Persian dominions. From the success which had attended the invasion of India by Nadir Shah and Ahmed Shah, Abdali, it was believed that the plains of India were exposed to be periodically ravaged by any ambitious ruler in Afghanistan. In 1796, Zaman Shah, grandson of Ahmed Shah, Abdali, advanced to Lahore, with the professed purpose of restoring the house of Timur from the domination of the Mahrattas, and, after some years, in 1801, Captain Malcolm was sent on an embassy to Persia. The re-conquest of Afghanistan was always a favourite dream of the Kajar dynasty, who conceived that their rights of sovereignty over that country were as complete as in the days of the Suffavean kings. In 1828, Futteh Ali Shah was induced by the Russians to advance on Herat, the key of Afghanistan, but two expeditions were unsuccessful. His son Muhammad Shah, who was ever a friend of Russia and an enemy to British interests, revived the project, and with a large force laid siege to Herat, on 23d November 1837. To force the Shah to renounce his ambitious projects, a demonstration was made in the Persian Gulf, by the occupation of the island of Kharak. This induced him to withdraw from Herat, after a siege of ten months, during which all his efforts had been frustrated by the energy and ability of Lieutenant Eldred Pottinger, an officer of the Bombay Artillery. Muhammad Shah died in August 1848, and was succeeded by his eldest son, Nasir-ud-Din. On the death of Yar Muhammad Khan, his successor, feeling himself insecure in power, and being threatened by the Amir of Kábul and by Kohun-Dil Khan from Kandahar, Syud Muhammad Khan made overtures to Persia, and a force was despatched by the Shah nominally to reduce the Turkomans, but in reality to occupy Herat. A force was sent in December 1855, in violation of the agreement made by the Persian Government. Muhammad Yusuf was taken prisoner, and Herat was captured on 26th October 1856. The quarrel could not be adjusted, a British force was sent from Bombay to occupy Kharak, and on the 1st November 1866, war was declared. After a brief successful campaign under Sir James Outram, a treaty of peace, concluded 3d February 1857, was signed at Paris on the 4th March 1857. In this the previous treaty was adhered to for the abolition of slavery in the Persian Gulf. In 1861 an attempt made to arrange for a telegraph line through Persia to Bandar Abbas, failed; but in 1863, the king resolved, in constructing a line from Khanakin on the Turkish frontier, through Teheran, Isfahan, and Shiraz, to meet the British line at Bushire.—*Ouseley's Tr.* i. 451; *Bombay Liter. Trans.* v. 1; *Max Müller at the Royal Institution; Treaties, Engagements, and Sunnuds; Ferrier's Journ.; Kinneir's Geog. Mem.; Ferrier's Afghans; Pottinger's Travels; Col. Chesney, Euphrates and Tigris; Skinner's Journ.; Ward's Hindoos; Milner's Seven Churches of Asia; Elphinstone's Caubul; Burton's Mecca; De Pauw, Egypt and China; Ockley's Saracens; Porter's Travels; Lieut.-Col. Stuart's Residence in N. Persia; Augustus H. Mounsey, F.R.G.S., Journey through Caucasus and the Interior of Persia; Sir John Malcolm, Sketches of Persia and History of Persia*, ii. p. 398; *De Gobineau, Histoires des Perses*, Paris 1869; *Quarterly Review*, July 1873.

PERSIAN, a silken fabric of various colours, and exceedingly flimsy in its texture. It is chiefly used in lining.—*Faulkner.*

PERSIAN BERRIES, or Yellow Berries, the fruit of Rhamnus infectorius, used by the modern Greeks to dye morocco leather; employed also in calico printing. The average annual imports into the United Kingdom are about 150 tons. They come from the Levant in hair bales, weighing three and a quarter cwt., or in tierces of four to five cwt., and are used by calico printers for dyeing a yellow colour.

PERSIAN FLEA POWDER, the Poudre-mismaque, is sold in Paris, in boxes, for destroying immediately, bugs, fleas, ants, lice, black beetles, caterpillars, and all insects. Chamomile rouge, the beautiful red Pyrethrum (P. carneum, formerly Chrysanthemum coccineum), in England a pretty garden ornamental flower, is a dread enemy to fleas.

PERSIAN GULF extends from lat. 24° to 30° 20′ N., and long. 48° to 58° E. It runs in between Arabia and Persia from the Straits of Ormuz, which are 35 miles wide, to the mouth of the Shatt-ul-Arab. In breadth at the narrowest part, between Cape Musseldom and Gombroon, it is 55 miles; and at the widest part, between Bushire and Khodema, three degrees and 20 miles; and is about eight degrees in length from the Straits of Ormuz. It is known in eastern manuscripts as the Sea of Fars, the Sea of Oman, the Sea of Kirman, Sea of Kateef, Sea of Basrah, deriving these and other names from the adjoining provinces, and from remarkable places on its Arabian and Persian shores. This great inland sea makes a rift in the continent of Asia 450 miles deep and from 100 to 180 broad, and comprises an area of about 70,000 square miles. The northern coast belongs exclusively to Persia. The southern coast is partly Turkish and partly independent Arab. Muscat formerly possessed—by right of 100 years of fiefdom—almost a third part of the north coast of the gulf, which Persia resumed about 1878. A considerable portion of the southern coast of the gulf, too, has recently passed under Turkish from independent Arab rule. In the early part of the 19th century, the British assumed the political control of the Arab tribes on both shores of the gulf, but the opening of the Suez Canal has admitted of Turkish war-vessels being present, Great Britain retaining free control over the sea. A few years ago Turkish rule reached scarcely farther from the Shatt-ul-Arab than Kowait, but has now added 400 miles of sea-coast. Turkey has ousted the Wahabees

out of the broad strip of Arabian coast which bears the name of El Hasa or Lahsa, and in doing so has obtained the two seaports of Kateef and Ojeyr, thereby excluding the Wahabees from the sea; and has, on the invitation of the Arab chieftains, carried her flag as far as El Bida, a town on the eastern coast of the bold promontory of El Kutr (Guttur). Where the Turkish authority ends in the neighbourhood of El Bida, used to be locally known as the Pirate Coast , and extends as far as Shinas, on the ast of the bold promontory of Cape m, which closes the Persian Gulf to the m this point, Shinas, the territory of the pendent state of Muscat or Oman begins, the Zanzibar dominion is an offshoot. Coast acquired its name from the pre- its of its Arab tribes. An expedition ay in 1809 attacked their stronghold Kheima, on the western side of Cape , and with the loyal aid of the Sultan of ceeded in destroying it. A more for- pedition was organized, under General 19, and the pirates of this coast were brought under control. The Arab entered into a general engagement to d put down piracy. This treaty is still

numerous islands, but only the following portance:—Bahrein, 80 or 90 miles in rence; Kharak, about 4½ miles; Kishm, long and 32 broad; and Ormuz, though lly interesting, is a small barren volcanic vered with salt. Dr. Jules Oppert claims s the common home to which classical and tradition trace the ancient Assyrians and s alike, with the Tilvun of the cuneiform s. Arrian called it Τύλος and Strabo ος.

the ancient traffic with India seems een by way of the Persian Gulf and ea. The Tyrians established depots on of the Persian Gulf, and the course ing through the land of the Cushdi, India came to be included under the l title of Cush (Genesis x. 6), and hence n, Chaldæan, and Arabic version fre- nder that term by India, Isaiah xi. 2, xviii. iah xiii. 23. The Mesopotamian Valley to possess a soil rich enough to supply ns with corn, if only the increase of nd the prosperity of the cultivators matter of imperial concern. The Karun river, in the south of Persia, rcely less promising field for the arley and wheat. The survey of the lertaken between 1820 and 1830 by f the Indian navy. The winds are y and westerly, taking the direction When the S.E. wind sets in, the of the sea is brought to bear directly current of the Euphrates, and hence s deposit is effected of the alluvium wn by the stream, thus barring up its s deposit, constantly on the increase, cording to Sir Henry Rawlinson, at in the lapse of 35 to 40 years. ch the ruins are to be seen , was an island in the time of Billat, and has been shown to in the time of Alexander.

At the present time it is sixty miles from the mouth of the river, and a succession of cities can be traced upon the desiccated delta below it, along the river, down to the sea. According to that writer, the gulf once extended to Baghdad, 500 miles beyond its present point.—*Ait. Treat. Eng. and Sunn.* iv. p. 199; *Travels in Oman*, i. p. 265; *Col. Chesney, Euphrates and Tigris*, i. p. 568; *Rennell's Memoir*, p. 34; *Taylor.*

PERSIMMON. Tsze, CHIN. The juicy fruits of Diospyros kaki and other species.

PERTABGARH DEOLAH, a small principality grown out of Mewar, the raja being descended from a junior branch of the Udaipur house. From the time of the establishment of the Mahratta power in Malwa, the raja of Pertabgarh paid tribute to Holkar. Under the 4th article of the treaty of Mundisore, the British Government acquired a right to the tribute levied by Holkar in Pertabgarh. Raja Dulput Singh succeeded to the state in 1844. Dulput Singh was grandson of the chief of Pertabgarh, and had succeeded to the state of Dungurpore on the deposition of Jeswunt Singh, by whom he had been adopted. On his succession to Pertabgarh he relinquished Dungurpore to Oody Singh, son of the Thakur of Sablee. He was guaranteed the right of adoption. The area of the state is 1460 square miles, the population 150,000; the revenue, after deducting the tribute paid to the British Government, and about two lakhs of rupees enjoyed by feudatories of the state, is in British money about 262,400 rupees. The chief receives a salute of fifteen guns.—*Rajasthan*, ii. p. 76; *Treaties*, etc.

PERUMAL, literally the great personage, the most common name of Vishnu in the Tamil country. Perumal Tirunal, a festival celebrated in honour of Vishnu and his consort.

PERUN. HIND. (qu. Pairahan, PERS.) An article of dress amongst Hindu women.

PERUVIAN BARK, or Cinchona bark, is obtained from the Cinchona genus of trees,—C. officinalis, C. succirubra, C. Calisaya, C. micrantha, etc.,—natives of the Andes of Peru, from whence plants have been introduced by Mr. Clement Markham into India and into Java. Quinine is obtained from the bark. The Cinchonæ, when cultivated, not only yield their normal proportion of quinine, but in some species at least this is susceptible of a large increase.

PESCADORE, Pehoe, or Ponghu Islands consist of 21 inhabited islands, exending from lat. 23° 12′ to 23° 47′ N., and long. 119° 16′ to 119° 39¼′ E. No part of the group rises higher than 300 feet above the sea, and the summits of the islands between Formosa and the mainland are flat.—*Horsb.*; *Collingwood.*

PESHAWUR, a province in the extreme N.W. of British India, which takes its name from the town of Peshawur. The district lies between lat. 33° 43′ and 34° 31′ N., and long. 71° 25′ and 72° 47′ E.; has an area of 1928 square miles, and a population in 1868 of 523,152. Its British military cantonment is in lat. 34° 0′ 15″ N., and long. 71° 34′ 45″ E. The town of Peshawur has about 60,000 inhabitants. It is bounded on the north by the ranges which link the Safed Koh to the Hindu Kush, on the west and south by continuations of the same mountains, on the south-east by the Indus, and on the north-east by the

hills of Buner and Swat. Peshawur, down to the time of Akbar, bore its old name of Parashara, under which form it is mentioned by Abul Fazl and Baber, and still earlier by Abu Rihan and the Arab geographers of the tenth century.

Six centuries before Christ, the tribes of Peshawur repulsed an army sent from Persia to collect tribute, which the princes of Hindustan formerly paid, but which had been withheld by Sinkol, then ruler of the country. In the fifth century B.C., they prevented a Rajput sovereign from establishing himself on the Indus. He was named Keda Raja, contemporary with Hystaspes, father of Darius. Subsequently they opposed Alexander in his advance against Porus. One of the rock edicts of Asoka is in the vicinity of Shergarh in Yusufzai. About B.C. 165, Pashpamitra persecuted the Buddhists, and the Greeks reappeared on the Indus, under Menander, king of Bactria. His successor, Eucratides, B.C. 145, annexed to his kingdom the Kābul and Peshawur valleys, with a part of the Panjab and Sind, B.C. 80. Khorasan, Afghanistan, Sind, and the Panjab were united under a ruler of the Saka or Sacæ Scythians. Other Saka tribes and princes followed; but Indian princes of Lahore and Dehli reconquered their Trans-Indus territories of Kābul, Peshawur, etc., which they retained till about the seventh century of the Christian era. In 978 A.D., Jaipal, raja of Lahore, advanced from Peshawur to attack Sabaktagin, governor of Khorasan, under the titular sway of the Samani princes. Jaipal was utterly defeated, and Sabaktagin took possession of Peshawur, which he garrisoned with 10,000 horse.

Peshawur proper is divided into two portions, one lying on the right bank of the Kābul river, and adjoining the Khatak and Afridi hills, which run down to a point at Attock; the other a triangular-shaped tract, of which the two sides are marked out by the Kābul river and one of its tributaries, the Bara, and the base by the Khaibar hills. This is the most highly cultivated spot in the whole valley; in the centre of it stands the city. Its climate is very hot in summer, the thermometer frequently reaching 110° or 112° in the shade. The heat is, however, occasionally mitigated by the breeze from the neighbouring mountains, and as the country, naturally fertile, is well watered by the Indus, the Kābul river, the Bara, and some other streams of less importance, and is, moreover, well cultivated, it is amazingly productive. Scented rice, grown on the banks of the Bara river, is exported, and commands a high price. The district yields iron ore, gold dust, antimony, talc, lignite, and rock-salt. Its present name was given to it by the emperor Akbar, modifying its ancient designation of Parashara. Its position has exposed it to invasions from the west, and it is now enclosed on the north and west by hill tribes of Pathan or Afghan descent, professing Muhammadanism, with democratic institutions, and partly nomade habits, and pressed for land. The Peshawur population also is mostly Muhammadan (481,447), with 27,408 Hindus, 2014 Sikhs; Gujar, 10,384; Brahmans, 2185; Kshatriya, 6398; Bania, 3444; Arora, 11,957; Mughal, 21,428; Kashmiri, 12,238. The principal clan of the Pathans is the Yusufzai (82,170), who retain all the individual freedom, patriarchal institutions, and jealousy of personal aggrandizement, which are the original characteristics of the Afghan mountaineers. As soldiers they are not inferior to any of the independent tribes. They are the most martial of all the British subjects on the frontier, and the history of many generations attests their military exploits. Participators in every war that has convulsed the Peshawur valley, and always the recusant subjects of the Sikhs, they literally turned their swords into ploughshares, and became good lieges of the British.—*Lt.-Col. A... High Asia*, ii. 548–590; *Aitcheson's ... Imp. Gaz.; Prinsep by Thomas; Reco... of India.* See Panjab.

PESH-IMAM. The Imam in Muhami... is a chief, civil or religious. A Pesh-I... leader of prayers in a mosque. Th... Muscat is a sovereign ruler. The Shi... in 12 Imams, of which the last, Iman... supposed to be still alive, or not yet co... Shafai is one of the four recognised con... of the Koran.—*Wils. Gloss.*

PESH-KABZ. PERS. A kind o... blade is straight at the back, sloping to... front; handle of the bone of a cetacean...

PESHKAR. HIND., PERS. A superi... under the Mahratta and Hyderabad gover... an officer of state.

PESH-KASH. PERS. Tribute. In... presents from inferior officers to superio... thing like the reliefs which in Europe du... middle ages vassals had to pay to their... lords. Literally it signifies first-fruits, o... that which is first extracted.—*Malcolm's ...*

PESH-KHIDMAT, a servant cons... attendance about the person of his maste... larly while he dresses and takes his mea... answers to the Khidmutgar of India.... *Khorasan*, p. 194.

PESHOLA, a lake in Rajputana. T... of the Hindu deity Sookhdeo, near the P... Oodisagor lakes, is in a deep recess, wel... with a cascade bursting from the roc... summit, under a ledge of which th... representative is enshrined. Aroun... several gop'has or caves of the anchorite... but the most conspicuous object is a ... ledge, named Dyte-ka-har, or giant's ... which those who are in search of ease j... above. This is called the Vira-j'hamp, o... leap, and is made in fulfilment of vo... temporal or future good. Although ... leapers perish, some instances of ... recorded.—*Rajasthan*, ii. p. 628.

PESHWA. PERS. A titular ter... PERS., meaning preceding, was used ... Din (A.D. 1152) as a ministerial t... adopted by the Mahratta rulers, ... Sumbaji, as a designation of their ... and was retained by the Brahmans, ... to the rule of the Mahratta dominions ... were finally conquered and set asid... Siwai Madhu Rao was Peshwa ... Vinaek Rao Bakha Sahib in 1802, ... naji Appa Sahib, 1802. Baji Rao R... Peshwa in December 1802. He ... of Ragonath Rao. On the 3... formally abdicated and went ... on the Jumna. He had no ... Nana Rao, known in the 1... Nana Sahib.

...z. PERS. The courteous act of ... to receive a guest; the equivalent of ...is Istaqbal. The Murajat is to accom... saving.

VAZ. HIND. of Dehli. A female dress

HIND. Silk thread or wool for weaving.

A, of Manilla, a cigar case made of ... of cane. The finest of these cigar ... upwards of 50 dollars.

SBURG or St. Petersburg, the metro... ...e empire of Russia. It is seated on ... near the Gulf of Finland, and built ...ome islands formed by the river, and ...n the continent. Peter the Great first ... city by the erection of a citadel with ...s in 1703, and in less than nine years ...f empire was transferred to it from ... The streets are straight, and generally ...long. The mansions of the nobility are ...f building, and the public edifices are ...ence. Among the ornaments of Peters... ...equestrian statue of Peter the Great in ... colossal size, the pedestal of which is a ... brought to the spot at a great expense.

HIND. A market, a bazar.

HIND. Benincasa cerifera; a gourd ...aking sweetmeats; also a sweetmeat ... cerifera coated with sugar.

MBARAM, a silk cloth of Benares, ...ombaconum, and other places. The ...ths are highly prized for their superior ... They measure 12 by 2½ cubits a piece; ...make one suit of an upper and under ... Hindus wear these cloths during their ...and holiday time. They are sold from ...50, or even more.

N. HEB. An adder, Psalm lviii. 4, xci. ...onomy xxxii. 24; Job xx. 14, 16. The ...ke. See Serpent.

RI, or Pracha amavasya, takes its latter ... Prachi, eastern, and Amavasya, new ...is a Hindu festival held on the new ...e month Sravan, in honour of the 64 ...male attendants of the goddess Durga. ...ly held by women who have lost infant ...t many Hindu men also engage in the ... purchase sweetmeats and toys. This ...out the last days of August.

NS are the usual form adopted by ... addressing authorities of eastern ...he Arabic, Persian, and Urdu terms ...iz, and arzi or arzian. In an extreme ...itioners of Constantinople and High ...h the authority bearing fire on their ...Afghans explain this to imply that the ...e petitioner is as great as if he were ...ged in fire.—*Elphinstone's Caubul.*

GARH, lat. 29° 36′ N., long. 80° 11′ E., ...about 8 miles west of the Kali. Its ...eet above the sea.—*Webb.*

, the ancient capital of Arabia. Its ...emains have been several times.

WILLIAM, a resident of Madras, ...own expense erected there the first ... in the east. He was afterwards a ...he Madras Government.

ED WOOD is found in many parts of ...ia. Sir W. Johnston gave a notice of ...n in vol. i. London As. Trans. That at Trevecaree, near Pondicherry, was noticed by Captain Warren in As. Res. xi. p. 1, and Captain Newbold, in Lond. As. Trans., 1846. Captain M'Murdo gave an account of that in Cutch in Bom. Lit. Trans. ii. p. 110. Of that on the Godavery, Dr. Voisey's account is in Bl. As. Trans., and Dr. Malcolmson's in Lond. Geo. Trans., 1839, p. 566. Captain Vicary's account of that in Sind was given in London Geo. Trans., 1845, iii. Dr. Buist gave an account of a petrified forest near Cairo, in Bombay Times, August 1846. Captain Newbold's account of same is in Lond. As. Trans., 1844, and Prof. Orlebar's account of it in Bombay As. Trans., 1846. A notice of that in the peninsula of Sinai, 4500 feet above the sea, is in Dr. Wilson's Lands of the Bible, i. Petrified wood occurs also on the island of Perim, Gulf of Cambay; and Dr. Nicholson's account of it is in Bom. As. Trans. i. The Perim and Pondicherry wood is full of worm-holes, and seems to have been in a state of extreme decay before petrification. Petrified wood abounds in the districts of Irawadi.—*Dr. Buist's Catal.; Yule's Embassy.*

PETROLEUM, Earth-oil.

Neft, ...	ARAB.	Kesoso no abra, . .	JAP.
Yai-nan, ...	BURM.	Minak tanah, . .	MAHR.
Thi-yu, ...	CHIN.	Japoo, . . .	SUMATRAN.
Petrole, ...	FR.	Man tylam, . . .	TAM.
Stein-ol, ...	GER.	Matti tylum, . . .	TEL.
Matti ka tel, . .	HIND.	Bhoomi tylam, . .	,,

Petroleum, as its name indicates, is an oil-like exudation from rocks, which was employed in medicine in the earliest times, though little used now. It is very abundantly diffused, and in various other forms. It is nearly allied with bitumen on the one hand, and naphtha on the other, between which it occupies an intermediate place, the principal distinction being a difference of consistency and colour. Bitumen in its several varieties, known as mineral pitch, asphalte, pisasphaltum, etc., is solid or nearly so, and black or dark coloured; naphtha is perfectly liquid, and light in colour. Petroleum, earth-oil, or rock oil, is viscid or oily, and greenish or reddish-brown in colour.

At Kafir Kot, it exudes from brown bituminous sandstone, and is usually found floating on the surface of springs; Ratta Hotar hills; at Jabba, a hamlet of Kussan, west of Chakrata, and about 9 miles east of Kalabagh; at Dhadur, 3 miles west of Kabbakhi, in the Salt Range; at Narsinghpur, in the Salt Range; at Jabba, near Nurpur; in the Algad ravine at Kafir Kot on the Indus, and in smaller quantities at some other places. It is a product of the hills on the west side of the Indus, called Tukle Riesar, near Banu and Tank, procurable in the bazar of Dehra Ismail Khan. It is of a reddish colour. In Barbadoes and Trinidad, petroleum is found floating on springs of water; in Britain, as at Colebrooke Dale, etc.; in many parts of Europe; at Baku, on the shores of the Caspian. Springs of it occur near Hit, on the Euphrates, and were noticed by Dr. Winchester in Bom. Geo. Trans. iii. p. 15.

Petroleum has been found at a place called Makoom, a few miles beyond Jeypore on the Debing. Petroleum is very plentiful in Upper Burma. At Yeynan-gyoung there are about 150 wells being worked. The daily out-turn is estimated at 15,000 viss. The total yield of these wells is 6,000,000 viss, or 9375 tons per annum.

The total quantity of earth-oil yielded by the wells of Upper Burma is 6,600,000 viss, or 10,312¼ tons per annum. There are many abandoned wells, and wells that produce very small quantities of oil. At Pagan there are about 50 wells; they yield daily 1500 viss of oil, which the earth-oil contractors are allowed to purchase. The oil from these wells is obtained in a more liquid state, and more resembles naphtha. It is better suited for lighting purposes than the Yeynan-gyoung oil.

The town of Yeynan-gyoung is the centre of a small district in which there are more than five hundred petroleum wells in full activity. The district consists of a sandy loam, resting upon alternate strata of sandstone and indurated clay; under these is a layer of pale blue argillaceous schist, of considerable thickness, impregnated with petroleum, and resting upon coal. The petroleum flows into the well when it is sunk a few feet into the schist, and when it begins to fail the well is deepened. It is remarkable that no water ever penetrates into these wells.

In Cheduba there are 22 wells; in Ramree, 13 wells, each producing two maunds in the season, the aggregate being 70 maunds annually. The produce might be increased some 10 to 20 maunds by digging more wells. The petroleum is thick and dark coloured. It is used for burning, also to pay boats' bottoms, and as a wood varnish. Two wells were said to yield a clear bright fluid.

It occurs at Akyab, Ley Doung, in the Padoung township of the Prome district; at Thayat Myo, and at Khyouk h'pyoo, in Upper Burma; at Pagan and Yeynan-gyoung; is very abundant at Yeynan-gyoung, or Earth-oil creek; very abundant in Western China, and also in Sumatra, Sulu Islands, and Japan.

In the island of Cheduba, the method of collecting it is simple. The earth is turned up to a depth of two feet, and a bank of soil, raised round a square of about 20 yards, is distributed so as to form it during the rains into a shallow pond of about the above depth. The surface of this pond is in a constant state of ebullition from the escape of gas, with which comes up the petroleum. It collects on the surface in three different forms. A green fluid oil first spreads itself over the spot where the gas is bubbling up. As it extends, its edges exhibit a brown curdled substance resembling half-congealed dripping; and amongst this, as it becomes thicker, is seen gathering in spots a dark-brown substance of the colour and consistency of treacle. This latter is used to preserve wood, to saturate paper for umbrellas, and is sometimes burned; but the fluid of a green colour is that mostly used to supply lamps. The curdled substance is used with the dark in the coarser purposes to which it is applied. This is the least valuable, and sells at five pots for a rupee; the other two at three pots for 2 rupees. A bamboo is used to skim the surface of the ponds, and bring the substance to the bank; it is scooped up with a cocoanut shell, and put into the pot. It floats so lightly on the water that this process is quickly and effectually performed. The break of the day is the time chosen for the operation, as, from the cooler temperature, it is then of harder consistence on the water, and more easily and cleanly skimmed. In the heat of the day it becomes so fluid as to make it difficult to collect without a large proportion of the wat months of March and April the pon dries up, and the oil can then be collected from out the soil. The pond is and the whole soil in it is as much dis possible. On this operation depends th to be yielded during the next season deeper it is dug, the larger will be th A sort of superstitious fear is attache ponds, and on no account would a nat foot in its water, though he will not dig the soil when dry, nor to handle it to which no sort of deleterious proper buted. The state of ebullition, withou heat, may occasion this feeling among t ponds are surrounded by a rough hed sticks, to preserve them from the i buffalo or deer. Insects were seen in heat is perceptible at the surface, the th where the greatest ebullition was goi showing but 2° more than the atmo 74°. No doubt this mineral product ease and little expense, be increased large amount; and the oil has yet pe better known and better appreciated when its value will in all probabilit increased. Britain imports 59½ millio

The production of crude oil in t States has very largely increased, the d yield being estimated at 45,000 ba local consumption of refined oil in States was over 3,000,000 barrels per 1879, China, Japan, Java, etc., too barrels, against 185,000 barrels in accumulated stock of crude oil in States at one period (June to Augus the enormous total of 5,000,000 ba total shipment from the United St parts of the world was 321,829,050 gall 329,178,800 gallons in 1877, and gallons in 1876.

It serves for lamps, and, mixed answers the purposes of fuel. It is a varnish. A composition of petroleu is an excellent material for covering and for paying the bottoms of ships a it protects the timber from the attack and insects. When rectified by di affords naphtha. Candles are made a substance obtained by Mr. Warren process from Burma petroleum, and a by distillation of coal and other mi puted relationship to coal. Paraffin by the distillation of petroleum, of lubricating oil of much value for ma kinds, as it does not injuriously af other metals. At Baku, on the sl Caspian Sea, a petroleum locality, mineral is rolled up into balls, with ing a fuel in a convenient form. place, and at many others, petroleu coating the flat roofs of houses. I Indus, Northern Derajat, etc., it is application for sores on the backs Momyai is a black substance, prin which, however, burns feebly, and so to the flame of a lamp, giving ou empyreumatic odour. It is the osteoc medicine, and is, when genuine, price, and its use solely medicinal. T purchased often consist of solidified

…ener of lignite. Petroleum has been …n many places and in great abund… …g in London in 1883 at 6d. the … has led to a great diminution in the … whalers.—*Captain Cox in As. Res.* vi. … *Winchester in Bom. Geog. Tr.* iii. …*tain Halsted in Beng. As. Trans.*, 1841; …*nay; Jury's Reports Ex.; Honigberger, …oyle's Mat. Med.; Smith's Mat. Med.;* … 20*; Mason's Tenasserim; Yule's Em…*

…)MYZONTIDÆ, a family of fishes of the …yclostomata, as under:—

SUB-CLASS V. Cyclostomata.

Fam. I. Petromyzontidæ.

…nordax, *Rich.*, Tasmania, Valparaiso.
…stralis, *Gray*, S. Australia.
Gray, Chili, Swan River, New Zealand.

Fam. II. Myxinidæ.

…a cirrhatum, *Forst.*, S. Africa, Japan, New …d.

…)SELINUM SATIVUM. *Hoffm.*

Apium petroselinum, *Roxb.*

…rsilii,	BENG.	Πετροσέλινον, . . .	GR.
…arsley, .	ENG.	Pitar saleri, . . .	HIND.

…y, one of a genus of plants belonging to …ral order Umbelliferæ.—*Hogg*, p. 382.

…AH, properly Pettai, among the Tamil … suburb, a town contiguous to a fortress, …nct from it, and usually separately forti… …he term is also applied to a village near a … which a fair or market is held. In the …nse it is doubtless the same as the Guje… …di, and Mahrati, Peth, Pent, or Penth, a …or bazar, or part of a town where there …ps, or a trading or manufacturing town. …are few large towns of Southern India … a pett…, but several places of consider… …e, as Ranipet, Lal-pet, Mir-sahib petta, …s termination, which betokens their rise … been a clustering of traders under the …on of a fort.

…UN-TZE, the Chinese name for a white …used with kaolin in the manufacture of por… …aolin is said to be derived from the decom… … the felspar of granitic rocks. Pe-tun-tze … mineral which has not suffered decom… …nd on account of its fusibility it is …n glazing the porcelain.—*Eng. Cyc.*

… A carbonate of soda, found all … and Tibet, south of the Yaroo; it … whitish powder on the surface of …r in masses under ground. It is not … e soap or otherwise in the arts; a … v is always put int· the water with …sidered to improve the flavour, and …gh brown colour to the decoction. It … used in medicine.

…)ANUM CACHRYDIFOLIUM. *Led.* … fodder herb of Persia. P. graveolens, … the Anethum grav., *Linn.*, common dill. … *Bentham* (Pastinaca sativa, *Linn.*), is the … sekakul, *Bentham*, a biennial of Egypt … its root is edible.—*Von Mueller.*

…, the Tibet goat, small, hairy, of all …as an under coat of fine wool, similar …l-wool, but there is no shawl-wool … Eastern Tibet to India at present. … good.

HIND. Two small flat pieces of … porcelain, used by fine wire-drawers to grind the point of a wire between, so as to be able to insert the point in the plate.

PEWAND. HIND. A graft. Pewandi, any graft tree.

PEWTER.

Risas, ...	ARAB.	Stagno, ...	IT.
Sih, ...	CHIN.	Olowo, ...	RUS.
Etain, ...	FR.	Estano, Peltre, . . .	SP.
Zinn, Zinngeisserzin,	GER.		

A compound metal, made of four parts of tin and one of lead; a finer kind consists of tin mixed only with a little antimony and copper. It is used in making plates, dishes, spoons, and such other domestic articles.—*M'Culloch*, p. 900.

PHÆNICOPHAINÆ, a sub-family of birds of the family Cuculidæ. Phænicophaus callirhyncus, of Celebes, is one of the finest known cuckoos. Its bill is of a brilliant yellow-red and black.

PHÆTON, a genus of birds of the family Phætonidæ. P. candidus and P. rubricauda occur in India.

Phæton æthereus, *Blyth*, or red-tailed tropic bird, is by seamen called the 'boatswain,' from the long tail-feather, which they call a marlin-spike. They are seen 700 and 800 miles from land. Phæton candidus, *Brisson*, is the white tropic bird of tropical seas, Bay of Bengal to Mauritius.—*Collingwood.* See Birds.

PHAG or Phagu. HIND., URIYA. The red powder which Hindus throw over each other at the Holi festival.

PHAGWA. HIND. The hot wind of N.W. India. It blows in March.

PHAILWAN. HIND. A wrestler. In ancient writings, applied to a hero of romance, such as an Amadis de Gaul, etc., who performs feats of wonderful or superhuman prowess. But of late it has been used to wrestlers, prize-fighters, and bullies, as well as persons of great strength and courage.—*Fraser's Khorasan*, p. 376.

PHAK. TIB. Pig, two varieties,—the Lho phak, or southern pig, which is most abundant to the south of Lhassa, and is described as similar to the Indian village pig; and the small China pig, now abundant in Lhassa and other towns. No wild hogs anywhere in Tibet. The Chinese butchers in Lhassa blow their pork, and take in the country folks greatly by its fine appearance.

PHAKI or Phakial, a Shan race settled on the Dihing river. See Shan.

PHAL or Phala. HIND. A ploughshare, a blade, an arrow-head. A frame used in the threshing-floor.

PHALACROCORACIDÆ of Bonaparte, the Graculidæ of other naturalists; a family of the fishing birds.

PHALÆNA PATROCLUS. *Linn.*, *Cramer.* A well-known splendid moth, common in collections from Burma, China, Assam, and Sylhet.

PHALAHA. HIND. Lawful food for Hindus on their bart'h or fast days, such as buckwheat and some pulses.

PHALANGISTA MACULATA is as big as a cat, has a long snout; large, round, protuberant eyes; yellow and brown spotted skin; long tail, covered with hair on the upper part, but bare on the lower part and at the end. With its tail it fastens itself in climbing, and rolls it up when running. The female has a yellow skin, with long soft hairs, but without spots, and has a pocket under the belly, formed by a fold in the

hide, into which the hand can be inserted. She carries her young in it, hanging on the nipples, until they have grown strong enough to leave this shelter. P. vulpina is the vulpine phalanger or opossum of Australia, and Belideus breviceps is the short-headed phalanger. Phalangers of Australia climb expertly, living on leaves, buds, and fruit, though in some cases more or less carnivorous, remaining concealed during the day in the hollows of the trees, and at night seek for food among the branches.—*Ind. Arch.* June 1852.

PHALANGUM BISIGNATUM, a long black-legged spider of Ceylon, with a tiny white body; in the high country it congregates in groups of from 50 to 100 in hollow trees. In the low lands they are not gregarious.—*Tennant's Ceylon.*

PHALARIS CANARIENSIS. *Linn.* Canary grass, but growing now in many countries, for its seeds are the best kind of food for small birds; its flour is made into cakes.—*Von Mueller.*

PHA-LAUNG. BURM. Tadpole; in Arakan, a term of abuse of the British.

PHALGUNA or Phalgun, the 11th month of the Hindu year, is one of the Hindu months of spring or Vasant. At Udaipur the merry month of Phalgun was ushered in with the ahairea or spring-hunt. The preceding day, the rana used to distribute to all his chiefs and servants either a dress of green or some portion thereof, in which all appear habited on the morrow, whenever the astrologer has fixed the hour for sallying forth to slay the boar, to Gouri, the Ceres of the Rajputs; the ahairea is therefore called the Muhurut-ka-shikar, or the chase fixed astrologically. As their success on this occasion is ominous of future good, no means were neglected to secure it, either by scouts previously discovering the lair, or the efforts of the hunters to slay the boar when roused. As Phalgun advances, the bacchanalian mirth increases; groups are continually patrolling the streets, throwing a crimson powder at each other, or ejecting a solution of it from syringes, so that the garments and visages of all are one mass of crimson. On the 8th, emphatically called the Phag, the rana joined the queens and their attendants in the palace, when all restraint is removed, and mirth is unlimited. But the most brilliant sight is the playing of the Holi on horseback, on the terrace in front of the palace. Each chief who chooses to join has a plentiful supply of missiles, formed of thin plates of mica or talc, enclosing the crimson powder called abira, which with dexterous horsemanship they dart at each other, pursuing, caprioling, and jesting. This part of it much resembles the Saturnalia of Rome of this day, when similar missiles are scattered at the Carnival. The last day, or Poonim, ends the Holi, when the nakarra drums from the Tripolia summon all the chiefs with their retinues to attend their prince, and accompany him in procession to the Chougan, their Champ de Mars. In the centre of this is a long sala or hall, the ascent to which is by a flight of steps; the roof is supported by square columns without any walls, so that the court is entirely open. The festival of Holi, more classically called Hulica, otherwise Phalgutsava, meaning the festival of Phalguna, as occurring in the month of that name, commences about the full moon, at the approach of the vernal equinox. It is one of the greatest festivals among the Hindus, and almost all sects seem to partake in its festivities; and all ranks, from k ward, appear animated by the seaso peculiarly dedicated to Krishna. Ima deity are then carried about in palk elephants, horses, etc., attended by singing and various antics. People of receive numerous visitors, who are with dancing girls, music, singing, betel, water. An annual festival to celebrate of this god is held in the month Bhadra. day his worshippers fast, but on the c of the worship indulge themselves i dancing, singing, and various other In the month Sravana another festiva his honour, which lasts from three to during which the same festivities pr which is added the ceremony of swi image of the god in a chair suspended ceiling. In the month Kartika, a thir takes place, to celebrate his revels an Gopia; and in the month Phalguna is the celebrated festival of the Dola, the ce of which last fifteen days, and are acc with great splendour and festivity. Dur holidays, the Hindus of Northern India s night in singing and dancing, and w about the streets, besmeared with the dol powder; in the daytime, carrying a qua the same powder about with them, whi much noise and rejoicing, they throw different passengers they may meet i rambles. Music, dancing, fireworks, and many obscenities take place on this The Rev. Mr. Ward says:—'At these the grey-headed idolator and the mad y seen dancing together, the old man liftin withered arms in the dance, and giving a horror to the scene, which idolatry itself, to the vivacity of youth, could scarely be inspire.' Krishna is also worshipped un infant form as Gopala and Bala-gopala, an as Gopi-natha, the god of the milkmaids. picture of Krishna, observes Sir William it is impossible not to discover at the first the features of Apollo, surnamed Nomi pastoral in Greece, and Opifir in Italy the herds of Admetus, and slew th Python.—*Tod's Rajasthan*, i. p. 567.

PHALLUS. GR. The priapus of th and the lingam of the Saiva Hindu tioned in Ezekiel xvi. 17 and Amos v Tod says that no satisfactory etymol been assigned for the Hindu name of emblem. He supposes that it may same primeval language that formed t Phalisa, he adds, means the 'fruc Phala, fruit, and Isa, the god. Thus Osiris can have a definite interpre wanting to the lingam of Siva. B presided over the streams which fe countries in which they received divi Osiris, over the Nile, from the mount Moon in Ethiopia; Siva, over the I called the Nil) and the Ganges, from C 'the mountains of the moon,' on a peal glaciers he has his throne. The G either borrowed it from the Egyptian from the same source, typified the fr pine-apple, or, as others say, the fir-c seed, the form of which resembles t or fruit of Sita, whose rape by Ra

Rama from the Ganges over many countries ere he recovered her. In like manner, Gouri, the Rajput Ceres, is typified under the cocoanut or Sriphala, the chief of fruit, or fruit sacred to Sri or Isa (Isis), whose other elegant emblem of abundance, the camacumpa, is drawn with branches of the palmyra or cocoa-tree, gracefully pendent from the vase (Cumbha). The Sriphala is accordingly presented to all the votaries of Siva and Isa on the conclusion of the spring festival of Phalguna,—the Phagesia of the Greeks, the Phamenoth of the Egyptians, and the Saturnalia of antiquity,—a rejoicing at the renovation of the powers of nature, the empire of heat over cold, of light over darkness.—*Rajasthan*, i. 539; *Tr. of Hind.* i. 265. See Balanus; Lingam.

PHALSA. HIND. Grewia Asiatica. Phalsi, a sherbet prepared from its fruit.

PHANGA or Phunge. BENG. A species of Gryllus, a voracious feeder on young poppy plants.

PHANGAN, a pass which leads to Man-chi in China, occupies a little more than a month on its journey, and leads over mountains 6000 to 8000 feet high. The Patkoi pass, from Bamo and China, was the route followed by the Burmese in their invasions of Assam, and is the means of communication between the Singpho tribes on the north and south of the Patkoi mountains. The passes through Assam are along the Dihing route into Tibet, the northern banks of the Lohit, and through the Mishmi hills into Tibet, called the Mishmi route.

PHANSI. HIND. Hanging. Phansigar, a robber, a strangler, an executioner.

PHAO. HIND. of Lahoul. A kind of spirit which is put into the mixture called lugri, when the fermented materials are placed in the still. Phap, a ferment for beer, etc.—*Powell.*

PHAPHOR. HIND. A kind of morel in the Jhang district. Urginea Indica, one of the Liliaceæ.

PHAPRI. HIND. Thin biscuits. Phapri or Phapra means any thin shell-like substance.

PHARA. MAHR. A measure of capacity for grain or salt. That of salt is equal to 10¼ adhali.

PHARAOH, a title of rulers in Egypt in the time of Moses, rendered famous among all nations who follow the Hebrew, the Christian, or Muhammadan faiths. One of the Pharaohs is said to have followed the Israelites, and been drowned in the Red Sea. At Suez, after a north-westerly breeze has been blowing some time, the water recedes; and should it be followed by a south-east wind, it rises very suddenly, sometimes as much as six feet, and renders the ferry, situated about a mile and a half to the northward of the town, impassable. At a sitting of the French Academy, M. Lesseps stated, upon the authority of the reports made by his engineers, that 'at the time the Israelites left Egypt under Moses' leadership, the ebb and flow of the tides of the Red Sea reached up to the foot of the Saragaim, near Lake Timsah.' If this be correct, it follows that the spot where the Israelites crossed the Red Sea was situated not to the south, but to the north of the present extremity of its northern arm. The term Pharaoh is derived from Per-aa, the great house or court, analogous to the Turkish title of Bab-ul-Maqaddas, or Sublime Porte.—*Wellsted's Tr.* ii. p. 42.

PHARBITIS NIL. *Choisy.*

Convolvulus nil, *Linn.*	Ipomæa cœrulea, *Koen.*, *Roxb.*
Ipomæa nil, *Roth.*	
Hub-ul-nil, . . ARAB.	Kala-dana, . . . HIND.
Phaproo sag, . . BEAS.	Mirchai, ... ,,
Nil-kalmi, . . . BENG.	Bildi, ... JHELUM.
Kirpawa, ... CHEN.	Ker, Kirpawa, . ,,
Kien-niu-tsze, . . CHIN.	Aishk-pecha, . . . PERS.
Inflaton, ... GR.	

This plant, one of the Convolvulaceæ, grows in all tropical countries; and throughout India its seeds are used as a purgative, but are irregular in their operation. They are roasted slightly and powdered, and the dose is 30 to 40 grains. A cathartic oil is obtained from the seeds. The variety P. nil; β cœrulescens, *Roxb.* Flowers large; in the morning of a pale blue, gradually growing darker.—*Voigt; Birdwood; Irvine; Honigberger; Dr. Stewart.*

PHARBITIS PURPUREA.

P. hispida, *Choisy.*	C. discolor, *Roxb.*
Convolvulus purpureus, *Linn.*	Ipomæa purpurea, *Linn.*
C. mutabilis, *Sales.*	I. hispida, *Zucc.*
C. glandulifer, *Spr.*	I. Zuccagni, *Rom.*
	I. glandulifera, *Ruiz.*

Var. a. purpurea, C. purpureus, light purple.
,, *b.* violacea, violet flowers.
,, *c.* elata, C. purpureus, *var.* elatior.
,, *d.* varia, C. purpureus, *var.* varius.
,, *e.* leucantha, white flowers.

A plant of America, cultivated in gardens.

PHARFURA, a fine enamelling on the back of jewelled ornaments, done at Jeypore, etc.

PHARID-BUTI. HIND. A mucilaginous plant found at Ajmir; used in sherbets.—*Gen. Med. Top.* p. 149.

PHARISEE, from Pharash, set apart. Hebrew reformers after the seventy years' captivity.

PHARNACEUM MOLLUGO. Ghimasag, HIND. Ladies' bedstraw; wild in gardens during rains; sometimes used as a pot-herb; said to have medicinal properties.—*Gen. Med. Top.*

PHARNAVIS, a public officer under the Mahratta government; the keeper of public registers, through whom all orders or grants were issued. Corruptly, Furnavis.

PHASEE. URIYA. A tree of Ganjam and Gumsur, of extreme height 60 feet, circumference 6 feet, and height from the ground to the intersection of the first branch, 30 feet. A light, hard wood, used for sugar-presses, rice-pounders, and bandy wheels, and occasionally for making boats of. It is tolerably plentiful.—*Captain Macdonald.*

PHASEOLUS, a genus of plants of the natural order Fabaceæ, the bean tribe. The East Indian species are as under:—

P. aconitifolius, *Jacq.*, all India.
P. aureus, *Roxb.*, cultivated.
P. angustifolius, *Roxb.*, China.
P. calcaratus, *Roxb.*, Mysore.
P. caracalla, *L.*, W. Indies, introduced.
P. coccineus, *Kniphof.*
P. dolichoides, *Roxb.*, Chittagong.
P. fuscus, *Wall.*, Prome.
P. glaber, *Roxb.*, Mauritius.
P. lunatus, *L.*, all India.
P. minimus, *Roxb.*, China.
P. mungo, *L.*, cultivated.
P. multiflorus, *L.*, cultivated.
P. nanus, *L.*, cultivated.
P. radiatus, *Linn.*, Peninsula of India.
P. rostratus, *Wall.*, cultivated.
P. Roxburghii, *W. and A.*, all India.
P. semierectus, *L.*, W. Indies, introduced.
P. sublobatus, *Roxb.*, Bengal.

P. trilobus, *Ait.*, all India.
P. torosus, *Roxb.*, Nepal.
P. vulgaris, *L.*, all India.

Phaseolus aconitifolius, *Jacq.*

Dolichos dissectus, *Lam.*

Mat, Mash, Moth, HIND.	Mohae, ... SIND.
Adas, ... PERS.	Tulka-pyr, . . . TAM.
Vasunta, . . . SANSK.	Kuncuma-pesalu, . TEL.

Grown as fodder throughout the Peninsula and in Upper Provinces of India; in 100 parts—

Moisture, . . . 11·22	Fatty or oily matter, 0·64
Nitrogenous matter, 23·80	Mineral constituents, 3·56
Starchy matter, . 60·78	

This dwarf plant has a small, pleasant-tasted pulse, much cultivated in the higher provinces of India. When split, it forms one of the 'dal,' and, ground into flour, is made into bread by natives, and sometimes used mixed with wheat-flour. Bullocks, sheep, goats, and many of the native cavalry horses are fed on it. Two varieties are cultivated, white and black. Price, 22 seers per rupee. Its roots, as well as those of P. radiatus, are said by Royle to be narcotic.—*Ainslie.*

Phaseolus adenanthus, *G. Meyer.*

P. truxillensis, *Humboldt.* | P. rostratus, *Wallich.*

Cultivated for its seeds. A variety with edible roots occurs.—*Von Mueller.*

Phaseolus angulatus, Luh-tau, CHIN., a plant of China.

Phaseolus aureus, the Sona Mung of Bengal, is cultivated in Bengal. Sown about the end of October or beginning of November, and reaped in February or the beginning of March.

Phaseolus coccineus, *Kniphof;* P. multiflorus, *Willdenow.* The scarlet runner; a twining, showy plant, perennial, as useful as the ordinary French bean. The root contains a narcotic poison.—*Von Mueller.*

Phaseolus lunatus, *Linn.*

P. maximus, *Sloane.* | Bun-burbutie, . . BENG.

This is the country French bean, country haricot bean, Lima bean, and Duffin bean of India. Sown in rows the same as other beans, but with a much greater space between; they require very strong sticks for support, and are ready in about six months. No very particular care is necessary. This is a most valuable bean, much prized by the European inhabitants of India, by some of whom it is preferred to the Windsor bean. It was originally brought to India from Mauritius, and is extremely prolific.

Phaseolus mungo, *Linn.*, green gram.

Var. α. chlorospermum. | P. hirtus, *Retz.*

Hali moong, . . BENG.	Danie masha, . . SANSK.
Hessaru, . . . CAN.	Ulandu, . . . TAM.
Hu-tau, ... CHIN.	Wudalu, ... TEL.
Urad, ... HIND.	Pacha pesalu, . . . ,,
Mung, ... MAHR.	

This very pleasant-tasted pulse is much prized, dressed in various ways, boiled, or ground to flour. It is of great value whenever the periodical rains fail and rice cannot be grown, and famine is the consequence; in 100 parts—

Moisture, ... 11·5	Fatty or oily matter, 1·29
Nitrogenous matter, 24·12	Mineral constituents (ash), ... 3·6
Starchy matter, . 29·87	

It is commonly cultivated in the Panjab plains, and to 3500 feet in the hills, and its pulse is considered nutritious and digestible. It will keep good for about three years if carefully preserved by packing it in parcels. Of the Indian pulses, it fetches the highest price, and its small seed is in great request for delicate dishes and cakes. It is cultivated up to 6000 feet; the harvest is thirty-fold. Colonel Sykes counted 62 pods on one plant, with from 7 to 16 seeds on each.

Phaseolus max, *Roxb.*, black gram.

Var. β. melanospermus, black seeds.

Mash, ... ARAB.	Benu mash, . . PERS.
Kalo moog, . . BENG.	Masha, ... SANSK.
Krishna moog, . ,,	Bu-mæ, ... SINGH.
Chiouda, ... CAN.	Karpa-ulandu, . TAM.
Kali urad, . . . HIND.	Nalla wudalu, . . TEL.
Kali moong, . . ,,	Nalla pesalu, . . . ,,
Wuddu, . . MALEAL.	Karpa, Minomolu, . ,,

This pulse is grown in the Sutlej valley between Rampur and Sungnam at an elevation of 6000 feet. The seeds are both black and green. It differs but little from the common ulundu, P. mungo, except that it is of a darker colour and somewhat larger. The Moong of the natives and black gram of the English is like P. mungo, but distinguished by its black seeds, and is, like it, found in a cultivated state; it takes about the same time to ripen, and yields nearly the same produce. It is a common pulse in Burma.

Phaseolus radiatus, *Roxb.*, is R. Roxburghii, *W. and A.*, the Mash-kulay of all India. It also has a green and a black seeded variety. It is the most esteemed of all the leguminous plants.

Phaseolus rostratus, *Wall., W. and A.*

Ph. alatus, *Roxb., Rh.* | Ph. amarus, *Roxb.*

Bun burbuti, . . BENG.	Karalsana, ... TEL.
Hullunda, . . . HIND.	Karu alachanda, . . ,,
Katon paira, . MALEAL.	

This species is grown in the Circars and in Malabar, where the tuberous roots are eaten; other parts of the plant are used in medicine.

Phaseolus trilobus, *Ait., Roxb.*

Glycine triloba, *Linn.* Dolichos trilobatus, *D.C.*	Dolichos stipulaceus, *Lam.*
Mugani, ... BENG.	Kulaee, Trianguli, HIND.
Three-lobed bean, ENG.	Pilli pesara, . . . TEL.

This species of Phaseolus, sown like any other beans, grows spontaneously everywhere in the Tenasserim provinces. Roxburgh says he never found it but in its wild state; Voigt says the leaves are alleged to be tonic and sedative, and are used in cataplasms to weak eyes. Cultivated in the Peninsula of India and in Bengal, and its seeds are eaten by the poor. In China, its root is eaten, though slightly noxious if not thoroughly cooked, and a kind of arrow-root is prepared from the root.—*Mason; O'S.; Smith.*

Phaseolus vulgaris, *Linn.*

Lobiya, Bakla, . HIND. | Dambala, . . . SINGH.

French bean, kidney bean, haricot bean, native of Kābul and Kashmir, said to be a native of India; but Dr. Royle states that seeds were brought to him from Kashmir, and he was therefore inclined to consider that it was introduced into Europe from the most northern parts, such as Kābul and Kashmir, and that this accounts for their being able to cultivate it at a lower temperature than other species of the genus. The meal is twice as nutritious as that of wheat. P. nanus, *Linn.*, and P. tumidus, *Savi*, sugar, sword, or egg bean, are varieties of P. vulgaris.—*Von Mueller; Eng. Cyc.; Voigt; Ainslie; Roxb.; Royle; Cleghorn; Mason; Jaffrey.*

PHASIANIDÆ, the pheasant family of birds, comprises the pea-fowl, pheasants, jungle-fowl, and spur-fowl, all of them peculiar to Asia, India,

Burma, and Malayana; some authors include also the turkeys. They frequent forests, jungles, and thick coverts, perch and roost on trees:—

Sub-Fam. Pavoninæ, Pea-fowl.

Pavo cristatus, *Linn.*, common peacock.
P. Japonensis, Japan peacock.
P. muticus, *Linn.*, Burmese peacock.
Polyplectron Tibetanum, Assam to Tenasserim.
P. bicalcaratum, *Linn.*, Malacca, Sumatra.
P. Napoleonis, *Hume.*
P. chalcurus, *Temm.*
Argusanus giganteus, *Temm.*, Malay Peninsula, Archipelago.

Sub-Fam. Phasianinæ, Pheasants.

Lophophorus Impeyanus, *Latham*, the monal, Himalaya.
Crossoptilon auritum, *Pallas*, snow pheasant.
C. Tibetanum, *Hodgson*, snow pheasant.
Ceriornis satyra, *Linn.*, Sikkim horned pheasant.
C. melanocephala, *Gray*, Simla horned pheasant.
C. Temminckii, *Gray*, China.
C. Caboti, *Gould*, China.
Ithaginis cruentus, *Hardw.*, green blood pheasant, Bhutan, Sikkim.
Pucrasia macrolophia, *Less.*, Purkas pheasant.
P. castanea, *Gould*, North-west Himalaya.
Phasianus Wallichii, *Hardw.*, Cheer pheasant.
P. Colchicus.
P. torquatus, —? ring-necked pheasant of China.
P. Mongolicus, *Gould.*
P. versicolor, *Vieillot*, Japan.
P. Reevesii, *Gray*, China.
P. Scemmerringii, *Temm.*, Japan.
P. lineatus, *Lath.*, silver pheasant of Burma.
Thaumalea picta, —? China, Central Asia.
T. Amherstiæ, *Leadbeater*, North China, Manchuria.
Gennæus nycthemerus, *Gould*, silver pheasant of Himalaya.
Gallophasis albocristatus, *Vigors*, white-crested Kalij pheasant.
G. melanotus, *Blyth*, Sikkim, the Kalij pheasant.
G. Horsfieldii, *Gray*, Assam, Tiperah, Chittagong.
G. lineatus, —, Assam, Burma.

Sub-Fam. Gallinæ, Jungle-fowl, Firebacks, Black Pheasant.

Diardigallus prelatus, *Bonap.*, Siam.
Gallus ferrugineus, *Gmelin*, red jungle-fowl.
G. Sonneratii, *Temm.*, grey jungle-fowl.
G. Stanleyi, *Gray*, Ceylon.
G. furcatus, *Temm.*, Java.
G. æneus, *Temm.*, Batavia.
Galloperdix spadiceus, *Gmelin*, red spur-fowl.
G. lunulosus, *Valerie*, painted spur-fowl.
G. Zeylonensis, —? Ceylon.

The genus Phasianus is higher up the Himalaya slopes than the Gallophasis, and the Gallus is still lower. Phasianus colchicus and the Chinese P. torquatus readily intermix and blend, wherever the latter has been introduced in Europe. Phasianus colchicus, the common pheasant, was originally from Asia Minor. P. torquatus came from Shanghai about the middle of the 18th century; P. Mongolicus from Mongolia, P. Scœmmerringii from Japan, P. Reevesii from China, and P. versicolor from Japan. See Pheasant.

PHASMA, a genus of the Phasmidæ, inoffensive leaf-eating insects of very varied forms, some being broad and leaf-like, others long and cylindrical, so as to resemble sticks, whence their common name, walking stick insects. The larger wingless Phasmidæ are 8 to 12 inches long, and as thick as the finger. They are abundant in the Moluccas, hanging on the shrubs that line the forest paths, and they resemble sticks so exactly in colour and other parts, as to render their detection impossible. The wings of those provided with them are often brightly coloured. The genera Phasma and Mantis often escape observation from their resemblance to grass and brown twigs. The Phasmidæ are found in Asia, Africa, S. America, and Australia, and from their varied shapes are called spectres, phantoms, devils, horses, soldiers of Cayenne, walking leaves (Phyllum), animated sticks, etc. About 600 species of Phasmidæ have been described. Their whole colouring, form, rugosity, and the arrangement of the head, legs, and antennæ, are such as to render them absolutely identical in appearance with dead sticks and bits of withered grass and leaves, and they have the extraordinary habit of stretching out their legs unsymmetrically, so as to render the resemblance complete. Ceroxylus laceratus of Borneo is covered over with foliaceous excrescences of a clear olive-green colour, so as exactly to resemble a stick grown over by a creeping moss or gungermannia. The Dyak who brought it said it was grown over with moss although alive, and only a most minute examination convinced that it was not so.

PHEASANT birds belong to the family Phasianidæ. Gold and silver pheasants are inhabitants of China; but the golden pheasant, according to M. Temminck, inhabits not only China and Japan, but the northern parts of Greece, as also Georgia and the Caucasus, and has been met with even in the province of Orenburg. M. Degland tells us that M. Gamba, French consul at Tiflis, met with this gorgeous bird in numerous flocks on the spurs of the Caucasus which extend towards the Caspian Sea, and that now it has gone wild and multiplied in some of the forests of Germany. The golden pheasants inhabit no part of the plains of India, nor does any kind of pheasant inhabit south of the Himalaya in British India.

Dr. Adams, close to the melting snow, came on several flocks of the great snow-pheasant, known to the Kashmiri by the names Gor-ka-gu and Ku-buk-deri. It is also called Lepia and Jermonal in other districts westward. This species seems to frequent the high ranges of Afghanistan, and suitable situations all over the great Himalayan chain. There are three allied species, one of which is possibly only a local variety (Tetraogallus Tibetanus); the other two are decidedly distinct. One of the latter is said to frequent the Ladakh mountains; it has a band on the front of the neck like the chukor. He saw a flock of snow-pheasants together with quoir monal or snow-partridge (Lerva nivicola). This handsome bird is not uncommon in certain localities and at high altitudes on Kashmir, Ladakh, and northwards. The snow-partridge breeds near the limits of vegetation, and lays from six to seven eggs.

The black-headed or Hasting's pheasant (Ceriornis melanocephala, *Gray*) is found on the wooded slopes of the Pir Panjal. It is one of the gayest, and at the same time largest of its family. From the brilliancy of its plumage, it has been designated by Europeans the argus pheasant; but the true argus is a native of Sumatra and the Malayan Peninsula. The most common local name for this species, besides the above, is Jewar. In some parts of the Kashmir ranges, the male is called Sonalu, and the female Selalee. Its close ally, the Sikkim horned pheasant (C. satyra), has not been met with on the North-Western Himalaya. Oft, in the stillness of an alpine solitude, at his

tent door, by the cheerful log-fire, Adams listened to the well-known Wa, wa, aw, of this bird. The loud wailing cry of the jewar sounds mournfully along the valleys, and is more often heard at dusk and break of day than at any other time.

Foremost of all the various species of pheasants stands the Impeyan, or monal (Lophophorus impeyanus). This splendid bird, once so abundant in the Western Himalaya, is now, comparatively speaking, restricted to certain localities in the wooded slopes of the higher ranges. Whole tracts of forests, once dazzling with the gorgeous forms of these birds, are now without a single specimen. It will, however, be long before it is extirpated, for its haunts are high up among the craggy rocks, where few ordinary sportsmen venture. The average weight of an adult male monal is nearly 6 lbs.; that of the female, about 5 lbs.; the young of the year, about 3 lbs. Its favourite haunts are in the deepest solitude of the forest, or among the bamboo and dense jungle which clothe the sides and bottoms of the valleys. It is found along the line of the Himalaya, from 6000 to 8000 or 10,000 feet, but is partial to localities. It is strictly alpine in its haunts, and prefers the cooler regions of the middle ranges to the forests bordering on the plains of India. They are bought chiefly to adorn ladies' bonnets. Its favourite food consists of acorns, earth-nuts, bulbs, wild strawberry, currants, etc. They may be met with in scattered flocks, singly, or in pairs. The female monal lays four to six eggs, very similar in colouring to those of the turkey. The young bird has the dark-brown plumage of the female until the autumnal moult. About Mussoori and Simla, Monal is the name; to the eastward it is called Ratteah cowan and Monalee. The male is the Lont and the female the Ham of the Kashmirians, who adorn their mosques with the brilliant feathers of the male.

The plach pheasant, known by the local names Pukras, Coclass (Pucrasia macrolopha), is less plentiful, and does not appear to be so generally distributed as the monal.

The cheer pheasant (Phasianus Wallichii) is one of the most elegant in the Himalaya. It is likewise known by the local names of Buinchil and Herrel. The male measures about 18 inches, exclusive of the tail, which varies from 20 to 26 inches in length. The naked skin around the eye is bright red. The iris is light brown. The tail is composed of eighteen feathers, which graduate in pairs, and are broadly barred with pale yellow or dusky brown and olive blotches. The cheer frequents the lower and middle regions, and is seldom found at very high elevations. It delights in grassy situations, among stunted oak or such like, and is generally met with in flocks of from six to twenty. The moment they are disturbed they separate, and secrete themselves among the grass or in the foliage of trees, whence it is said they have been knocked down with sticks.

The white-crested kalij (Gallophasus albocristatus) is the most common and widely distributed of the Himalayan pheasants. There is a congener, with white markings on the crest and back, found on the eastern ranges, Sikkim, etc. Mr. Blyth considered it a distinct species, and named it G. melanotus. But Adams has seen many old males of the G. albocristatus with very little white on the crown and back. This kalij pheasant (Mūrghee kookera of the natives) is plentiful along the great valleys, called Doons, bordering on the plains of India, up to elevations of from 6000 to 8000 feet. It prefers, however, the more southern ranges, and is seldom met with in the remote interior. The egg is white, and about the size of the bantam's. A nest may contain from nine to twelve and even more eggs, which are hatched about the end of May. Grubs, insects, seeds, shoots and leaves of trees, constitute the favourite food of the kalij.

The red-legged partridge, better known in the east by the name of chukor (Caccabis chukor, *Gray*), has a wide distribution. It does not differ in any well-marked particular from the Greek partridge of south-east Europe, and shows how easily species can be made. Of Perdix Græca there is a variety in the island of Crete. Lieut. Wood in his journey mentions taking part in a hunting expedition, when the party bagged 500 chukor, by running them down with beaters and dogs. The chukor prefers barren mountains to the rich and luxuriant vegetation of the more southern ranges; bare stony ridges clad with low scrub are its favourite haunts. During incubation the male remains near the nest, and may be heard all day piping his loud call, Cuc-cuc, resembling that of the domestic fowl. The Kashmirians call the bird Kau-kau, from its call.

The lineated kalij of Arakan and Burma is Gallophasus lineatus; the purple kalij is G. Horsfieldii, the white-crested kalij is G. albocristatus, and the black-headed is G. melanotus. The Japanese pheasant (Phasianus versicolor) and Sœmmerring's pheasant (P. Sœmmerringii) are beautiful birds, close allies of the common pheasant (P. colchicus). They inhabit Japan, where they are the only representatives of the genus. Males of the Japanese pheasant were introduced into Europe some years ago, and hybridized freely with females of the ordinary bird, until the ultimate produce could scarcely be distinguished from the pure-bred P. versicolor.

The bar-tailed Reeve's pheasant (P. Reevesii) is remarkable for the excessive elongation of the two central tail-feathers, which in some specimens reach a length of five feet six inches. It is, besides, conspicuous for its beautifully variegated plumage. Its native country is Central China, to the north of the river Yang-tze-kiang. Amherst pheasant (Thaumalea Amherstiæ) of N. China is a strict congener of the gold pheasant (T. picta) of Central China, but is even more showy and magnificent in plumage. It has been obtained by collectors in Yunnan and Western Sze-chuen in considerable numbers.

Temminck tragopan (Ceriornis Temminckii) is found in China, Nepal, Bhutan, and Sikkim, being replaced on the slopes of the N.W. Himalayas by the black-headed tragopan (C. melanocephala, *Gray*). Temminck's tragopan is a representative of this splendid group of pheasants in Central and Western China; and Blyth's tragopan, the most recent addition to the genus, is from Upper Assam.—*Adams.*

PHEEAL. HIND. Supposed to be an old jackal, commonly known as the tiger's provider.

PHEESH. SIND. Chamærops Ritchieana, a dwarf palm growing near the Hubb river. Its leaves are gathered by the Chuta and Brahui tribes, and made into the matting and strings with

which their huts are constructed, also into shoes and sandals. A camel-load of leaves sells in the northern parts for 12 to 16 annas. It has a small acrid berry.

PHIH or Pruh, the name given by the Lepcha to the Bhutani.

PHILADELPHACEÆ. *Lindl.* The syringa tribe of plants, comprising the genus Philadelphus, the Buzru, Mudnu, Zhoang of the Sutlej, appear to be the species P. tomentosus; grows at from 8000 to 9500 feet, and is stated to be used for ropes.—*Stewart.*

PHILIPÆA CALOTROPIDIS. *Stewart.*

Bhum-phor, . . HIND. | Khurjin, Khalatri, PANJ.

This grows like a parasite on the roots of the Calotropis in Shahpur, and is said to be used as fodder for sheep, goats, and oxen, not camels. In Shahpur, Dr. Stewart says the plants grow on the roots of the Salvadora oleoides, and on all the tamarisks, and that he never found them on the Calotropis. The natives call it Gidar ka tamaku, jackal's tobacco. It is a very striking object. The bare, hard soil near a Salvadora bush cracks, and in the course of a night the place is studded with what resembles huge flowering heads of digitalis, each with a stem more than an inch thick, and without any regular leaves.—*Stewart.*

PHILIPPINE ARCHIPELAGO consists of over 500 islands, but only Luzon and Mindanao are of great size. The group lies between Borneo and Formosa, and separates the Northern Pacific Ocean from the China Sea. It covers 14½ degrees of latitude, from lat. 5° to 19° 30′ N., but with the Bashee or Batanes Islands to lat. 21° N.; about 300 leagues from north to south, and 180 leagues from east to west, and in 1876 had 6,173,632 inhabitants. The islands were discovered by Magellan in 1521, and were first claimed by the Spaniards in 1565. They are separated from the Sulu Archipelago on the south by the Strait of Basillan, while on the north the Balintang channel separates them from the Batanes and Bashee Islands. The principal islands are Luzon, and to its south Mindoro, Magindanao, Palawan, Panay, and Samar. The Archipelago received its name after Philip the Second of Spain. It is the Spanish Indies, and is spread through an area of 52,647 English square miles. The Caraballos range of mountains runs through the centre of the whole, and in Luzon the mountains are occupied by unsubdued races. There are large lakes in most of the islands; and Mindanao, 'min of the lake,' gets its name from its numerous waters. There are thermal springs at Laguna, and boiling springs north in the district of Mainit. Luzon, the largest island, has an area of 2000 square miles; Mindanao, 1500 square miles; and the next in size are Palawan, Samar, Panay, Mindoro, Leyte, Negros, and Zebu. The light-house on the north pier of Luzon is in lat. 14° 36′ N., and long. 120° 57′ 20″ E., and its population has been estimated at nearly five millions. It is the best known to Europeans. Long and narrow, 450 miles by from 10 to 140, its coast is fringed with rocks and broken by many gulfs, inlets, and capacious bays. The surface is covered through a large portion of its extent by mountains, two high ranges in the north being divided by the Cagayar river, which flows between two headlands into the sea. The focus of the aboriginal civilisation of the Philippines, as might be expected, has been the main island of the group. Luzon is a corruption of the Malay and Javanese word Lasung, meaning a rice-mortar. The Spaniards are said to have asked the name of the island, and the natives, who certainly had none, thinking they meant a rice-mortar, which was before the speakers at the time, answered accordingly.

They are often shaken by earthquakes, and volcanic explosions are so frequent as to be regarded almost as common occurrences. The provinces are frequently visited with dreadful hurricanes, called in the country Leaguios. In no other part of the world are storms so terrific as there during the change of the monsoon. They are often desolated by locusts.

Negros or Buglas Island extends from lat. 9° 4′ to 9° 50′ N. The central group of the Philippines consists of Panay, Negros, Samar, Leyte, Masbate, Bohol, and Zebu; the two first and Luzon are the chief islands in which Negrito tribes exist to the present day, and even as regards Panay the fact must be considered doubtful. Negros, however, contains a considerable Negrito population; the crest of the mountain range, which extends throughout the length of the island, a distance of 120 miles, being almost exclusively occupied by scattered tribes. There is a rainy season of six months, and a mixed one of equal duration.

The population in 1873 was estimated at over six millions, viz. paying tribute, 5,501,356, and independent pagans, 602,853. The population has rapidly increased. In the early part of the 19th century, from the collective returns recently made out by the district magistrates, the total number of tributes were 386,654, which Walton multiplied by 6½, and produced the sum of 2,515,406, at which he estimated the total population, including old men, women, and children:—Indians of both sexes, 2,395,687; Sangley Mestizos, 119,719; Sangleys, 7000; whites of all classes, 4000. The following is now given as the population in 1791, 1810, and 1873:—

	1791.	1810.	1873.	
Indians,	1,582,761	2,395,687	5,501,356	tributaries.
Mestizos,	66,917	119,719	602,853	independents.
	1,649,678	2,155,406	6,104,209	

In 1740, Manilla had only 6000 or 7000 inhabitants; in 1864 it was stated to have had 80,000; and in 1873 the population of Manilla was 230,407, as under:—

European Spaniards,	4,189	Chinese Mestizos,	46,066
European Foreigners,	250	Spanish Mestizos,	3,849
Chinese, ...	15,157	Pure natives, . .	160,896

The Aheta or Negrito of the Philippines are a Papuan race, the second name, meaning little Negro, being given to them by the Spaniards; but that of Ita or Aheta, so pronounced but written Ajeta, is their usual appellation among the planters and villagers of the plains. The woolly-haired tribes are more numerous in the Philippines than in any other group of the Indian Archipelago; they were estimated by M. Mallat, in 1842, to amount to 25,000. The islands Samar, Leyte, and Zebu have not any of them; but they were found in Negros, Mindanao, Mindoro, and Luzon. In the early accounts of them by Spaniards, they are described as being smaller, more slightly built and less dark in colour, than

the Negroes of Africa, and as having features less marked by the Negro characteristics, but as having woolly instead of lank hair; and their social condition could not then have been much better than now, since they were described as living on roots and the produce of the chase, and as sleeping in the branches of the trees, or among the ashes of the fires at which they had cooked their food. They are all well-formed and sprightly, but very low in stature, as they rarely exceed four feet and a half in height. They are ebony-black, like Negroes of Africa. Their hair is woolly like that of the Papuans. A line commencing to the east of the Philippine Islands, thence along the western coast of Gilolo through the island of Bouru, and curving round the west of Flores, then bending back by Sandalwood Island to take in Pratti, will separate the Malayan and all the Asiatic races from the Papuans and all that inhabit the Pacific, though along the line of junction intermigration and commixture have taken place.

The higher slopes, the Ysarog (Issaro) of the island of Luzon, are occupied by a small race, called erroneously Ygarrot. On the death of a near relative, the head-man of the house is said to kill any individual at random.

The Indian race are superstitious, credulous, fond of gaming, and particularly addicted to cock-fighting. This seems to have been introduced by the Spaniards, and in the year 1779 cock-fights were taxed for the first time. The Indians of the Philippines are among the best-favoured of the Asiatic islanders, but they are not reckoned so brave as the Malays. They are a quiet, inoffensive race, clean and well-shaped, and are all converted to the Romish faith. The sailors of the Philippines are so dexterous, that they are taken almost exclusively in the other islands as steersmen, and as such have a preference in many parts of the east.

Sulu was for many years the market where the Lanun and other pirates disposed of much of their plunder, and in former times itself was decidedly piratical. The Muhammadan religion has made much progress in Mindanao and the Sulu Islands, as has the Malay language, the usual channel through which it has at all times been propagated over the islands of the Indian Archipelago.

In the Philippines are many separate nations or tribes, speaking distinct languages, unintelligible to each other. Of these, the Bisayo, Bicol, Ilocano, Pangasinan, Pampango, and Tagala are the most important. The principal languages of Luzon are the Tagala, the Pampanga, the Pangasinan, and the Iloco, spoken at present by a population of 3,000,000; while the Bisaya has a wide currency among the southern islands of the group, Leyte, Zebu, Negros, and Panay, containing 2,000,000 people. The languages and their dialects in Luzon are the Aetai, Apayo, Bicol, Bisaya, Cebuano, Dadaya, Gadan, Ibilao, Idayan, Ibanag, Ifugao, Ilocano, Igorotte, Itanes, Ilongotte, Malaneg, *Pangasinan*, *Pampanga*, Suflin, *Tagala*, Tinguian, Zambal, spoken by about 4,700,000; those in italics being the most important, being spoken by about 3,000,000. The languages of Mindanao are Bisaya and Manday, spoken by about 100,000.

The languages of the distant islands are the Agutaino, Carolino, Chamorro, Calamiano, Coyuvo, and Ibanag, spoken by about 30,000.

The Bicol is spoken only in the two Camarines, Albay, Luzon, the islands of Masbate, Burias, Ticao, Catanduanes, and the smaller islands adjoining. Spanish has scarcely acquired a footing.

Mr. Crawfurd remarks that whether the principal languages of the Philippines be separate and distinct tongues, or mere dialects of a common language, is a question not easy to determine. Certainly, he says, the phonetic character of the Tagala, the Bisaya, the Pampangan, and Iloco are, sound for sound or letter for letter, the same. It does not appear, from a comparison of the phonetic character and grammatical structure of the Tagala with those of Malay and Javanese, that there is any ground for fancying them to be one and the same language, or languages sprung from a common parent, and only diversified by the effects of time and distance; and an examination of the Bisaya dictionary gives similar results. The great islands of Mindanao, Palawang, and the Sulu group of islets, forming the southern limits of the Philippine Archipelago, contain many nations and tribes, speaking many languages of which little has been published. Mr. Crawfurd, on the information given by Mr. Dalrymple, informs us that even in the little group of the Sulu Islands a great many different languages are spoken; and he gives a short specimen of 88 words of one of those most current.

The alphabet of the Tagala nation of the great island of Luzon or Luzonia consists of thirteen characters. It is the only one existing in the whole of this group, and seems at one time to have been used among the civilised tribes of the neighbouring islands, having spread even to Magindanan and Sulu. The forms of the letters are rather bold, and more complex than that of the Sumatran alphabets.

Spain has in all her conquests kept prominently before her the propagation of Christianity in the form embodied in her church. The Philippines therefore present a spectacle which contrasts strongly with the Dutch dependencies in the east. Spain appears in the Archipelago in her religious earnestness, her ecclesiastical assumption, and her gorgeous establishments. The natives of the Philippines have generally been converted and received into the Catholic Church. It is observed by Malte Brun, in his sketch of the inhabitants of the Philippines, that they are the only people in the Eastern Archipelago who have improved in civilisation from an intercourse with Europe. A commercial monopoly formed no part of the Spanish policy in that quarter of the world. No rich spices, no precious gums, no abundance of rare metals or drugs, were there to allure Spanish cupidity. The Spaniards nevertheless appear to have been guided in their plans of colonization—at least in the Indies—by a theory which nations still more great, and infinitely more free, might have adopted with advantage to themselves and to all humanity. They were not sordid monopolists; they ruled less by terror, and more by moral influence and the persuasions of their priests; and their power, not founded on the edge of the sword, was tolerable to the native race. They encouraged settlements, they allowed freedom to traffic; and though they levied unjust and irksome taxes, their system has been productive, within its narrow sphere, of more good than that of other conquerors in the Eastern Archipelago. That their

commerce in the further east never developed itself to any lustre or grandeur, is true, but it was because their monopoly was less rigid, not because their vigour was less manly, than that of the Dutch. Had Spain been more energetic, and still more liberal, her prosperity in the Eastern Archipelago might have rivalled that which she once enjoyed in the western world. The Tagala, who dwelt in the district round about Manilla, and are derived, according to their traditions, from the Malays, have submitted thoroughly to their rule, and become the servants of strangers. The Zebuans appeared firm in the defence of their independence, but were driven from their position by a body of men landed in good order from the ships.

The Philippine Islands have 21 species of mammals and 288 species of birds. The large and curious Idea leuconöe, with its semi-transparent white wings veined and spotted with black, is copied by the rare Papilio idæoides from the same islands. The sileucao is a logwood of an excellent quality. They have also the braziletto, another dye-wood; the eagle-wood, narra, a species of red ebony striped; the tindal-wood, all red; the sandal-wood; the pangasinang fir, the molave, an incorruptible wood, the guijo, excellent for shipbuilding, as well as the banáva, calantes, or Philippine cedar, the sagovan, red and white, mary-wood, for small masts, spars, etc., the manga-chapuy betis, dasag, dungol, calumpan, and many others.

Rice is largely used as food, and, as in other countries where it is grown, there are many varieties. Manilla hemp, from the Musa textilis, has acquired a high character in Europe; 25,000 tons were shipped in 1858 from Manilla alone, of which Great Britain received one-fourth. In 1877 to 1879 the quantities of it and values received by Britain from the Philippines were as under:—

	Cwt.	Value.		Cwt.	Value.
1877,	332,304	£488,069	1879,	337,687	£434,037
1878,	421,160	551,856			

In 1879, the value of the sugar, hemp, and tobacco exported was twelve millions of dollars.

Coal occurs in the island of Zebu.

Gold is found in the mountains and in alluvial deposits, abounds in Luzon and in many of the other islands; but in the mountains the mines are not worked, indeed it may be said they are scarcely known. The wild races collect it in the brooks and streamlets. The natives of the province of Camarines in Luzon partly devote themselves to the working of the mines of Mambulao and Poracale, which have the reputation of being very rich.—*Mr. Rich, Botanist to the United States Exploring Expedition; Lubbock's Orig. of Civ.; Marryat's Indian Archipelago; Wallace*, ii. p. 218; *Quarterly Review*, No. 222; *Walton's State; Earl, Papuans; St. John's Indian Archipelago; Crawfurd's Malay Gram. and Dict.; China, Japan, and Philippines Chronicle and Directory.*

PHILISTINE, or foreigners, gave that name to Palestine, where they opposed the Jews in the conquest of that country.—*Sharpe's Egypt.*

PHILLYREA. Of this genus, Roxburgh describes P. paniculata and robusta, and Wight in Icones gives P. robusta, terminalis, and affinis. P. paniculata is a small tree with oblong ovate leaves; flowers in terminal panicles, pure white, bending down the branches, and giving the tree a graceful appearance. Introduced from China. P. robusta, the Bhooemoora of India, is a large tree.—*Riddell.*

PHILOMELA LUSCINIA. *Selby, Gould, Sw.*

Motacilla luscinia, *Linn.*	Curruca luscinia, *Flem.*
Sylvia luscinia, *Latham.*	
Nightingale, . . . ENG.	Usignulo, ... IT.
Rossignol, ... FR.	Ruisenor, ... SP.
Nachtigall, . . . GER.	Nachtegahl, . . . SW.
Rossignuolo, . . . IT.	Eos, ... WELSH.

The nightingale is rich brown above, rump and tail with a reddish tinge, throat and middle part of belly dirty or greyish white; lateral parts of the neck, breast, and flanks, grey; bill and legs light brown; sexes alike. The nightingale shuns observation, abiding in the thickest coverts, and in these the nest is sometimes placed on a low fork, but generally on the ground. Withered leaves, particularly those of the oak, very loosely confined with dried bents and rushes, and lined internally with fine root-fibres, form the structure. The eggs, of an olive-brown, are four or five in number. After the young are hatched, generally in June, the melodious song of the male ceases, and is succeeded by a low croak, varied occasionally with a snapping noise; the first is considered to be meant for a warning, and the last as a defiance. The food consists of insects, such as flies and spiders, moths and earwigs.

Philomela orphea, *Jerdon* (the Sylvia of Temminck, and Curruca Jerdonii, *Blyth*), except in Bengal, occurs all over India in the cold weather.

Philomela Turdoides, *Blyth.*

Luscinia major, *Brisson.* | Sylvia philomela, *Bechst.*

Thrush-nightingale, inhabits Europe and Egypt. Its song is loud, but far inferior to that of the true nightingale.

PHIN, stone circles, which the Todas call P'hin. Also a common term for a pot, urn, or any vessel of such-like description.—*Harkness' Neilgherry Hills*, p. 33.

PHIRAOTI. HIND. A small wheel like a chalar on the edge of a pond or nullah, for raising water; it is worked by the foot.

PHIRI of Kashmir, seconds of shawl-wool.

PHIRKI. PUSHTU. A section of a tribe.

PHLAP, also Khlap, the Assamese name of the tea plant. The camellia is called Misa Phlap in Muttuck, and Heelkat in other parts of Assam. In Cachar it is called Dullicham or white wood, from the light colour of its bark. Its timber is hard and durable, and used for posts of houses.

PHLOMIS RUSSELLIANA, Jerusalem sage, perennial and shrubby plants, with coarse hairy leaves resembling the common sage; the flowers are purple, red, yellow, etc., growing readily from seed in any common soil.—*Riddell.*

PHLOX, a genus of elegant plants, which, from their lively colours, have a pretty appearance when grown in patches. The colours are red, purple, lilac, white, etc.; grow readily from seed in a light garden soil, either in pots or the flower-beds; should be sown thinly, and when one or two inches high, transplanted where intended to flower; require in pots a somewhat loamy soil, well manured and drained.—*Riddell; Jaffrey.*

PHOBEROS HOOKERIANUS. *Wight.* A large tree of the central province of Ceylon, at an elevation of 4000 to 7000 feet.—*Thw.*

PHOBEROS ROXBURGHII. *Bennett.*

Ludia spinosa, *Roxb.* | Flacourtia stigmarota, *Wall.*

A tree of Sumatra; flowers small, reddish-white, March and April; fruit, September.—*Roxb.*

PHOCA, the seal. Apollonius related that he had seen at Ægæ, near Issus, a female Phoca which was kept for fishing purposes. — *Yule, Cathay*, i. p. 112.

PHOCÆNA BREVIROSTRIS. *Owen.* One of the cetaceæ; occurs in the Bay of Bengal.

PHOCÆNA COMMUNIS.

Ph. Rondeletii, *Willughby.* | Delphinus phocæna, *Linn.*

The common porpoise.

PHŒBE LANCEOLATA. *Nees.* A timber tree of Bhajji in the Panjab, and common in the Wynad, Animallays, and, Tinnevelly mountains at 3000 feet elevation.—*Beddome, Fl. Sylv.*

PHŒBE WIGHTII. *D. C.*

P. lanceolata, *W. J.* | Kumara of Burghers.

This good-sized tree is very common about Ootacamund and the higher ranges of the Neilgherries, and in many other localities along the Western Ghats, at considerable elevations. It is in flower and fruit all the year round; it yields a good dense wood of a light-red colour, which is in use for various purposes with the natives. Mr. Gamble enumerates also Ph. angustifolia, attenuata, glausescens, pallida, paniculata, and villosa.—*Beddome, Fl. Sylv.* p. 292.

PHŒNICIA. One site of this ancient dominion was on a narrow fertile strip of land, lying between the western slope of Lebanon and the Mediterranean Sea, and extended from the river Eleutherus on the north to near Mount Carmel in the south. The ancient city of the name stood in lat. 33° 34′ N., on a promontory. India seems to have obtained an alphabet from the Phœnicians, about the 5th century B.C., about the time that the Greek letters became known on the higher feeders of the Indus.

The Phœnicians are supposed to have emigrated from the Persian Gulf to the shores of Syria, between B.C. 3000 and 2500, and their alphabet was adopted by nearly every civilised nation of the ancient world. They were the great traders of the world. At first the trade between the east and west, by the Red Sea and Persian Gulf, was in their hands; it survived in full vigour the destruction of Tyre, B.C. 586 and 332, and of Carthage, B.C. 146; but the sea-fight off Actium seems to have put a term to the Phœnician commerce in the Mediterranean, which went into other hands, to the Arabs who had shared it with them from the earliest times, and passed to the Portuguese.

PHŒNICOBALANUS of the ancients was probably the nut of the Doum palm of Egypt.

PHŒNICOPTERINÆ, a sub-family of birds of the family Anatidæ.

PHŒNICOPTERUS ROSEUS. *Pallas.*

P. antiquus, *Temm.* | P. minor, *Jerd.*

Kan-thunti, . . .	Beng.	Pu-nari, ...	Tam.
Bag-hans, Raj-hans,	Hind.	Pu-konga, . . .	Tel.

The flamingoes number about six species, of which three are American. This bird is found on the shores of the Mediterranean, is extremely abundant in Tunis and Egypt, and extends its range as far as India. The flamingoes cross the Red Sea from Egypt to Arabia, prior to the breeding season, in immense flights, sometimes exceeding a mile in length. They feed on minute mollusca, which they gather in shallow water. The upper mandible is always lowest during the operation, and the objects of search are passed over it as a duck sifts with its lamellæ. The action of the neck by which the head is thus turned downwards and inwards gives a most peculiar character to a flock of flamingoes as they wade along the shore, and in their flight the black pinions and roseate coverts make a beautiful contrast with their snow-white bodies. See Birds.

PHŒNIX, a genus of palms, the species of which are found in the south of Europe, in the north of Africa, and in all the south of Asia, eastwards to the Archipelago, and their products are brought into the markets of India. The trunk, marked with the scars of fallen leaves, is in some species so short that it hardly appears above ground.—*Seeman.*

PHŒNIX ACAULIS. *Ham.*

Schaap, . . . Lepch. | Pind Khajur? . . Panj.

A small stemless palm which grows in Sikkim on the driest soil and in the deep valleys. The Lepchas eat the young seeds, and use the feathery fronds as screens when hunting. It is found growing east of Siligori in the Terai, and is a sure sign of a hungry soil.—*Stewart's Panjab Plants*, p. 243; *Hooker's Him. Jour.* i. pp. 143, 400.

PHŒNIX DACTYLIFERA. *Linn.* Date palm.

Tamr, Nukhal, .	Arab.	Kurjan, Khurma, .	Pers.
Swon-pa-lwon, .	Burm.	Payr-etchum maram,	Tam.
Paynd khajur, .	Dukh.	Kharjurapu chettu,	Tel.
Khajur, Chuhara,	Hind.	Perita chettu, . .	,,
Khaj, ...	Panj.		

The Fruit.

Rutub, ...	Arab.	Pind, Chirwi, Bagri,	Hind.
Tamr (fresh), . .	,,	Bela (dried), . . .	,,

The Cabbage. *The Gum.*

Gadda, Galli, .	Hind.	Hokm-chil, . . .	?

The Stone.

Usteh-khurma, .	Arab.	Gutla-i-khajur, . .	Pers.
Tukhm-i-khurma,	Pers.		

The date tree grows in tropical and Middle Asia, in North Africa, Arabia, and Persia, and in some parts of Northern India. Its northern limit is lat. 35° N. The town of Elche in Spain is surrounded by a planted forest of 80,000 date palms, and the sale of leaves there and at Alicante for decoration yields a large revenue; and in the Gulf of Genoa also is a date forest. It is unisexual, grows to a height of 80 to 120 feet, and produces to the age of 100 to 200 years. It is the great support of the Arabs of Yemen; nineteen-twentieths of the Fezzan population live on dates for nine months of the year, and for many animals it is their sole food, the oases being bare of herbage. The tree will live in saltish soil, and the water for its irrigation may be slightly brackish. One male tree is considered sufficient for fifty female plants, and the pollen dust is sparingly applied by artificial means. Several bunches of flowers are formed in a season, each producing often as many as a hundred dates. In Egypt as many as four cwt. of dates have been harvested in one season from a single date palm. There are many varieties of dates; those of Gomera contain no seeds. The best dates are produced in oases, where the water is abundant. The Zadie variety produces the heaviest crop, averaging 300 lbs. to the tree; the better varieties are only obtainable from offshoots of the root. These will commence to bear in five years, and will be in full bearing in ten years. It was introduced into the Southern Panjab in the 7th or 9th century; but the true date is nowhere

known in any quantity to the north or east of Tulamba and Jhang, both close to the Chenab, although the tree has been tried in the districts of Lahore and Amritsar, and there are a few in the northern part of Jalandhar, where, however, the chief use of the tree is for the sweet juice. It was introduced into Oudh. There are some at Saharunpur, which give good fruit, especially when the rains are late. The natives assert that it will not grow except where the soil is or has been subject to inundation. There are also hundreds of the trees about various towns in Multan and Muzaffargarh, but it is most abundant near Dehra Ghazi Khan, Trans-Indus, where the country for ten or twelve miles from north to south has such numbers of trees, that eight or ten thousand rupees are said to be annually got by Government from the small tax which is levied on each female tree, as the sexes are on separate individuals. At Multan there is a bedana (*i.e.* seedless) fruit, in which the stone and its kernel are represented only by a little shrivelled membrane, the rest of the fruit consisting of the pleasant sweet pulp. Edgeworth states that there is only one tree yielding these, which was formerly reckoned badshahi, royal, *i.e.* the produce was reserved for the ruler of the country. But several trees produced these, which are the upper fruit ripening after the lower ordinary dates of the same tree. The fruit of a female tree is much more valuable than its sugar, and the male tree has but little juice. The terminal bunch of young leaves, taken only when a tree is cut down, is eaten by the natives both raw and cooked. There are at least sixty varieties of dates. The date stones are made into beads; the leaves are made into couches, baskets, mats, bags, brushes, fly-traps.—*Stewart's Panjab Plants*, p. 245; *Seeman on Palms; Mason's Tenasserim; Roxb. Fl. Ind.; Royle's Fib. Plants; Ainslie*, p. 30; *Voigt; Von Mueller; Powell*, i. p. 379.

PHŒNIX FARINIFERA. *Roxb.*

Phœnix pusilla, *Gærtn.*

I'ntha, . . .	MALEAL.	Chiruta ita, . . .	TEL.
I'thi, ...	TAM.	Chittita chettu, . .	,,

This dwarf palm grows in the sandy plains of the south of India, where it flowers in January or February; the fruit ripens in May, and the sweet pulp of its seeds, also the farinaceous substance of its stem, are eaten in times of scarcity. The leaflets are made into mats; and the common petioles are split into three or four, and are used to make baskets of various kinds. The trunk, about one or two feet high, is so enveloped in the leaves as to appear like a bush. It is common in the Peninsula of India, on dry, barren, sandy ground not far from the sea. The exterior or woody part of the trunk consists of white fibres matted together; these envelope a large quantity of farinaceous substance, which the natives use for food in times of scarcity. To procure this meal, the small trunk is split into six or eight pieces, dried, and beaten in wooden mortars, till the farinaceous part is detached from the fibres; and the meal, when separated by sifting, is fit for use by being boiled into a thick gruel or conjee. It is, in fact, an inferior sago. It seems to possess less nourishment than common sago, which is obtained in a similar manner from another palm, and is less palatable when boiled, but it has saved many lives in times of scarcity.—*Seeman on Palms; Jaffrey; Eng. Cyc.*

PHŒNIX HUMILIS. *Royle.* Dwarf date palm.—*Stewart's Panjab Plants*, p. 245.

PHŒNIX PALUDOSA. *Roxb.*

Hintal, . . .	BENG.	Giruka tati chettu, .	TEL.
Then boung, . .	BURM.	Hintalamu, . . .	,,

The small marsh date palm tree, grows plentifully on the Sunderbuns south of Calcutta; on the low islands in the rivers, and on the shores which are inundated with the highest tides, the marsh date palm abounds. It is about 20 feet high, no thicker than a walking-cane; fruit precisely like a bunch of dates, but is not edible. Griffith says it is well worth cultivating on account of its elegant impenetrable tufts, which well adapt it for bank scenery. The trunks of the smaller trees serve for walking-sticks, the long trunks for rafters, and the leaves for thatch.—*Hooker's Him. Journ.* i. p. 1; *Mason; Seeman; Von Mueller.*

PHŒNIX RECLINATA, of the Cape of Good Hope, has a thin, sweet coating of the fruit.

PHŒNIX SYLVESTRIS. *R.* Wild date palm.

Elate sylvestris, *Linn.*

Send ka jhar, . .	HIND.	Eetcha maram, . .	TAM.
Khaji of .	SALT RANGE.	Ita chettu, Ita, . .	TEL.
I'tsham pane, . .	TAM.	Pedda ita, . . .	,,

The wild date palm grows throughout British India, and is of great value on account of the palm wine it yields, and the sugar made from the palm wine. It occurs wild in many places in and near the Siwalik tract, up to and probably beyond the Indus, in the Salt Range, and out into the plains in the east of the Panjab. It is not seen much above 3000 feet in the outer hills; and Vigne correctly points out that the palms of Baramoule in Kashmir were creations of Moor's imagination. It is found in the Sind Sagar Doab, on the borders of sandy tracts, and in such land that little else grows on.

In Muzaffargarh it does not grow actually in the sandy desert, but flourishes on its borders in the most wretched soil, and where hardly any other vegetable exists, and it is often found in luxuriant groves. They pay a tax to Government, which forms an important item in the sair revenue of some districts. If not too early notched for the wine, it grows straight and very tall, length of trunk being 50 feet, and girth 2 feet, and attains full size in 40 years. Its wood is used for water-conduits, and for temporary bridges; and its leaves are extensively employed for baskets and matting for floors. Its timber is inferior to the palmyra, cocoanut, etc. The fruit when ripe is small, oval-shaped, dark-coloured, and sweetish, about the size of a ripe wild plum, but of no value. The leaves and stalks are made into baskets, boxes, and hats, twisted into rope, used for thatching, and in the manufacture of light mats for building huts. At the age of seven or ten years, when the trunk of the tree is about four feet high, it begins to yield juice, and continues productive for 20 or 25 years. The juice is extracted during the months of November, December, January, and February, during which period each tree is reckoned to yield from 120 to 240 pints of juice, averaging 180 pints. Every 12 pints or pounds is boiled down to one of gur or jagari, and four of gur yield one of good sugar in powder, so that the average produce of

each tree is about 7 or 8 lbs. of sugar annually. It yields Sendi or palm wine, commonly called toddy. The mode of obtaining this is by removing the lower leaves and their sheaths, and cutting a notch into the centre of the tree near the top, from which the liquor issues, and is conducted by a small channel, made by a bit of the palmyra tree leaf, into a pot suspended to receive it. This juice is either drunk fresh from the tree, or boiled down into sugar, or fermented for distillation, when it gives out a large portion of spirit, called arrack. Date sugar is imported in considerable quantities into Britain. Dr. Roxburgh calculated that in 1800 only about 100,000 lbs. were made annually in all Bengal. The inner wood furnishes, by boiling, a kind of catechu, which contains much tannin. It is obtained by boiling the heart-wood for a few hours, when it assumes the appearance and consistency of tar. It hardens by cooling; and when formed into small squares and dried in the sun, is fit for the market. The produce of Bombay is of uniform texture and of a dark-red colour. That of Konkan and other parts of India is of a chocolate colour, and marked inside with red streaks. The analysis of Sir H. Davy gave the following result:

	Bombay.	Konkan.		Bombay.	Konkan.
Tannin, .	54·5	48·5	Insoluble matters, sand, lime, etc., .	5·0	7·0
Extractive,	34·0	36·5			
Mucilage, .	6·5	8·0			

The fibres of the leaf-stalk are used for cables in the Red Sea. The natives of the east chew the fruit in the same manner as the areca nut, with the leaf of the betel, pepper, and quicklime.—*Eng. Cyc.; Roxb.; Simmonds,* p. 579; *Ainslie, Madras Ex. Jur. Report.* See Date.

PHOG. HIND. Polygonum convolvulaceum, Calligonum polygonoides, Ficus caricoides, and F. reticulata. Twigs are woven into a wicker-work to line wells and prevent the earth falling in.

PHOG or Phogli. HIND. A wild grain; dregs or lees of anything after infusion, etc. The Phogli of Muzaffargarh is the fruit of a plant called phoke, found in desert tracts in the Panjab. It somewhat resembles the caper in its habit and colour, being destitute of true leaves, and composed of numerous fine and angular branchlets. It is much more slender than the caper, and does not attain to the same size. The flowers and fruit, which are very small and of a grey colour, fall off on attaining to maturity, and are gathered by the natives, who mix them with ghi, and use them as a relish. The fruit is well known throughout the districts.

PHOGLI. HIND. A term applied to a coil of fine gold wire in spangle-making.

PHOLAHEE. HIND. A small thorny tree. Wood of the young tree white, of the old dark-coloured, especially the heart-wood, tough and durable; used for cart wheels and sugar mills. The branches of the trees are used for fences. Length of tree to first branch, 5 feet, and girth 3 or 4 feet.—*Dr. Campbell.*

PHOLIDOTA, a genus of the orchid family. Ph. articulata, *Lindl.*, grows in the Khassya mountains and in Moulmein; Ph. imbricata, *Lindl.*, throughout India; and Ph. undulata, *Wall.*, in the Khassya Hills.

PHOOT or Phooti. HIND. Cucumis momordica; field cucumber, sown generally in the fields amongst jowari. It is something between the melon and cucumber; keeps for a long time if not too ripe, and would be valuable as a store vegetable for sea.—*Riddell.*

PHOOTANAY or Poothani. HIND. Parched Bengal horse gram.

PHORMIUM TENAX, *Forster*, is the Koradi or Harakeke, or New Zealand flax plant. There are several varieties, which yield flax of varying degrees of fineness. It is a plant likely to thrive on most of the lower hill ranges of British India, and to prove especially suitable for culture on parts of coffee estates in which the coffee has died out. Its fibre or flax, when well prepared, is superior in strength and equal in other respects to European flax, so that it seems very desirable that its culture should be encouraged. The comparative tenacity, according to Dr. Lindley, is—Silk, 34; New Zealand flax, 23; European flax, 16; European hemp, 11.

The Phormium is a flag-like plant, with sword-shaped leaves, and bears its flowers on a stalk like the American aloe. The flower contains a sweet juice. It is much liked by children, and is collected by the natives in their calabashes to the extent of half a pint from a plant. At the root of the leaves a gum-like substance is found, which serves the Maori as a substitute for sealing-wax and glue, and is also eaten. The pith of the dried flower-stalk when ignited burns like tinder, and is used as a slow match to carry fire on a journey. The leaf when green is used for writing on, the characters being engraved with a sharp-edged shell. Split and cut into strips, it serves instead of cords, strings, ropes, straps, etc., and is indispensable to the natives as a means of binding in building huts and canoes. The green strips of the leaves are plaited by the women into neat baskets, which at meals serve as plates and dishes; while the men make lines, nets, and sails of them. They also extract the fibre, dye it of various colours, and thus get material for mats and garments. The plant covers millions of acres in New Zealand, growing spontaneously on any kind of soil, moist or dry, and in any locality, high or low. It, however, attains its greatest luxuriance in moist alluvial soil. The leaf in structure resembles that of the agave. The separation of the fibre may be effected by means of maceration, or mechanical force applied so as not to injure the bast-cells, sometimes combining both these means. The natives, who use only the upper part of the leaf and only on one side of it, clean the fibre by scraping off the parenchyma with a shell. The quantity prepared by them was very small, and the Government of New Zealand, being impressed with the great value of the flax as an article of export, offered some years ago a reward of £4000 for a machine that would clean the fibre rapidly and effectively. In a small factory near Nelson the process employed was to boil the leaves in lye-water, then to dry and twist them into a thick rope, after which they were passed between ribbed wooden rollers, until the fibre was laid bare in a tolerable state of purity. The dried and bleached produce thus prepared was sold for £25 per ton. In 1860, the Rev. Mr. Purchas invented a machine for cleaning the flax, consisting essentially of a large solid cylinder or drum of hard wood, revolving, and so put together that its surface presents the cross section of the wood. Above it are a number of perpendicular

iron plates, grooved on their lower edges, which, being raised, descend in succession by their own weight. The green leaves are passed between the drum and the iron pounders, when the action of the latter, aided by a stream of water, separates and cleans the fibre. A steam-engine of 8 horse power works the machine, which will clean a ton of fresh leaves, yielding 3 cwt. of flax, per day. It has been tried on other fibrous plants, and found equally suited for the agave, Manilla hemp, and pine-apple. In October 1872, the sale of its fibre in London was 11,500 bales, value £19 to £31. Its tow for paper sells from £10 to £20 the ton.—*Dr. Hochstetter, quoted by Dr. G. Bidie, M.B.; Dr. Bennett*, i. p. 76; *Von Mueller; Sir Joseph Banks in Cook's First Voyage.*

PHOSPHORESCENCE. The phenomenon of phosphorescence, Dr. Hooker says, is very conspicuous on stacks of firewood, at Darjiling, during the damp, warm, summer months, May to October, at elevations of 5000 to 8000 feet; it may be witnessed every night by penetrating a few yards into the forest,—at least it was so in 1848 and 1849; and during Dr. Hooker's stay there, billets of decayed wood were repeatedly sent to him by residents, with iniquiries as to the cause of their luminosity. A stack of firewood presented a beautiful spectacle for two months (in July and August), and on passing it at night, Mr. Hodgson had to quiet his pony, who was always alarmed by it. The phenomenon invariably accompanies decay, and is common on oak, laurel, Tetranthera, birch, and probably other timbers; it equally appears on cut wood and on stumps, but is most frequent on branches lying close to the ground in the wet forests. It is a vital phenomenon, and due to the mycelium of a fungus. Alcohol, heat, and dryness soon dissipate it. In the animal kingdom, luminosity is especially common amongst the radiata and mollusca; it is also frequent in the entromostracous crustacea, and in various genera of most orders of insects. In all these, even in the sertulariæ, Dr. Hooker observed the light to be increased by irritability, in which respect the luminosity of animal life differs from that of vegetable. Phosphorescent matter is secreted or emitted at will by an infinite number of crustacean and mollu cous animals, with which the ocean abounds, but has been observed to obtain also in a species of shark, and in the glow-worm, firefly, and the luminous centipede, Geophilus fulgens, one of the myriapoda. It also exists in some fungoid plants; a species of agaricus in the Australian woods is vividly luminous, and is described by Dr. Hooker as occurring at Darjiling. Dr. F. D. Bennett was inclined to believe that phosphorescence of the sea is caused from a luminous power in living marine animals. Sometimes the sea for miles gives at night a pale light from myriads of noctiluca. The commonest phosphorescence is caused by various small animals, small crustaceans. Some crustacea certainly derive their phosphorescence from containing in their stomachs phosphorescent food, and their excrement is phosphorescent. When large fish or porpoises or penguins dash through water full of luminous crustaceans or noctiluca, their bodies are brilliantly lit up, and their track marked with a trail of light. The Ascidian colony pyrosoma, however, gives the most beautiful phosphorescence. When touched, the light breaks out at first at the spot stimulated, and then spreads over the surface of the colony as the stimulus is transmitted to the surrounding animals.

The pyrosoma is a pelagic aggregation of individuals, forming a hollow cylinder closed at one end, from 5 inches to 5 feet in length. The Pyrosoma Atlanticum, from 3 to 4 inches long, is composed of an aggregation of small tunicaries, and produces a powerful light on being disturbed. Large forms of Aurelia and Cyanea move along, surrounded by a halo of golden greenish light. The little Dysmorphosa gives a light of a deep aurelian hue. A large jelly-fish (Medusa) was observed near Nantucket, from the mast of a vessel, moving lazily along, its disk encircled by a halo of 20 feet in diameter, while the train of gleaming tentacles stretched away 200 feet or more. Mrs. Agassis measured one whose disk was 7 feet across, with tentacles over 112 feet in length. The shapely Zygodactylæ wander about like ignes fatui; the Idylia gleams with ever-changing hues; pleuro-branchiæ flit about, their fringed tentacles glistening with red, green, yellow, and purple rays. Urticena nodosa is a luminous sea anemone of New England. Noctilucæ zones occur 30 miles in breadth, about 30,000 in a cubic foot; the diatom pyrocistis, the star-fishes, Asterias ophiocnida, species of Ophiuridæ, and others, are luminous, and amongst others may be named the moon-fish, Orthagoriscus mola; the lamp-fish, Scopelus resplendens; species of Chauliodus argyropelecus, and the Squalus fulgens of Florida. The sea-pen, Renilla reniformis, emits a golden-green light. The Pennatula phosphorea sea-pen emits a vivid purple light; also species of the little pterypod Cleadora. Pyrocistis fusiformis is the lantern fish. Cirratulus grandis is a marine worm of Great Britain. Cancer fulgens of the Atlantic sends out flashes of light, especially when irritated.

All the alcyonarians dredged by the *Challenger* in deep water were found to be brilliantly phosphorescent when brought to the surface.

The polyps of the Veretillum cynomorium, a zoophyte of the Mediterranean and Atlantic, is phosphorescent. At night, on the slightest irritation, a whole colony glows with undulating waves of pale green phosphoric light.

Medusæ possess luminous powers. The Salpæ are luminous. The Squalus fulgens, or luminous shark, gives out a shining light like that of the pyrosoma. Dr. Bennett found the surface of the water become brilliantly phosphorescent, when his boat struck on a coral reef at Thur Bay in the island of Rotuma. One of the pyrosoma, a luminous aggregate tunicated mollusc, has been found there floating in great numbers; and little minute points, apparently of a jelly-like substance, are found on the Australian coast, similar to those which on the coasts of England have been called noctiluca.

Kirby and Spence state that a ground beetle (Carabus) has been observed running round and round a luminous centipede as if afraid to attack it.

A nocturnal ape, the Nyctipithecus trivirgatus, is said to emit light from the eyes.—*Moseley*, p. 574; *Bennett*, p. 64; *Hooker's Him. J.* ii. p. 150; P. 71; *Jameson's Journ.* xi. p. 222, 1824.

PHOSPHORUS PILLS, for destroying rats, consist of hog's lard ground up with cocoanut and phosphorous made into paste. This forms

the most certain bait and poison combined to destroy rats; care must be taken in mixing the phosphorus, of which very little suffices.

PHOTINIA, a genus of the Pomeæ or apple tribe of plants; the Yelnyo of the Darjiling Hills.

The bark of P. Bengalensis, *Wall.* (the Mespilus Bengalensis of Roxburgh), of Assam, Chittagong, Khassya, and Nepal, is used in Nepal for dyeing scarlet. Ph. eugenifolia, *Lindley*, grows on the Khassya mountains. Ph. glabra is common in China, and ornamental. It is a noble evergreen, which in the winter becomes covered with bunches of red berries.

Ph. notoniana, *Wall.*, is a very handsome middling-sized tree, very common at the higher elevations on the Neilgherries, Animallays, Pulnies, and on the Ceylon mountains. It flowers in March and April, and its fruit ripens in June and July; the latter in taste and flavour resembles that of the mountain ash. The tree is called Kaddi bikkri by the Badaga, on the Neilgherries; the timber is adapted for cabinet purposes; it is closely allied to, if distinct from, P. integrifolia.

Ph. serratifolia, *M'Clell.* Doukyat, BURM. Found in the neighbourhood of Rangoon and along the banks of the streams in the Rangoon districts, in the direction of the teak forests. Wood red, adapted to cabinet-making. The leaves of this plant are used for a green dye. Mr. Gamble mentions Photinia Griffithii, *Dene*, of Himalaya, Ph. Lindleyana, *W. and A.*, of Neilgherries, Ph. mollis, *Hooker*, of Himalaya.—*A Res. among the Chin.* p. 51; *Lindley; Beddome, Fl. Sylv.* p. 192; *Dr. M'Clelland; Voigt.*

PHOUNGYE, a Buddhist monk of Burma; the term means great glory. The body of a deceased Phoungye is placed on a car, taken to the cemetery, and lifted on a pyre, which is composed of highly inflammable materials, and which is ignited by discharges of rockets, while dancing and drinking go on in booths hastily constructed for the occasion.

PHRA. BURM. Lord. When a Burman enters a kyoung or monastery, he kneels before the image of Gaudama, bends his head three times in honour of the three precious things,—phra, tara, thenga, *i.e.* the Lord, the law, and the assembly. Phra-kywn, in Burma, are the Buddhist pagoda slaves. In the Buddhist religion, as it prevails in Burma, the servitors at the temples are invariably out-castes, with whom the rest of the community will hold no intercourse. They sweep the vicinity, clear away the remains of offerings, and wash the idol.—*Forbes.*

PHRAGMITES COMMUNIS, the reed. Lu, TIB.; Wei, CHIN. This tall, tufted reed grows on the banks and islands of the Yang-tze river, to the height of 12 to 18 feet, and yields a revenue to Government. The young shoots are eaten; and the fistulai or reed stems are used as fuel, to construct houses; mats, and hurdles. The leaves wrap up rice balls. It is a tall plant, with annual stems and a perennial root, and is found exclusively in places overflowed even during summer. In such situations, in Great Britain, all through Europe, Siberia, Japan, North America, and even Australia, it forms thick coverts, and yields an abundance of stout durable grass of great value for the purpose of thatching the roofs of buildings. This is undoubtedly the φραγμίτης of the Greeks. A second species is said to grow in Egypt, and a third in the island of Mauritius.—*Eng. Cyc.*

PHRAT or Frat, also Al-Farah and Al-Farat of the Arabs, is the Euphrates river. Phrat is mentioned in Scripture, and is said to have two derivations from the Hebrew, Phar or Pharatz, to spread, and Pharah, to produce fruit or flowers. Farat, in Arabic, means abundance. The Euphrates rises in the mountains of Armenia by two principal sources. At Korna, it and the Tigris unite and form the Shatt-ul-Arab, which falls into the Persian Gulf about 50 miles from Bassora.—*Vincent; Kinneir's Geog. Memoir*, p. 8.

PHRYNIUM DICHOTOMUM. *Roxb.*
Maranta dichotoma, *Wall.* | Theen, ... BURM.

Very plentiful in the forests of the Pegu and Tounghoo districts. It is said to afford a strong fibre.—*M'Clelland.*

PHTHAH, the creative power of the Egyptians. See Kneph; Osiris.

PHUL. HIND. A flower, a head ornament; also the first distilled spirits (see Ek-atisha), technical in Karnal; also a sort of sal-ammoniac. Mahadeo-ka phul, Daphne cannabina; Paighambari phul, Arnebia echioides; Tulenni phul, Hamiltonia suaveolens; Phul-sola, Æschynomene aspera.

P'hul charhana, or Ziarut, or Tija, a Muhammadan funeral ceremony.

P'hul ki chuddur, a covering of flowers.

P'hul pahanna, a Muhammadan ceremony.

P'hul ka tabaq, the fairy flower tray.

P'hul soongni, any sweet-scented flower enclosed in a piece of cloth for the bride to smell.

Phulel-ka-tel, an odoriferous oil made by placing sweet-scented flowers in three or five successive patches, over gingelly oil-seed, and then expressing the oil.

Phula-Dola. In the astral worship of the Hindus, Vishnu is the object. The Phula-dola, or Floralia, in the vernal equinox, is so called from the image of Vishnu being carried in a dola or ark, covered with garlands of flowers (phula). Again, in the month of Asar, the commencement of the periodical rains, which date from the summer solstice, the image of Vishnu is carried on a car, and brought forth on the first appearance of the moon, the 11th of which being the solstice, is called 'the night of the gods.' Then Vishnu reposes on his serpent couch until the cessation of the flood on the 11th of Bhadoon, when he turns on his side.

Phuli, in Ladakh, a salt used in infusing tea.

PHULJHAR is one of the clusters of states formerly known as the eighteen Garhjat, and is now included amongst the ordinary khalsa zamindaries of the Sumbulpore district. The census returns of 1866 give the population at 32,721. The agricultural classes are chiefly Agharia, Kolta, and Gond, but there is a sprinkling of other castes, such as Brahmans, Mahautis, Telis, Malis, etc. A few Khonds are also settled here and there.

PHURRA, leaves of the Chamærops Ritchieana, which are brought from Baluchistan into Sind, and made into baskets, fans, brushes, sieves, sandals, pouches, platters, and ropes.—*Sim. Dict.*

PHWON or Mwoon, a Shan tribe on the Irawadi, to the north of Bamo, who describe themselves as emigrants from a country to the N.E. called Mo-toung, also Moo-long. Their language is said to be distinct.

PHYIPA, a marmot in the Bhot countries, in whose burrowings gold is found. It is supposed to be the country of the Issedones, alluded to by Herodotus.—*Latham.*

PHYLACTERY. Plutarch, a Roman author, mentions the Bulla, as suspended from the necks of the more noble Roman boys, as a phylactery, or preservative of good order, and as it were a bridle on incontinence. But it is not improbable that some of the Jews in the Saviour's time, as they certainly did afterwards, regarded their phylacteries as amulets or charms, which would keep or preserve them from evil. There is a remarkable passage in a rabbinical Targum, written about 500 years after Christ, which may both serve to illustrate what Christ says, Matthew xxiii. 5, and to show what was the notion of the more modern Jews concerning their phylacteries. It runs thus: 'The congregation of Israel hath said, I am chosen above all people, because I bind the phylacteries on my left hand and on my head, and the scroll is fixed on the right side of my door, the third part of which is opposite to my bed-chamber, that the evil spirits may not have power to hurt me.'—*Rasmala, Hin. Annals*, ii. 409.

PHYLLANTHUS, a genus of plants belonging to the Euphorbiaceæ, several of them being arboraceous. The more important species are noted below, but there are about fifty species in Eastern and Southern Asia, few of them of economic importance. The bark of Phyllanthus Nepalensis, *Mull.*, of Nepal, is used in tanning. Ph. bicolor is a timber tree of Darjiling.

PHYLLANTHUS DISTICHUS. *Mull.*

P. longifolius, *Roxb.*
Loda-nori, . . . BENG.
Thin-bo zi pyu, . BURM.
Harfaruri, Chalmeri, HIND.
Cicca disticha, *Linn.*
Arunelli, ... TAM.
Russa usareki, . . TEL.

Cultivated for its edible fruit.

PHYLLANTHUS EMBLICA. *Linn.*

Emblica officinalis, *Gærtn., W. Ic.*

Amluj, ... ARAB.
Emblic myrobalan, ENG.
Aola, Anola, Amla, HIND.
Nelli, . . . MALEAL.
Amalaca, . . . SANSK.
Topu nelli, Topa nella TAM.
Usirika, ... TEL.

This valuable good-sized timber tree is very abundant in almost every dry jungle and forest throughout the Madras Presidency, particularly about the lower slopes of mountains, which it ascends to rather over 4000 feet elevation; it is also found in Ceylon, Bengal, Burma, and Malacca, China, Java, Borneo, and Japan, and it is often cultivated in native gardens, and about temples. This plant is held sacred to Siva, and its leaves are used in worshipping that deity, as also his consort Durga or Kali. The Bengal Hindus, however, do not hold it in veneration, but those of the North-West Provinces annually worship it on the festival of the Sivaratri. It is worshipped by agriculturists in the west of India, on the 11th of Phalgun. A yellow or red thread is tied round the trunk of the tree. Libations are poured at the roots, and prayers and songs are recited in honour of the plant. Its flower is deemed cooling and gently aperient, and is prescribed in conjunction with other articles in the form of electuary. The fruit is used abundantly, fresh or dried, as a condiment, being pickled; also in dyeing, and to wash the hair with. The fruit is very acid and astringent, and contains gallic acid. The fruit has been supposed beneficial as an adjuvant in treating scurvy. The fruit resembles the gooseberry, having a sharp acid juice, and is eaten raw by the natives, and is sometimes made into preserves. The bark is strongly astringent, and is used for tanning leather.—*Ainslie; Riddell, Genl. Med. Top.; Beddome; Gamble.* See Dyes.

PHYLLANTHUS POLYPHYLLUS. *Willde.* A very common shrub or small tree in the northern parts of Ceylon.—*Thw.*

PHYLLANTHUS RETICULATUS. *Poiret.* A shrub of the Coromandel side of India, the Konkans, and Bengal, with a white and durable wood, employed by the hill people for various economical purposes. It is frequently employed for ornamental hedges. Cattle eat the leaves.—*Roxb.*

PHYLLIUM SICCIFOLIUM, walking leaf insect. The true leaf insects of Eastern Asia belong to this genus. They are of the size of a moderate leaf, which their large wing-covers, and the dilated margins of the head, thorax, and legs, cause them to resemble. The veining of the wings, and their green tint, exactly correspond to that of the leaves of their food-plant, and as they rest motionless during the day, only feeding at night, they the more easily escape detection. Most of the tropical Mantidæ and Locustidæ are of the exact tint of the leaves on which they habitually repose, and many of them, in addition, have the veinings of their wings modified so as exactly to imitate that of a leaf. This is carried to the furthest possible extent in the wonderful genus Phyllium, the 'walking leaf,' in which not only are the wings perfect imitations of leaves in every detail, but the thorax and legs are flat, dilated, and leaf-like, so that, when the living insect is resting among the foliage on which it feeds, the closest observation is often unable to distinguish between the animal and the vegetable. See Phasma.

PHYLLOCLADUS TRICHOMANOIDES, a valuable timber tree of New Zealand. It is the Sanekaha or Tana Raa, or Tawai or Toatoa, or pitch-pine of New Zealand, grows to 60 or 70 feet high, and 14 or 15 feet in circumference. Its timber is white, hard, heavy, and of good quality, but not so durable as that of the Kawri pine. It bark is used as a red or black dye.—*G. Bennett*, p. 412.

PHYLLOSOMA, a genus of the crustacea.

Phyllosoma communis, *Edws.*, African and Indian seas.
P. stylifera, *Edws.*, Indian Ocean.
P. affinis, *Edws.*, New Guinea seas.
P. clavicornis, *Edws.*, African and Indian seas.
P. longicornis, *Edws.*, New Guinea.
P. Freycinetii, *Edws.*, New Guinea.
P. laticornis, *Edws.*, Indian seas.
P. Indica, *Edws.*, Indian Ocean.
P. brevicornis, *Edws.*, African and Indian seas.
P. stylicornis, *Edws.*, Indian Ocean.

—*Eng. Cyc.*

PHYLLOSTACHYS BAMBUSOIDES. *Siebold.* A dwarf hardy plant of the Himalaya, China, and Japan. Its yellowish canes make excellent walking-sticks. P. nigra, *Munro;* Bambusa nigra, *Loddiges*, of China and Japan, grows to 25 feet high, and is known to have grown 16 feet in six weeks; stems nearly solid, and becoming black.—*Griffiths; Von Mueller.*

PHYLLOXERA VASTATRIX is an aphis of low form, hardly better than the common coccus or scale insect, seen in almost every English

greenhouse. Out of reach underground, coursing up and down every root and rootlet, it sucks and saps, until the vine above slackens in growth, and slowly dies of starvation.

PHYMATEA PUNCTATA. *D.* One of the Orthoptera. This large, well-known, beautiful locust has a scarlet abdomen, and yellow and bronze above. Its ravages in Ceylon are not continuous in the coffee tree, but are occasionally very annoying. A swarm once settled on a field of one-year-old coffee, and gnawed the bark off the stems, causing them to throw out many shoots, and permanently disfigured five per cent. of the trees. They do not touch the Illuk grass, Saccharum Konigii, *Retz*, but seem only to attack cultivated plants and trees. At Tangalle they destroyed tobacco plantations, and at Matillee in Kandy the native grain crops were injured by these locusts. The larvæ and pupæ are as destructive as the perfect insects, but this seems, fortunately, the only species of locust that does any real injury in Ceylon, and this injury is in importance not to be compared with that done by other species in other countries.

PHYOO. BURM. A tree of maximum girth 1½ cubits, and maximum length 17 feet. Abundant in Tavoy and Mergui, also in less abundance in Amherst province. When seasoned, it floats in water. It has a tolerably good strong wood, but not with much tenacity of fibre.—*Capt. Dance.*

PHYSALIA PELAGICA. *Lamurek.*

P: coravella, —? | Holothuria physalis, *Linn.*

This is one of the Acalephæ, is the Portuguese man-of-war and Guinea ship of the English, and the frigate and galere of the French. It occurs in all the great seas. Its body is an oblong bladder filled with air, with a peak-like projection at one end, beneath which are many tentaculæ, some short and thick, others several feet long, which it wraps round the hands, and inflicts painful stings, giving rise to constitutional irritation, and leaving a numbness. It is moved along the surface of the water by the inflated oblong bladder, which catches the wind, and glows in delicate crimson tints when floating on the waves, while its long tentaculæ, of a deep purple colour, extend beneath to aid in the capture of its prey. When handled, the long thread-like appendages, wrapped over the hands and fingers, inflicts a pungent pain by means of an acrid fluid discharged in them. Physalia utriculus is also the Portuguese man-o'-war.—*Bennett.*

PHYSALIS ALKEKENGI. *Linn.* The winter cherry or strawberry tomato is a native of Europe on exposed hills, and of Persia and Japan. The corolla is a dirty white, the calyx reddish-yellow, enclosing a red berry. Its fruit was well known to the ancients, and is described by Dioscorides. In England the plant is cultivated chiefly on account of its appearance. The berries have a subacid and not unpleasant flavour, but the persistent calyx with which they are invested is very bitter. MM. Dessaignes and Chautard analyzed it, and succeeded in procuring a bitter substance, which they called physaline, forming a light white powder with a very slight shade of yellow, leaving in the mouth after a time a very marked taste of bitterness. Honigberger, p. 324, tells us that its fruit (Halicacabum), the winter cherry, is what the easterns call Kaknuj, which the British apply to P. flexuosa or somnifera, as this is the name of the plant in the lower parts of Hindustan, in Bengal? The winter cherry is used by the Hakims as a diuretic, and in ulceration of the urinary bladder. It is said to be purgative, and is much used in veterinary medicine. The winter cherry is now regarded as useless.—*Eng. Cyc.; Ind. Ann. Med. Sci.* for April 1856, p. 384; *Honig.* p. 324; *Hogg; Voigt.*

PHYSALIS ANGULATA. *Linn.*

Country gooseberry.	The tooth-leaved winter cherry.
Winter cherry.	
Jouz-ul-nuruj, . . ARAB.	Agni-munda, . . SANSK.
Poplah, ... DUKH.	Takali pallam, . TAM.
Kaknuj, ... PERS.	Takkali pundu, . . TEL.

This was introduced from Malacca, and has got the name of country gooseberry in India, from its resemblance in taste to that fruit. It is a small bush.—*Ainslie*, p. 233; *Roxb.; Voigt.*

PHYSALIS PUBESCENS. *L.* Downy winter cherry, the Camara of Brazil, is a native of America, cultivated in the East Indies. The whole plant is densely clothed with down. The corolla is yellow, marked with five round brownish-violet spots at the throat. The berries are yellowish when ripe; they are called gooseberries, or Brazil gooseberries, and when preserved with sugar make an excellent jam.—*Eng. Cyc.; Genl. Med. Top.* p. 183; *Mason.*

PHYSALIS SOMNIFERA. *G. Don.*

Var. a. Physalis flexuosa, *Linn.*
P. somniferum, *var.* flexuosa, *Hort. Cal.*
Phyllanthus urinaria, *Linn.*

Ashwagundha, . . BENG.	Amkalang, . . . TAM.
Flexuose winter cherry.	Amukanam, . . ,,
Asgandh, Kaknuj, HIND.	Penneru aswagandhi, TEL.
Pevetti, . . . MALEAL.	Pilli vendram, . . ,,

A native of rocky places on the sea-coast of the south of Europe. Grows all over India. It has several shrubby branched stems, round and downy. The leaves are in lateral pairs, short-stalked, ovate, downy, and from 2 to 4 inches long. The flowers are of a greenish-yellow or white. The berry is red and smooth, and about the size of a pea. This plant is the Στρύχνος ὑπνωτικὸς of Theophrastus (Hist. Plant. 9, 12), and the Στρύχνον αλικάκαβον of Dioscorides (4, 72). It is reputed to be narcotic, diuretic, deobstruent, and alexipharmic. The leaves steeped in oil are in India applied to inflammatory tumours, and they are used in a similar way in Egypt. Kunth recognised this plant in Egyptian mummies.

Var. b. Physalis Peruviana, *Linn., Roxb.*

Tophlee, Teperiya, BENG.	Tapuria, Macao, . HIND.
Pung-ben, . . . BURM.	Budda busara, . . TEL.
Cape gooseberry, . ENG.	Budama, Busara kaya, ,,
Peru winter cherry, ,,	Pambudda, ... ,,
Brazil gooseberry, ,,	

This variety is the P. Barbadensis, *Lam.;* P. edulis, *Sims;* P. esculenta, *Willd.;* P. latifolia, *Lam.;* P. pubescens, *Linn., Herb.;* P. tomentosa, *Medic.*, and P. tuberosa, *Zucc.* Grows luxuriantly in India in a good soil. The seed should be sown at the commencement of the rains. The young plants when about six inches high should be set out in rows at least two feet apart from each other, sufficiently wide apart, in fact, to allow the gardener to pass easily between them. They may be grown either on sticks or on trellis, and should be carefully pruned. The young shoots bear the finest fruit, and, if carefully attended to, will bear almost all the year round, the excellence and abundance of the fruit well repaying for extra

care bestowed on the cultivation of the plant. It is a most wholesome and useful fruit; none more so for tarts, or even for dessert, and for making jam or preserve. The bush should every now and then be carefully pruned, cutting out the old wood, as the new shoots provide the finest flavoured fruit.—*Eng. Cyc.; O'Sh.; Irvine*, pp. 123, 183; *Honig.* p. 324; *Riddell; Roxb.* i. p. 562.

PHYSIC-NUT TREE, Jatropha curcas. The leaves, warmed and rubbed with castor-oil, are used as a poultice to hasten suppuration; seed excessively drastic. The milky juice boiled with oxide of iron makes fine black varnish, the juice dyes linen black; the embryo is said to be the source of the purgative element, and that by removing the embryo the nut becomes bland and alimentary; MM. Fee and Humboldt support this opinion. The physic-nut is a powerful cathartic, one seed, or three or four drops of the expressed oil, being a sufficient dose. In the Dekhan, this plant is used as a hedge from its easy growth; it flowers in the rains. Physic-nut oil, called Jangli erandi ka tel, HIND., Kaat-amunak, TAM., and Adavi-amada-poo noonay, TEL., is a beautiful pale yellow oil procured from the seeds of the angular-leaved physic-nut, and it is used by the natives in medicine and as a lamp oil. About 700 tons of this oil were imported into Liverpool in 1850 from Lisbon, for the purpose of dressing cloth, burning, etc. It has been imported into England as a substitute for linseed oil. The colour is somewhat paler than the best linseed oil. It can be obtained in some parts of the country where it is plentiful, for little more than the cost of manufacture. It is now chiefly used in lamps. At the Madras Exhibition of 1855, a light straw-coloured specimen was shown by Lieutenant Hawkes, and several good but rather high-coloured samples from the Tanjore and Travancore Local Committees and the Madras Tariff. The glaucous-leaved physic-nut is the Jatropha glauca. — *Mason; O'Sh.; Simmonds; Riddell.*

PHYSOSTOMI, an order of fishes of the sub-class Teleostei.

PHYTELEPHAS MACROCARPA. Ivory nut. Palma de marfil, . . SP. | Marfil vegetal, . . SP.

The seeds of Phytelephas macrocarpa of New Grenada constitute the vegetable ivory used in turnery for chessmen, etc. The trunk seldom rises more than a few feet, trailing frequently 20 feet upon the ground. The seeds are produced, seven to nine together, in hard clustered capsules, each head of six or seven of which weighs about 25 lbs. when ripe.

PHYTOCRENE GIGANTEA. *Wall.* A gigantic climber of the forests of Chittagong and Burma. Its stem on being cut gives out a quantity of fresh water good for drinking. Its wood structure is curious.—*Gamble*, p. 80.

PHYTOLACCACEÆ. *Lindl.* The Virginian Poke tribe of Phytolacca, Rivina, Gisekia, and Bosea. Phytolacca acinosa, *Roxb.*, is from Nepal, where the leaves are eaten after boiling. P. decandra, North America; the root is very nearly equal to ipecacuanha, but its use is sometimes attended with slight narcotic symptoms. It is also used as an external application in itch and tinea capitis. P. dioica, *L.*, a beautiful tree of South America, introduced into Spain, where it is planted to shelter public promenades. P. icosandra is a herbaceous plant. A tincture from the ripe berries has the reputation of being a remedy for chronic rheumatism and syphilitic pain.—*Riddell; O'Sh.*

P'I. CHIN. Skin of the animal body.

PIADAH. HIND. A peon, a footman. Papiadah, on foot.

PIAL or Pyal. TEL. The verandah of a house; in Urdu, Pandal.

PIALA. HIND. A cup, a phial. Amongst the Rajputs the cup for opium solution. Colonel Tod relates how a Rajput chief with courtesy invited another to his castle, entertained him, and pledged his health and forgiveness in the 'munwar piala.' They made merry, and in the cup agreed to extinguish the remembrance of the feud. Munwar piala is a favourite expression, and a mode of indicating great friendship: 'to eat of the same platter (thali), and drink of the same cup (piala).' Piala, the touch-hole of a cannon. —*Tod's Rajasthan.*

PIASSABA FIBRE, from the leaf-stalks of Attalea funifera, *Mt.*, and Leopoldinia piassaba, *Wallace*, a valuable palm of the native forests of the maritime provinces of Brazil. The fibres of its leaf-stalks and other parts furnish the best cordage of South America. A coarse black fibre is obtained from the dilated base of the petioles. It is collected by the natives, and partly used for home consumption, partly exported to Europe, tied up in bundles of several feet in length, and sold in London under this name at about £14 the ton. It is manufactured into cordage in its native countries, and as it is light, cables made of it do not sink in the water. A. cohune of Honduras is another important species, very abundant in its native country. The nuts, which grow in clusters of several hundreds, yield a valuable oil. These should be introduced into India.—*Seeman; Dr. Spruce in Linnæan Journal.*

PIASTRE. The value of the Eyn piastre varies from 2s. to 2s. 6d.—*Rich's Kurdistan.*

PICA, a genus of birds. P. caudata, the magpie of Europe, W. Asia, Siberia, N.E. America, China? Japan? is replaced in Afghanistan and W. Tibet by P. Bactriana, in E. Tibet by P. Bottanensis, in China and Japan (?) by P. media, and Barbary by P. Mauritanica. See Pie.

PICE, Anglo-Hind. for Pysa, a copper coin of which four go to the anna, precisely an inch in diameter, weighing 100 grains troy, which is a legal tender for one sixty-fourth of the India rupee, and the double pice weighing 200 grains for one thirty-second of the rupee. This name is applied to a weight, a variable division of the seer, ranging in different localities from 156¼ grains up to 276½ grains.

PICHAURA. HIND. One of the pair of drums called 'tabla.'

PICHILI. HIND.? BENG.? A sort of cap worn by men in Birbhum.

PICHKARI. HIND. A stomach-pump; syringe for injection.

PICHOOLEE. URIYA.? A large creeper very common in Ganjam and Gumsur, with a circumference of 1½ feet. The bark is used medicinally for wounds and contusions.—*Captain Macdonald.*

PICIDÆ, the woodpecker family of birds, of which there are six sub-families, many genera and species, in the East Indies. See Birds.

PICKLES.

Saumure, Marinade, Fr.	Salamoia, ... It.
Pokel, ... Ger.	Salmuera, ... Sp.
Achar, ... Hind.	

Pickles are largely made and used by the natives of the East Indies, and are largely imported for European consumption. The mango and the tamarind, with capsicum, salt, spices, and sugar, in vinegar, are the more common substances used by the people; but the potato, cabbage, the fruit of the caper, the cayenne, ginger, onion, apple, tomato, turnip, also are pickled in vinegar; the mango and the citron are in oil. 'Chatni' has many varieties, composed of mango, tamarind, with red pepper, common salt, spices, sugar, vinegar, and a number of other ingredients, varied according to the taste of the maker, or according as is wished to produce a hot, sweet acid, or pungent 'chatni.' All these articles are used as relishes by natives, with their dhal, and rice, and chapatties. The native pickles are prepared with native vinegar, being generally sugar-cane juice fermented till it turn acid.—*Hassal; Powell.*

PICRASMA JAVANICA, *Bl.*, of Burma, one of the Simarubeæ, has a soft white wood. P. Nepalensis, *Benn.*, is a small tree of Nepal and the Khassya. P. quassoides, *Benn.*, is a tall shrub of the Outer Himalaya, from the Chenab to Nepal, up to 8000 feet. Its bark is used as a substitute for quassia.—*Gamble*, p. 64.

PICRORRHIZA KURROOA. *Royle.*

Veronica Lindleyana, *Wall. Cat.*

Tita, ... Beng.	Kali kutki, . . . Hind.
Bitter root, ... Eng.	Kurrooa, Karru, . Panj.
Pathan bed, . . Hind.	Hoon-ling, . . . Tib.

This plant grows in Gosainthan, Rampur, Sungnam, Kamaon, and Kedarkanta, on all the hills of the Himalaya, as also in the Kashmirian mountains. It is a fleshy-rooted perennial. Flowers sessile, deep blue, in dense spikes. The root is intensely bitter, and used as a medicine in India, at Lahore, more in veterinary than in human medicine. Tita or teeta is a general name given in Bengal to the roots of bitter herbs, but is given in East Nepal and in the Yaloong valley to the Picrorrhiza. It is a plant allied to speedwell, and grows at from 5500 to 15,000 feet elevation, and is a powerful bitter. The term Kali kutki is applied also to black hellebore, the Helleborus niger, an acrid purgative and poison. The Picrorrhiza root is exported to the plains, is one of the regular febrifuges, and is given for ascites and applied in plaster. Part of the Karru sold is the root of Gentiana kurroo (*q.v.*), and some of it is possibly produced by other plants.—*Hooker's Jour.* i. p. 272; *Cleghorn's Panj. Rep.* p. 67; *Powell*, i. p. 362; *Stewart; O'Sh.; Hough.* p. 325.

PICTURE PLANT, Graptophyllum hortense, Justicia picta, variegated leaf, blood-red leaf. One variety has variegated leaves, and the other deep purple.

PICUL, a weight of China = 133⅓ lbs. English.

1⅓ oz. English = 1 Tael.	100 Catty = 1 Picul.
16 Tael = 1 Catty.	

PIDDINGTON, HENRY, long coroner in Calcutta, was a merchant seaman. He published various scientific papers on Economic Geology, and afterwards Researches on the Law of Storms, the latter requiring an amount of patience and industry which can only be correctly estimated and appreciated by those engaged in pursuits of a similar nature. He published 24 Memoirs of Cyclones that had occurred between 1780 and 1851; and issued also The Sailor's Hornbook of Storms, which has gone through six editions. He showed the circular and progressive character of cyclones, and that north of the equator they circled from right to left, or against the hands of a watch. He contributed notices to the Agricultural and Horticultural Society, on the soils best suited for the cultivation of tobacco, coffee, sugar, cotton, and the tea-plant; on the manufacture of indigo; the artificial production of cotton; on the mode of preparing Manilla hemp; on the prevention of contagious diseases amongst cattle, and on the disease called Bosonto, which attacks the cattle of Bengal. He also published, as a part of Prinsep's Useful Tables, a Tabular View of the Generic Characters of Roxburgh's Flora Indica, a work requiring a considerable amount of labour and care in the compilation, and effecting a saving of time to the botanical student; but perhaps the most useful of his labours in this department was his English Index to the Plants of India, published 1832. In 1839 he printed, for private circulation, a treatise on the Scientific Principles of Agriculture considered as a branch of Public Education in India (which was published in 1854).

PIDGIN or Pigeon, an Anglo-Chinese corruption for the word business.—*Colld.*

PIE. Hind. A small copper coin of British India, the third part of a pice, and 12 of which go to one anna.

PIE or Magpie, the genus Dendrocitta, *Gould*, called also tree-crows, are of strictly arboreal habits.

D. rufa, *Scopoli*, the common Indian magpie, all India.
D. pallida, *Blyth*, the pale magpie, N.W. Himalaya, Kashmir, Afghanistan.
D. Sinensis, *Latham*, the Himalayan magpie, all British India.
D. frontalis, *M'Clelland*, the black-browed magpie, all India.
D. leucogastra, *Gould*, the long-tailed magpie.
D. rufigastra, *Gould*, South Asia.
D. occipitalis, *Mull.*, Sumatra.

D. rufa and its ally the red-vented pie (D. Sinensis), affect the same situations; and although D. rufa is not so domestic in habits, and less often met with in the neighbourhood of dwellings, it is plentiful in copses and jungles. Others of this family are Temia varians and T. cucullata of Burma; Glaucopus aterrimus, *Temm.*, of Borneo, with G. leucopterus and G. temnurus from Malacca.—*Adams.* See Pica.

PIENCHE. Tam. A Ceylon tree with wood of a dark colour, and very heavy and close grained. It grows to about 12 inches in diameter, and 14 feet in height. From this tree the native carpenters make the frames of vessels, it being considered durable. It produces a fruit which is of no use. —*Edye, Ceylon.*

PIERARDIA DULCIS is the Rambeh or Ramboi of the Malays. Another species, P. sapida, the Baccaurea sapida, *Mull.*, also yields an edible fruit. It is found in the district of Tiperah, to the eastward of Calcutta, and also in China, where it is cultivated for its agreeable fruit; it is there called Lutqua, and is called Lutco by the Hindus on the eastern frontier of Bengal.—*Eng. Cyc.*

PIERIS, a genus of plants, small trees. P. lanceolata, *Don*, of the Khassya Hills; P. formosa,

Don, and P. ovalifolia, *Don*, of the Himalaya. The young leaves of the last are used to kill insects; they are poisonous to goats, and an infusion is used in cutaneous diseases.—*Gamble.*

PIETRO DELLA VALLE travelled in Persia in 1614–23? and his book is known as Viaggi in Turchia, Persia, et India. He visited Cambay A.D. 1623, and wrote in the last days of the reign of Jahangir (1605–1627).

PIG.

Chu, ... CHIN. | Pindi, ... TEL.
Sur, Bura Janwar, HIND. |

The ordinary name for the wild and domesticated species of swine. There are many domesticated varieties. The hunt of the wild boar, called pig-sticking, is a favourite amusement of the British officers in India. They hunt on horseback, and use spears,—in Northern India with short spears, which are jobbed down on the boar; in the Dekhan with long spears, which are held firm in the armpit. The wild boar of Celebes is peculiar, but the Babirussa or pig-deer there has long and slender legs, and the male curved upper tusks turned back so as to resemble horns. It feeds on fallen fruits. It is found in the Celebes, in the Sulu Islands, and in Borneo. Pigmy hog (Porculia sylvania) of the submontane Himalayan regions. These little creatures, 7 or 8 lbs. in weight, are perfect little wild pigs, and are active, healthy, and strong. See Sus.

PIGAFETTA. Antonio Pigafetta, the companion of Ferdinando de Magaglianes.

PIGEON ISLAND, or Netrun Island, on the W. side of the Peninsula of India, in lat. 14° 1′ N., and long. 74° 19′ E., is 10 miles from the main. It rises abruptly out of 16 or 17 fathoms of water to a height of 300 feet, and may be seen from a distance of 25 or 30 miles. Another of same name is off the Vizagapatam coast, in lat. 17° 33′ N., long. 83° 14′ E.

PIGEON-PEA, Cajanus Indicus, is the seed of the plant called by Linnæus, Cytisus cajan, and by De Candolle, Cajanus bicolor, C. flavus, and C. Indicus. It is a pulse highly esteemed by all classes of the natives of India, and known as Dhal, Tour-ka-dal.

PIGEONS are classed by naturalists in the order Gemitores, which Jerdon (ii. 441) thus arranges:—

ORDER, GEMITORES, Pigeons.

Fam. Treronidæ. *Sub-Fam.* Trerorinæ, Green Pigeons.
Treron Nepalensis, thick-billed green pigeon, also T. aromatica, T. axillaris, T. curvirostra, and T. psittacea.
Crocopus phœnicopterus, Bengal green pigeon, also C. chlorigaster and viridifrons.
Osmotreron bicincta, orange-breasted green pigeon, also O. Malabarica, Phayrei, and flavo-gularis.
Sphenocercus sphenurus, Kokla green pigeon, also S. apicaudus, Korthalsi, Oxyurus, and Sieboldi.

Sub-Fam. Carpophaginæ, Fruit Pigeons.
Carpophaga sylvatica, the green imperial pigeon; also C. insularis, œnea, chalybura, insignis, basilis, cineracea, lacernulata, paulina, rosacea, and others.

Fam. Columbidæ. *Sub-Fam.* Palumbinæ, Wood Pigeons.
Alsocomus puniceus; also A. Hodgsonii, Palumbus casiotis; also P. pulchricollis, Elphinstonei, and Torringtonii.

Sub-Fam. Columbinæ, Rock Pigeons.
Palumbœna Eversmanni, Columba intermedia, the blue rock pigeon; also C. rupestris and leuconota.

Sub-Fam. Macropyginæ, Cuckoo Doves.
Macropygia tusalia; also M. ruficeps, rufipennis, macrura, phasianella.

Sub-Fam. Turturinæ, Turtle Doves.
Turtur rupicolus; also T. meena, Cambayensis, Suratensis, risoria, humilis.

Fam. Gouridæ. *Sub-Fam.* Phapinæ, Ground Doves.
Chalcophaps Indicus; also C. Javanicus, augusta, chrysochlora, longirostris.

Sub-Fam. Calœninæ.
Calœnus Nicobaricus.

Sub-Fam. Gourinæ.
Goura coronata; also G. Victoriæ.

Some Ceylon pigeons live entirely on trees, never alighting on the ground; others, notwithstanding the abundance of food and warmth, are migratory, allured, as the Singhalese allege, by the ripening of the cinnamon berries, and one species is known in the southern provinces as the cinnamon dove. A very beautiful pigeon, peculiar to the mountain range, discovered in the lofty trees at Newera-ellia, has been named Palumbus Torringtonii.

Columba intermedia, blue pigeon.

C. livia, *Blyth.* | Pagoda pigeon.
Kabutar, ... HIND. | Kovil pora, . . . TAM.
Parivi, ... MAHR. | Gudi-purai, . . . TEL.

The blue pigeon is the most common in India of all the pigeons. They congregate in large numbers, and breed wherever they can find suitable spots, on pagodas, mosques, and tombs. The common blue pigeon of India differs from the C. livia of Europe only in having an ash-coloured instead of a pure white rump. The C. livia of Europe, or rock pigeon, with its sub-species, is the parent form of all domesticated pigeons. Of these there are four groups, with at least 150 varieties, consisting of—

Poulters.

First, the German, Dutch, and English.

Second group includes the Kali-par, Murassa, Bussora, Dragon, and English carrier; the Bagadotten, Scanderoon pigeon, cygne rients, the tronfo, and the bank.

Third group includes the Java and English fantail, the turbit, and African owl; the Persian lotan, common and short-faced tumblers; the Indian frill-back and jacobin.

Fourth group includes the dovecot pigeon, swallow, spot, nun, English frill-back, laugher, and trumpeter.

Columba livia is the rock-dove of Europe, North Asia to Japan, N. Africa; abundantly replaced in India by the barely separable C. intermedia.

Columba aromatica of Latham, the Vinago aromatica, is of a mild and timorous disposition, and is generally seen in flocks or societies, except during the period of reproduction, when they pair, and retire to the recesses of the forest. The nest is simple, and composed of a few twigs loosely put together, and the eggs are two.

Carpophaga Forsteni, a fruit pigeon of N. Celebes.

Carpophaga oceanica, one of the nutmeg pigeons; many of both sexes are furnished with a large round fleshy caruncle on the bill, at the base of the forehead; this is said to be present during the breeding season only.

Carpophaga oceanica, Selby, is the Columba oceanica of Lesson, and according to Lesson is the Moulouesse or Mouleux of the natives of Oualan; it approaches the nutmeg pigeon, Columba (Carpophaga) œnea, very nearly, but differs from it in size, being one-third less, and in the distribution of some of its colours. The nut-

meg pigeon lives more particularly in the Eastern Moluccas, and especially at New Guinea and Waigiou, while the oceanic fruit pigeon is abundant in the little isle of Ouolan, in the midst of the great archipelago of the Carolines, and seems to exist in the Pelew Islands; it may possibly spread over the Philippines and at Magindanao.

Geophilus Nicobaricus is the Columba Nicobarica of Latham, the C. gallus of Wagler. It inhabits the Nicobar Islands, Java, Sumatra, and many of the Moluccas.

Turtur humilis, the Asiatic pigeon, is somewhat common in the Panjab.

Lophyrus coronatus is the Columba coronata of Latham; Phasianus cristatus Indicus of Brisson; Columbi Hocco, *Le Vaill.;* Colombe Galline Goura, *Temm.;* great-crowned pigeon, *Edw.;* and is a species surpassing in size all the other Columbidæ. Total length, from 27 to 28 inches. This bird is found in many of the islands of the great Indian group. Not rare in Java and Banda, abundant in New Guinea and in most of the Moluccas. Nest built in trees; eggs two; cooing of the male hoarse, accompanied by a noise somewhat like that of a turkey-cock when strutting. Its food consists of berries, seed, grain, etc. Flavour of the flesh said to be excellent.

Goura coronata, the crowned pigeon, and the Victoria crowned pigeon, G. Victoriæ, are noble birds of New Guinea and its adjacent islands. G. Victoriæ from Jobi Island, has a red-brown breast, grey wing spot, and a beautiful white-tipped vane surmounts the crest. Like the passenger pigeon, and all the fruit-eating pigeons of the genus Carpophaga, they lay but one egg. Recent writers name them Bipositores.

Australia is rich in pigeons; the most desirable to acclimatize is the wonga-wonga, and the most graceful is the crested dove. The latter breeds very freely in confinement, when suitably accommodated. The wonga-wonga, a shy breeder, is the Leucosarcia picata. The bronze-wing pigeon is Phaps chalcoptera. The crested dove is Ocyphaps lophotes.

Pigeons of Fiji are Chryscena viridis, *Layard;* C. luteovirens; C. victor, and Carpophaga Pacifica.

Pigeon-breeding is quite an oriental art; and a very good authority on the subject is an Arabic book translated into French in 1805 by De Sacy. A German translation was published by Herr Lœper.

Carrier pigeons have been trained in Europe for many useful purposes, latterly carried by fishermen seawards and liberated, with information as to the captures. They are much used by the Chinese for sending messages from town to town, conveying the market prices and exchange rates. They fly from Su-chan and Shanghai, 80 miles, in three hours. Two of the leading continental nations maintain pigeon-breeding establishments to supply fortresses and armies in the field with carrier pigeons. The Greeks employed pigeons for making known the names of victors in the Olympic games; the Romans likewise used them. From A.D. 1146 to 1256, the date of the Mongol invasion, the Baghdad khalifs used pigeons regularly for the transmission of correspondence. The Turks had carrier pigeons; and their Sultan Suliman maintained a pigeon post between Constantinople and Ofen, the distance, 170 geographical miles, being accomplished in 24 hours. In Egypt, in the 15th century, communications by pigeon were kept up between Cairo and Alexandria, Cairo and Damietta, Damascus and Tripoli. In Arabia and Persia, pigeon posts were found in existence by European travellers as late as the 17th and 18th centuries.

Hindu pandits assert that Siva and his spouse, under the forms and names of Kapot-eswara (pigeon god) and Kapotesi, dwelt at Mecca. The dove was the device of the old Assyrian empire, because, it is supposed, Semiramis was preserved by that bird. The Meccan pigeons—large blue rocks—are held sacred, probably in consequence of the traditions of the Arabs about Noah's dove. Some authors declare that, in Mahomed's time, among the idols of the Meccan pantheon, was a pigeon carved in wood, and above it another, which Ali, mounting upon the prophet's shoulder, pulled down. This might have been a Hindu, a Jewish, or a Christian symbol. The Moslems connect the pigeon on two occasions with their faith: when that bird appeared to whisper in Mahomed's ear, and, secondly, during the flight to Medina. They are called 'Allah's proclaimers,' because their movement when cooing resembles prostration. Almost everywhere the pigeon has entered into the history of religion. At Mecca they are called the doves of the Kaba, and never appear at table. They are said to be remarkable for propriety when sitting upon the holy building. This may be a minor miracle.—*Eng. Cyc.; Jerdon's Birds of India; Cat. Birds, Beng. As. Soc.; Cat. Birds, India House Museum; Burton's Mecca*, iii. p. 218.

PIGMY DEER. The Chevrotin, or pigmy deer, are not much larger than hares.

PIGOT, LORD, for forty years a civil servant of the East India Company at Madras. He amassed a fortune of forty lakhs of rupees, and on visiting England 1774 he obtained an Irish peerage, and returned to Madras as Governor. He strove to preserve the purity of his government, suspended two of its members, and placed the commander-in-chief, Sir Robert Fletcher, in arrest; but the majority of the Council placed Lord Pigot in arrest. The Court of Directors ordered his restoration. Seven members of the Council were dismissed, 1776, and Sir Thomas Rumbold, a Bengal civilian, appointed Governor.—*Marshman.*

PIG'S TUBERS, Chul-ling, CHIN. These tuberiform bodies are of irregular size, and are compared by the Chinese to pig's dung; they are produced as an excrescence on the liquidamber tree, and used by the Chinese in fevers, fluxes, and urinary disorders.—*Smith's Mat. Med. China.*

PIGU, the Persian name of Buddhists, and for eastern Turks.—*Vambery*, p. 88.

PIH-KEA-SO. CHIN. The hundred family lock; a lock purchased with money begged from friends, and put round a child's neck to lock it to life.

PIH-TE or Pak-tai is the great deity of the north, whom the Chinese believe existed before the world. He is regarded as the most beneficent of deities, and his temples are generally crowded with votaries; all persons embarking in trade seek his blessing. Five genii preside over the five elemental substances, fire, earth, water, metal, and wood, and in the fourth month of each year are honoured with banquets.

PIKOTA. TAM.? A machine on the principle of a lever, for raising water from wells. It is

called Etamu in Telugu, and Yerram or Yettam in Tamil. It has a bucket (Etamu bakkena, TEL., Yetta chal, TAM.) suspended from a bamboo pole, Yetta kol.

PIKU, an apparatus used in Hazara for rice cleaning, etc.

PIKUL, equal to 133⅓ lbs. avoirdupois.

10 Cash	=1 Candarin.	100 Catty	= 1 Pikul.
10 Candarin	=1 Mace.	1 ,,	=16 Tael.
10 Mace	=1 Tael.	1 Tael	=1⅓ oz. English.
16 Tael	=1 Catty.		

PIKUNI, female Buddhist mendicants.

PILAMA. SINGH. Statue of the Buddhist deity.

PILANG, a very hard wood of Java, employed in the eastern districts for the construction of ships' blocks, etc. Pung is equally hard with pilang, and is employed by the natives for pegs in constructing their prahus.

PILAVATA, in the Malealam country, a scarf permitted to be worn over the shoulders by people of high caste alone.

PILCHARDS. In the south of England pilchards are largely taken in nets, and efforts are being made to place them in the market like sardines in tins. Clupea pilchardus, the pilchard, is said to frequent the coast of Japan in the latter part of the month of June and commencement of July. They are taken by the seine nets. When fresh, they are sweet and nutritious, but they are chiefly valued for their oil, to obtain which they are piled up in heaps for 24 hours, are then boiled for some time in sufficient water to prevent their burning, then ladled into strong square presses, and the lever action of a lid presses out the oil. The oil, after cleaning, is used for lamps, and the refuse for manure.—*M'Culloch's Com. Dic.*

PILGRIMAGES are extensively made by Hindus, and regarded as very meritorious. Of all the holy cities of the Hindus, Benares takes the first place; but the shrines at Hardwar in the Himalaya, Dwaraka in Gujerat, Jaganath in Orissa, Panderpur on the Kistna, Tripati in N. Arcot, Srirangam near Trichinopoly, and the island of Ramiseram, are all sacred sites to which Hindus resort. There may also be mentioned Abu, Anupshahr, Aror, Badrachalam, Badrinath, Bhadreswar, Bhagulpur, Bhuvaneswar, Birbhum, Danta, Deogarh, Deoprayag, Ganga-Bal, Gaya, Gauhati, Govardhan, Kedarnath, Kurukshetra, Nasik, Parasnath, Puri, Rameswaram, Saugor Island, Sivaganga, Trichinopoly, Trembak. Of rivers, the Ganges takes the first place; but Hindus reckon five Ganga, viz. the Ganges proper, the Godavery, Kistna, Cauvery, and Tumbudra, and they have twelve holy rivers. The objects of the Hindus in making their pilgrimages are as varied as the human motives, passions, and desires, but chiefly to fulfil a vow or to implore benefits, or in penance. The bulk of the Hindus who make pilgrimages are usually in poverty, and beg from place to place. Many die on the roads, exhausted by the prolonged exertions. To visit their various sacred sites, from the source to the mouth of the Ganges and back again, occupies six years. With Muhammadans of the Sunni sect, Mecca and Medina are the chief pilgrimage cities; and the Shiah sect visit Medina and Karbala, and Ardabel, in lat. 38° 14′ N., and long. 48° 21′ E. The principal places for their minor pilgrimages are the tomb of Ali, called Mash'hid-i-Ali at Naj'f near Cufa, the shrine of Imam Husain at Karbala, and that of Imam Raza at Mash'hid in Khorasan, but the tombs of all the numerous Imam-zadeh and holy characters throughout Asia are visited. The minor pilgrimage to the Muhammadan saints of India is termed a Ziyarat, as distinguished from the Haj or great pilgrimage to Mecca in Arabia, but no Muhammadan except the Maliki is bound to pilgrimage unless he possess a sum sufficient to support himself and his family. The streets of Mecca, however, abound in pathetic Indian beggars, who affect lank bodies, shrinking frames, whining voices, and all the circumstance of misery, because it supports them in idleness. There are about 1500 Indians at Mecca and Jedda, besides 700 or 800 in Yemen. The Muhammadans of Sumatra and of Netherland India largely resort to Mecca.

Amongst the Christians, Jerusalem in Western Asia, and St. Thomé or Mylapore on the Coromandel coast, an outskirt of Madras, are the chief places of resort. An immense concourse of Christians visit every year, on the 29th September, the fountain of St. Michael near Ballynaskellig, on the coast of Kerry. Then the feast of St. Michael coincides with the autumnal equinox, and consequently with the sacrifices and the Baal-tinnes of the Druids, which also took place at this period. It is related that Arthga, son of Cathal, king of Connaught, took the pilgrim's staff, and set out for Hiona dia ailithre, a rock or upright stone, and itriallum, going round. Ailathre, used by the ancient Irish, is still employed to designate the pilgrimages to Iona, Jerusalem, or Rome.

The Buddhist pilgrims of Burma visit the great Shoay-dagon pagoda at Rangoon, and the pagoda at Prome, and all the southern Buddhists reverence the Anaradhapura temple in Ceylon.

With all these races and religionists, Hindus, Hebrews, Buddhists, Muhammadans, and Christians, the circumambulation of the shrine forms part of the pilgrim's duty. This was a Jewish practice, it is often mentioned: 'Walk about Zion, and go round about her, tell the towers thereof.' In India, pilgrim taxes were instituted by Muhammadan rulers on Hindus, but were abolished by an act passed by the British in 1840, and all interference with the religious ceremonials or temples of the natives discontinued.

Pilgrim's-tree, also called Rag-tree, is to be observed throughout Southern Asia, in Egypt, and in Africa. They are trees on which rags are suspended, and Buddhists, Hindus, and Muhammadans alike add to them. In the Peninsula of India, it is usually the common babul tree, Acacia Arabica. Burton says that some believe that Mahomed permitted the practice, and explain the peculiar name of the expedition called Zat-ur-Rukaat (place of shreds of cloth), by supposing it to be a term for a tree to which his followers hung their ex-voto rags. Huc in his travels mentions that the Tartars worship mountain-spirits by raising an 'obo,' dry branches hung with bones and strips of cloth, and planted in enormous heaps of stones. Park, also, in Western Africa, conformed to the example of his companions, in adding a charm or shred of cloth on a tree (at the entrance of the wilderness), which was completely covered with these guardian symbols. The Tarikh-i-Tabari mentions it as a practice of the pagan Arabs, and talks of evil spirits residing in the date tree.—*Burton's Mecca*, i. p. 227.

PILIBHEET, the chief town of the Jehanabad subdivision of the Bareilly district, has a population of 27,900 souls, inhabiting 6116 houses. It derives its name from a sect of Banjara called Peerea, and Bheet, a structure, or anything raised above the ground; the entire name implying the lodgment or tanda of Peerea Banjara. They first established themselves at a place now called 'Old Pilibheet,' and removed to the site of the present town about the year 1740, on the invitation of Hafiz Rahmat Khan, the then ruler of Bareilly, and in fact of all Rohilkhand. The town was subsequently fortified, and the old bastions and curtains of it are still standing, though dilapidated and broken. Pilibheet is the great emporium of Northern Bareilly and the adjacent Terai and hills, and its timber and rice marts are unequalled in all Rohilkhand. The far-famed Pilibheet rice is grown in the northern low Terai lands, and the finest and best quality sells at three seers per rupee, whilst the price of the coarser or inferior description varies from eight to eleven seers per rupee. Numbers of flat-bottomed boats are annually built at Pilibheet, and floated down to Futtehghur, where they ordinarily sell for about 200 or 250 rupees each.

PILLAI or Pilly is a title added to the names of persons in the south of the Peninsula engaged in agriculture. It is a Tamil term, and is usually supposed to mean a child or son of the deity; but some derive it from the god Pillaiyar, son of Siva. It is now a tribal title, which has been largely assumed by native Christians in the south of the Peninsula; it is also usually appropriated by the Idayar, the great pastoral race of the Tamil country, who, however, likewise take as titles, Konar, Kone, or Khone, meaning king. The title of Pillai is also conceded to the Kannahan or accountant's tribe, and the Valluwah priests of the Pariah races also call themselves Pillai, which is likewise allowed to the Hindu Komatti of Telingana. This honorary suffix is very largely taken in Travancore. Strictly speaking, it can be used there only by those who have presented to the sovereign a certain nuzzer, and have received the Tiru Mukha Sthnanam. This titular appellation, though now assumed by many persons who have not been so honoured, but is by courtesy conceded to them, purports to indicate its recipient to be an honorary accountant to the sovereign, though its holder has no duties to perform.

PILLAIYAR, literally the noble child, the most common name of the god Vighneswara in the Tamil country. Pillaiyar chaturtti, or Pillaiyar-nonbu, a fast on the fourth day of the new or full moon in honour of Vighneswara, and more especially in the month Avani (August—September).

PILLOW.

Oreiller, Coussin, . . FR.	Talla-kani, ... TAM.
Kopfkissen, . . . GER.	Talla-kada, ... TEL.
Gadi, Takiya, . . HIND.	Yuz-yassdighi, . TURK.
Guanciale, ... IT.	

The only seats used by Asiatics of rank are carpets or cloths spread on the ground, which is elsewhere uncovered, and pillows. Moghul emperors used a sort of throne, but their courtiers sat on the ground. The Hindu rajas, the Peshwa, and others, sat upon a cloth, supporting themselves by pillows. The Nawab of Hyderabad in the Dekhan, and all his nobles, sit on small carpets with pillows at their back.

PILOT FISH, Naucrates ductor, the Gasterosteus ductor, *Linn.* One of these almost invariably accompanies a single shark. It is a prettily-marked fish, the back and head being of a beautiful purplish hue, the sides streaked with fine black bands, the belly silvery, and the fins black and white mottled. Its length is from four to eight inches. It lives on marine plants (fuci) and fish. It is good and delicate eating. When a shark is caught, it does not quit it till the shark is removed from the water.

PILPAY, the Bed-pai of the ancient Hindu. He was the prime minister of Sailadeva. Pilpay's fables is the English version of the Panchatantra.

PI MA PEW. BURM. White peema, a tree of maximum girth 6 cubits, and maximum length 30 feet. Very abundant all over the Tenasserim and Martaban Provinces. When seasoned it floats in water. It is a tough wood, lighter than, but does not last for so long a time as, red peema, and rots in any position when shut out, as in the hulls of ships, in store, etc.—*Captain Dance.*

PIMELEA. A species of this genus of plants is abundant in the Wynad, and common all over the Neilgherries, where its fibre is made into sewing thread by the natives.

PIMENTA OFFICINALIS. *Lindley.* Clove pepper.

Eugenia pimenta, *D. C., var. a.* longifolia.
Myrtus pimenta, *Linn., var. a.* longifolia.

Piment, DAN., DUT., GER.	Pimenta du Jamaica, PORT.
Poivre de Jamaique, FR.	Angliiskiipirets, . . RUS.
Nelken-pfeffer, . . GER.	Pimenta de la Jamaica, SP.
Pepe garofanato, . . . IT.	Krydd peppar, . . SW.

This allspice tree, or bayberry tree, has been introduced into the East Indies. There are several large trees at Madras, but the climate of the Carnatic does not suit them. It flourishes spontaneously and in great abundance on the north side of the island of Jamaica. Every leaf when bruised emits a fine aromatic odour. The tree has been known to grow to the height of from 30 to 40 feet, exceedingly straight. A single tree has frequently produced 50 lbs. of the raw or 10 lbs. of the dried fruit, which is known in commerce as allspice, pimento, clove pepper, and Jamaica pepper. The fruit has an aromatic odour, and its taste combines that of cinnamon, nutmeg, and cloves; hence its common name of allspice. The leaves yield by distillation a delicate odoriferous oil. The berries are gathered before they are ripe, and spread on a terrace, exposed to the sun for about a week, during which time they lose their green colour, and acquire that reddish-brown tint which renders them marketable. Some planters kiln-dry them. Perhaps a very plenteous crop occurs but once in five years.—*Poole; Simmonds; Cat. Mad. Ag. Hort. Gard.; Madras Exh. Report; Voigt.*

PIMPINELLA, a genus of plants of the natural order Apiaceæ, of which are known P. anisum, P. Candolleana, P. involucrata, and P. Lechenaultii.

Pimpinella anisum, *Linn.*, aniseed, anise.

Anisun, ... ARAB.	Rezian-i-rumi, . PERS.
Mahoori, . . . BENG.	Awak pushpi, . SANSK.
Tsa-moun tsa bah, BURM.	Karava sataphaspha, ,,
Sonf, ... DUKH.	Sinhala-asamoda-
Anison, GR. of Dioscorides.	gan, ... SINGH.
Anisa, ... GUJ.	Sombu, ... TAM.
Jira-manis, . . MALAY.	Kuppi chettu, . . TEL.
Adis manis, . . ,,	

This plant grows in Egypt, Scio, and the

Levant, and is cultivated in Europe for its seed, which in various forms is much employed in medicine as a stomachic, especially in the diseases of children, and is also used as a condiment among all eastern nations. 8 lbs. of the seeds give 3½ ounces of the oil. Essential oil of aniseed is white, yellowish, a little lighter than water. It only exists in the pericarp, the interior of the seed yielding a tasteless and inodorous fixed oil. The pure essential oil can only be obtained by distilling the seeds with water. The oil is a good and safe stimulant, and is much used in prescriptions for children suffering from flatulence and colic.

Pimpinella crinita, *Bois.*, Bal ajuain, SUTLEJ, RAVI. A small plant, common in the Salt Range up to about 2000 feet, and in several of the more arid tracts of the Panjab, Cis and Trans Indus.

Pimpinella involucrata, *W. and A.*

Apium involucratum, *Roxb.* | Radhuni, . . . BENG.
Ptychotis Roxb., *D. C.*

Cultivated all over Bengal, at Singapore, Prome, etc. Flower small, white, in February, March, and April. Seeds used by the natives for culinary and medicinal purposes. The leaves, though of an unpleasant smell, are now and then used as a substitute for parsley by Europeans.—*O'Sh. Dr. J. L. Stewart; Voigt; Wight's Icones.*

PINA-CLOTH, an expensive fabric made by the natives of the Philippines from the fibres of the pine-apple leaf, the Ananassa sativa; the texture is very delicate, soft, and transparent, and generally has a very slight tinge of pale yellow. It is made into shawls, scarfs, handkerchiefs, dresses, etc., and is most beautifully embroidered by the needle. See Pine-Apple.

PINANG, also Pulo-Pinang, or Prince of Wales Island, is about 400 miles to the north of Malacca, at the head of the Straits, and separated from the mainland by a channel two miles broad. The highest peak, not far west of the town, is about 2700 feet high. Government Hill adjoining it is about 2500 feet, and the other hills from 1000 to 2000 feet high. The island is 14 miles long by 8 miles broad; it was obtained for a yearly payment of 6000 dollars from the neighbouring Malay sultan of Kedah, through the influence of Captain Light, who is said to have married his daughter, and who was appointed the first governor in 1786. The island then was wild and uncultivated, with only some 20 or 30 inhabitants. Long after that, the opposite coast, some 30 miles long by 15 miles broad, was obtained from the same prince for another annual payment of 4000 dollars.

PINA-THA. BURM.?. In Amherst, Tavoy, and Mergui, a tree of maximum girth 5 cubits, and maximum length 25 feet. Very abundant all over the Tenasserim provinces, particularly in the old deserted towns. When seasoned, it floats in water. It has a light wood with a yellow hue, which darkens on exposure. Useful for the yellow dye which boiling extracts from it, and which is permanent in cloth, and not affected even by boiling water. It is used by Phoungyes. This wood has a fine tone when struck, and is used for musical instruments by the Burmese; it is used by English brush-makers for the backs of hair brushes, being a handsome wood which takes a good polish.—*Captain Dance.*

PINCHBECK.

Tombak, ... DUT. | Wellaety-suna, GUJ., HIND.
Similor, Tambac, . . FR. | Tombacco, ... IT.
Tomback, . . . GER. | Tambac, Tumbaga, . SP.

A yellow, gold-coloured alloy of zinc, copper, and brass, in imitation of gold.—*M'Culloch.*

PIND. HIND. An aphorism. In the Upper Panjab, a village; as Pind Bhattian, Pindi Ghaib, Rawal Pindi. In the Multan division and Dehrajat, dried dates of Phœnix dactylifera.

PINDA. SANSK. A ball of food offered at the Srad'has of Hindus to the pitri or manes. They are made of boiled rice, sesamum seeds, honey, butter; also, at times, various pulses, cereal grains, water, frankincense, sugar, and milk. Also said to mean food prepared the day after a death, of which, as a rule, only members of the family partake.

It is laid down in the Hindu scriptures that, on the occurrence of a death, the son or other heir of the deceased must offer lump-offerings (pinda), and that if he neglect to do so, the spirit passes into the state of goblin. If, after the fourth lump has been offered, the obsequies proceed no further,—for example, if any cause occur to prevent cremation,—the spirit, it is believed, remains a bhut or goblin. Similarly, if six lumps only be offered, the spirit remains a pret. For twelve days the soul, it is supposed, is seated on the eaves of the house in which it had parted from the human body. At sunset, therefore, the compassionate relatives place upon the roof for its subsistence a vessel of water and another of milk. Other accounts fix the residence of the soul during this melancholy period at the place of the funeral pile, or at cross roads; and some admit that it dwells alternately in the elements of fire, air, and water, and in the house which was its home. One lump-offering should be made daily, until the fourth day from the day of decease, for the construction of a new body for the pret. The body at the end of that time attains to the size of the upper joint of a man's thumb. On the tenth day, a lump should be offered for the purpose of satisfying the hunger and thirst which the pret now begins to feel. The common practice in Gujerat at the present time is to make the lump-offering ten times on the tenth day. Srad'ha must be performed on the tenth, eleventh, twelfth, or thirteenth day succeeding the decease, and afterwards monthly on the day of the month on which the death occurred, and yearly on its anniversary. Srad'ha must be performed beside a reservoir or on the banks of a river. The sacrificer shaves his face, and, holding in his hand a copper cup containing water, with sesamum and sacrificial grass, he repeats the name of his progenitors, both paternal and maternal, sprinkling water as he repeats each name. The heir now forms an image of the deceased with sacrificial grass, washes it, and strews it with flowers. A similar representation of a Viswa Deo is also made to witness the performance of the rite. The sacrificer sprinkles these, muttering a charm which has been taught him by his family priest, and which is supposed to call the Deo and the soul of the deceased into the figures. A saligrami stone is placed beside them to represent Vishnu, and the three are worshipped with the usual ceremonies. Food is then set before the grass figures and the saligrami, and

the heir, sprinkling them once more, repeats the charm which is supposed to dismiss their inhabitants. The grass is thrown before a cow to be eaten. The rites performed, the relations and neighbours of the deceased are entertained, and Brahmans feasted according to the means of the sacrificer.—*Kennedy on the Origin of Languages*, p. 210; *Rasamala, Hindoo Annals*, ii. p. 374.

PINDAPATA VELA is explained to signify the hour of going round to collect the Pinda, which is the name given to the food collected by the Sangata or Buddha mendicant. The word means a lump or ball of any viands, usually of rice or meal. It is at the seventh gharri, which will be one hour after noon.—*Hind. Th.* ii. p. 38.

PINDARA or Pindari, who ravaged India from the middle of the 18th to the earlier part of the 19th century, were of every origin, but the term was taken from the Beder race, who extend from the Kistna southwards into the Mysore country, where they hold lands. A small body of them dwell on the platform of Raman Malay, 37 miles west of Bellary, and there are two small principalities of the Beder race at Zorapore and Ghurgunta, on the north bank of the river Kistna. It is from this race, the Baidara Wanlu of the Teling, that the name Pindara comes.

Pindara are mentioned in Indian history as early as the commencement of the 18th century; several bands followed the Mahratta armies in their early wars in Hindustan. Coleman tells us that they were early arranged into durrah or tribes, commanded by sirdars or chiefs, and people of every country and of every religion were indiscriminately enrolled in this heterogeneous community, a horse and sword being deemed sufficient qualifications for admission. A common interest kept them united. Some of the chiefs acquired wealth and renown in the Mahratta wars; they seized upon lands, which they were afterwards tacitly permitted to retain, and transmitted, with their estates, the services of their adherents to their descendants. The Pindara were a sort of roving cavalry, coeval with the earliest invasions of Hindustan by the Mahrattas. When the Brahman Peshwa rulers ceased to interfere personally in northern politics, and that part of the Mahratta affairs became transferred to Sindia and Holkar, the Pindaras ranged into two parties, the Sindia Shahi and Holkar Shahi. The horde was called a Luhbur, and out of 1000 about 400 might be well mounted. Their favourite weapon was a spear with a light bamboo shaft, and from 12 to 18 feet long. They had no baggage, and could therefore move with a speed which no regular troops could accomplish. They were guilty of every outrage that barbarity could suggest on the villages through which they passed. The Pindara attached themselves as a distinct class to native armies, which they followed without receiving pay or being actuated by patriotism; and so far from wishing to be distinguished for their prowess as fighting men, they never sought even for plunder, their sole occupation, but where it could be obtained without danger.

When first known to the British, they were in two bodies, the Sindia Shahi, of 18,000 horse and 1300 foot, with 15 guns, and the Holkar Shahi, of 3000 horse, 1500 foot, and 18 guns. The Sindia Shahi were under several leaders, of whom Chetoo, Karim Khan, and Dost Muhammad were the principal. They moved through the country at their pleasure, and levied contributions at will upon their sovereign's subjects and dependents, or carried their bands into Rajputana, and plundered both friends and foes. They threatened Mirzapore, plundered Masulipatam, Ganjam, Guntur, and the Northern Circars. Central India was disorganized, the princes of Rajputana were helpless, the Maharaja of Udaipur was bearded in his capital by military adventurers, and robbed of his domains by his own feudatory chiefs and clansmen. His palace on the banks of the lake was besieged, and his servants bringing up water were plundered; and on the suppression of the Pindara, the British Government, in 1818, allowed him Rs. 4000 a month until his country should yield some revenue. Rajputana had then become wholly disorganized. The raja of Jodhpur had abandoned the reins of government to the hands of a dissolute prince, who was soon after assassinated. The raja of Jeypore, infatuated by a Muhammadan dancing girl, preserved only a portion of his hereditary possessions by the sufferance of Amir Khan. The Marquis of Hastings, then Governor-General, took the field against them in 1817, with the combined forces of the Bengal, Madras, and Bombay armies, which, including irregular horse and contingents, amounted to 116,464 men and 295 guns. It was the strongest British army which had been seen in India. One-half operated from the north, the other half from the south. The forces of the native powers which might be brought into the field were estimated at 130,016 horse, 87,316 infantry, and 589 guns, including the Pindara.

During the administration of Lord Hastings, the most powerful of the captains were Amir Khan, Chetoo, and Karim Khan. Amir Khan had an organized army of many regiments and several batteries of cannon. In 1814 he had 30,000 horse and foot, and a strong force of artillery, whom he supported by exactions on the Rajput states. Karim, in 1807? paid a ransom to Sindia of £100,000.

Chetoo during 1817 had been encamped at Ashta, on the Parbati river, some 40 miles distant from Bhopal; a second camp of Pindara was under Karim Khan, north of the town of Ashta, near Bairsa; and a third, under Wasil Muhammad, near Garspur, 35 miles west of Saugor. But between Chetoo and Karim Khan the enmity was such as to preclude the formation of any common plan of action. They were hemmed in by divisions of the army of India under Sir Dysen Marshall, Sir John Malcolm, Sir Thomas Hislop, Colonel Adams, and the Marquis of Hastings, and one part after another was surprised and broken up. Amir Khan disbanded his army on condition of being guaranteed the possession of what is now the principality of Tonk. Karim Khan was granted a jaghir, value Rs. 1,60,000 per annum, near Gorakhpur, on the Nepal frontier. Wasil Muhammad was placed at Ghazipur, on the Ganges, but, disgusted with so tame a life, he poisoned himself; and Chetoo, refusing all offers, about February 1818 fled to the forest, and was destroyed by a tiger in the jungle near Asirgarh. He was the last of the Pindara chiefs in the field.

In the same year (1817), and almost in the

same month (November), as that in which the Pindaras were crushed, the three great Mahratta powers at Poona, Nagpur, and Indore rose separately against the British. The Peshwa himself surrendered, and was permitted to reside at Bithur, near Cawnpur, on a pension of eight lakhs of rupees. The districts in Central India and Malwa were left in a disorganized state: the Mahratta chiefs had parcelled out amongst themselves the possessions of the Rajput chiefs, and the smaller states were all subject to Sindia, Holkar, or the Puar, and sometimes to all three. Many of the smaller chiefs had been driven from their possessions, and had sought refuge in the jungles and mountains, where they robbed or levied tankhah or black-mail from the larger states. These predatory chiefs were twenty-four in number at Sir J. Malcolm's time.

The capture of Atghar on the 8th April 1819, was the closing operation of the war against the Pindara and the Mahrattas, under Appa Sahib, Baji Rao, and Holkar. It had lasted from the 5th November 1817 to the 13th May 1819, during which the British forces had conducted a remarkable number of sieges, and forced marches by night and day. More than thirty hill fortresses had been captured, and a space of nearly 40 geographical degrees, which for half a century had been scenes of continued anarchy, was freed from the most destructive of military insolence, of a vast number of well-armed, reckless, and predatory hordes. No grand battle was fought, and much was effected by political sagacity. Holkar's power and territories were reduced, Appa Sahib became a fugitive, Baji Rao a pensioner, and Sindia's power reduced; while treaties were entered into between the E. I. Company and the rajas of Jodhpur, Jeypore, Jeysulmir, Bikanir, Dungarpur, Partabghur, Banswara, Sirohi, Krishnaghur, Kisauli, Bundi, and Kotah. 134 European officers and 3042 of other ranks had been killed and wounded.

PINDARAKA, a watering-place on the Gujerat *coast, about 20* miles from the N.W. *corner of* the Peninsula of India. It is near Dwaraka, and was resorted to by Krishna. It is still venerated.

PIND DADAN KHAN, a commercial town in the Panjab, with a population of 15,740, consisting of 7329 Hindus, 7984 Muhammadans, 404 Sikhs, and 23 others. It is situated in lat. 32° 34′ 53″ N., and long. 73° 5′ 20″ E., and is one mile from the north bank of the Jhelum river, and five miles from the foot of the Salt Range.—*Imp. Gaz.*

PINDING. SINGH. A gold ornament worn by Malay women of rank as a fastening for the waist-belt.

PINDUR and Kuphinee, two rivers in the Kamaon Himalaya, remarkable for the glaciers which occur in them.

PINE-APPLE, Ananassa sativa or Bromelia ananas.

Nanat, Nannah-thi, BURM.	Pina, . . of PHILIPPINES.
Pandang, . . CELEBES.	Nay, ... SGAU.
Pijn appel, . DUT., RUS.	Separat, ... SIAM.
Annasso, ... IT.	Anasi, ... SINGH.
Nanas, ... MALAY.	Anasia, ... TAM.
Koida chika, . MALEAL.	Ananas, ... TEL.

This is the fruit of a plant indigenous to America and the East and West Indies, and reared in hot-houses in Europe. In its wild state it is inferior to the carefully cultivated. It is one of the most abundant fruits in the Tenasserim provinces. Its long and rigid leaves, thorny at the edges and point, abound in fine white fibres, which are in some countries woven into the finest fabrics, netted or twisted into lines for fishing, and into ropes possessed of considerable strength. These are said not to be injured by constant immersion in water, a property which the natives increase by tanning them. The plant is said to have been introduced into India by the Portuguese in the year 1594. Being a native of the moist forests of South America, from the level of the sea to elevations of about 1800 feet, it requires, for its successful culture as a fruit, a warm and moist climate; but, like others of the family, the species are capable of existing in a warm, dry air. The pine-apple is described as growing in great abundance in the Philippine Islands, but as producing only a small, rather dry fruit. But M. Perrotet considered it a distinct species, and named it Bromelia pigna, from the Spanish name Pigna or Pina, signifying a cone. There, this plant is valued on account of the fine hair-like fibres which are separated from out of the leaves. Of these fibres, the celebrated pine-apple cloth of the Philippines, sometimes called 'batiste d'ananas,' and resembling the finest muslin-like fabric, is woven. This is embroidered by the nuns of the convents in Manilla. The leaves, recently gathered, are laid upon a board, and the epidermis is removed with a broad knife. Upon its removal from the upper surface of the leaf, the long and beautiful fibres are seen lying upon the lower and denser epidermis, running in a longitudinal direction; the fasciculi of fibres are then readily detached by the hand, on being raised with the broad knife. Spinners in England did not consider it could be substituted for flax in the manufacture of textile fabrics. A patent was, however, taken out by Mr. Zincke, for the manufacture of thread from this fibre, because, when bleached, it could be spun in the same way as flax. The process of bleaching, by destroying *the adhesion* between the bundles of fibres, renders it much finer, and hence enables it to be extended between the rolls in the process of spinning. The first step is to remove the fleshy or succulent side of the leaf. A Chinese, astride on a narrow stool, extends on it, in front of him, a pine-apple leaf, one end of which is kept firm, then, with a kind of two-handled plane made of bamboo, he removes the succulent matter. Another man receives the leaves as they are planed, and with his thumb-nail loosens and gathers the fibres about the middle of the leaf, which enables him by one effort to detach the whole of them from the outer skin. The fibres are next steeped in water for some time, after which they are washed, in order to free them from the matter that still adheres and binds them together. They are now laid out to dry and bleach on rude frames of split bamboo. The process of steeping, washing, and exposing to the sun is repeated for some days until the fibres are considered to be properly bleached. Almost all the islands near Singapore are more or less planted with pine-apples. The leaves that are annually suffered to putrefy on the ground would supply fibre for a large manufactory of valuable pina-cloth. The pine-apple planters are not Malays, but Bugis, most of whom have families.—*Jour.*

Ind. Archip. ii. No. viii. 1848, p. 523; *M'Clelland; Mason; Royle's Fib. Pl.* p. 337; *Journ. of Agric. Soc. of India*, viii. p. 182. See Pina-Cloth.

PINELLIA TUBERIFERA. Midsummer root. Sang-pwan-hia, . . CHIN. | Fan-pwan-hia, . . CHIN.

In China, the tubers of two or three aroid plants are gathered in the middle of summer, and used medicinally. Of these, Pinellia tuberifera, Ariscema ternatum, Arum macrorum, and others are soaked and dried frequently, until the poison is exhausted, and then cut into slices or made into a powder. In Hankow, they are met with in the form of white or yellowish-white spherical balls, the interior is beautifully white, dense, and amylaceous when fresh; they are emetic and diaphoretic. When dried or in powder, they are given in fever, rheumatism, apoplexy, and renal diseases.—*Smith's Mat. Med.* p. 149.

PINE MARTEN, Martes abietum, does not apparently affect the Western Himalaya, but its skins are brought to India from Afghanistan.

PINEY TREE, Vateria Indica, *L.*, the Elæocarpus copalliferus, *Retz*, is a lofty tree of Malabar, which produces the piney varnish, the piney resin or white dammer, Indian copal or gum anime, and the piney tallow or Dupada oil, and the timber is an excellent building wood. The tree grows plentifully in the forests of the western coast; it grows from cuttings, and is found planted by the roadside in Malabar. The resin resembles copal, and the finer specimens are as transparent as amber, and nearly colourless. It is procured by cutting a notch in the tree, sloping inwards and downwards. This is soon filled with the juice, which in a short time hardens by exposure to the air. When used as a varnish, the usual practice is to apply the balsam before it has become hard.

Dr. Buchanan, in his Journey through Mysore, Canara, and Malabar (ii. p. 476), says men of the Panchala tribe paint and varnish by the following process:—They take buttermilk and boil it with a small quantity of quicklime until strings form in the decoction and separate from the watery parts, which they decant. The stringy matter is then mixed with the paint, which has been well powdered; with these the woodwork is first painted, it is then allowed to dry for one day, and afterwards receives a coat of pumdam, which is the fresh juice of a tree called Piney marum. The pumdam must be used while it is fresh, and will not keep for more than two or three days after the first coat of paint is given, and that is followed by another of varnish. In the same manner leather may be painted and varnished. The varnish effectually resists the action of water, but when that is not procurable, the resin, melted by a slow heat, and mixed with boiling linseed oil, forms a varnish which answers equally well for most purposes. The following formula for its preparation may prove useful:—Into a new and perfectly clean earthen vessel (a chatty) put one part of the piney dammer in coarse powder, cover closely, and apply a very gentle heat until the whole is melted; then add about two parts of linseed oil, nearly boiling hot, and mix well with a wooden spatula. Should the varnish prove too thick, it can at any time be reduced by the addition of more oil, or, if required, may be made thicker in the first instance. It is essential to the success of the process that the piney be melted in a covered vessel over a very slow fire, and the whole of it reduced to a fluid before the addition of the oil, which must, to ensure an equal mixture, be nearly boiling hot. This varnish is used for carriages and other fine furniture requiring to have their paint well protected, or to which it is desirable to impart a fine gloss. A spirit varnish is prepared by reducing to powder about six parts of piney and one of camphor, and then adding hot alcohol sufficient to dissolve the mixed powder. Alcohol does not dissolve piney without the aid of the camphor, but once dissolved will retain it in solution. The varnish thus prepared is employed for varnishing pictures, etc., but before being used requires to be gently heated to evaporate the camphor, which otherwise will produce, by its after-evaporation, a roughness and inequality on the surface of the picture, and spoil its appearance.

Piney tallow or Dupada oil, Piney yenne, TAM., Dupada nuna, TEL., remains perfectly solid, even in hot climates. It is prepared by cleaning the seeds, then roasting and grinding them into a mass. To five seers of seed add 12 seers of water, and boil until the oil rises to the surface. Remove the oil, stir the contents of the vessel, and allow it to stand until the following day, when more oil will be observed on the surface, which may be collected, and the process repeated. The oil is principally used for lamps, but is very suitable for soaps and candle-making.

On the Malabar coast, the resin, under the name of piney dammer, is made into candles, which diffuse in burning an agreeable fragrance, give a clear, bright light with little smoke, and consume the wick so as not to require snuffing. Some of these candles that were sent to Great Britain were highly prized, and sold for very high prices. Their importation was stopped by the high duties that were levied on them.—*M. E. J. R.; O'Sh.* p. 755; *Wight; Buchanan's Journey.*

PINGADO and Bambwai, timbers of Burma, possess the same property as anan in resisting decay, but are less abundant, denser in grain, abound in knots, and are smaller in size than that timber; they are, however, prized by the Burmese for their useful properties, and are with thengan generally used in the whole tree as posts for monasteries, houses, etc. In the construction of wharfs and embankments on the river face, both anan and pingado would be found valuable for posts, and if proper care be observed in the selection of the timber and in freeing it from all the sap portions of the tree, it would doubtless prove as lasting as brickwork.

PINGALA, a great authority on the Ch'handas or prosody of the Vedas. He is supposed to have written about two centuries B.C.—*Dowson.*

PINGO, SINGH., the cowri or cavadi of the Peninsula, is an elastic stick loaded at both ends, poised on the shoulder, used in Ceylon for carrying burdens.—*Simmonds.*

PINI, in the Society Islands, coarse matting made of rushes.

PINJAN. HIND. A large bow, used in carding and cleaning cotton.

PINJARA. HIND. A cotton-cleaner. He uses in his trade the following apparatus:—Tatti, 2 annas; dastah, 8; kunar, 40; goolel, ¼ anna; tarazoo, 1—total, Rs. 3.3.3. A Pinjara can clean 72 lbs. of cotton in a day, and earn about

eight annas daily. Cotton, after being separated from the seed, is beaten to open out the fibre and fit it for spinning.

The Rahat of Dharwar is the cotton spinning-wheel.

The Tanwul is the rack on which the thread is wound to form into hanks for sale.

The Foot-roller of Dharwar, for cleaning cotton, is worked with two feet on a stone by a woman sitting, or rather balancing herself on a low stool. The seeds are rolled out in front, and the cotton drawn away as fast as it is freed from the seed, and piled up behind under the stool.

The Ratee or roller of Dharwar is sometimes used for separating the seed from the cotton.

PINJRAPOL. HIND. In India, an hospital for sick animals. The account given by Pietro de la Valle, who visited India 1614–1623, shows how very ancient this asylum is. 'The same day of our arrival,' says he, 'after we had dined and rested a while, we caused ourselves to be conducted to see a famous hospital of birds of all sorts. The next morning we saw another hospital of goats, kids, sheep, and wethers, either sick or lame.' The Jains are the great protectors of animal life. They, together with the Buddhists, are pre-eminently tender on this point, not only on the score of humanity, but from their belief in the doctrine of metempsychosis, which teaches them to regard the brutes as of their own kin, the tenements not improbably of the souls of their ancestors. The celebrated king Asoka flourished about 250 years B.C. His capital was Palibothra, at the junction of the Sone and Ganges. The inscriptions on the palaces of Dehli and Allahabad, on the rocks in Afghanistan and Girnar in Cutch, refer to the events of his reign. On one of these tablets, Asoka proclaims that though until then hundreds of thousands of animals had been killed daily for the royal kitchen, from thenceforth the practice should be discontinued, as he had become religious. On another, it is proclaimed that throughout his dominions, trees for the shade and shelter of men and animals, and wholesome and nutritious vegetables for their consumption, shall be cultivated. It is considered probable that the Jains and Buddhists set their faces against animal suffering, as a contrast to the cruelties at the time practised by the Brahmans, and that they to some extent succeeded in shaming them down. It appears from the Ramayana that the Brahmans of those days made offerings not only of flowers and plants, but of slaughtered horses, hogs, and sheep; the sacred cow herself being occasionally offered on the altar. At their feasts both butcher meat and intoxicating liquors were freely indulged in. The Brahman hermit, Bharadwaja, gave a magnificent entertainment at Allahabad to Charat and his army, where venison, the flesh of the wild boar, mutton, peacocks, and partridges, with abundance of strong drink, furnished forth the repast. Menu considers the feast in honour of a dead relation incomplete unless where animal food is present. We have no authoritative information as to when the present protective system crept in; that it is not countenanced by the sacred books of the Hindus or the customs of antiquity, and is a matter comparatively of yesterday, is apparent. We are still more in the dark as to the introduction of hospitals for aged and diseased animals. Of one of these at Surat, Ovington gives an account as he saw it in 1689, Hamilton describes it as he saw it in 1772; Heber speaks of that at Broach in 1824. There is nothing that can be adduced in their support either from the sacred works of the Hindus, the Asoka inscriptions, or the institutes of Menu, more than may be inferred from the proverbs of Solomon that 'the merciful man is merciful to his own beast.' The homage to brute animals, originally confined to the Jains and Buddhists, and not even making its appearance amongst them until a comparatively recent period of their history, slowly extended itself amongst the Brahmans, and in the early part of the 19th century had infected the Parsees. This comparatively enterprising and enlightened race, so far from being exempt from the degrading superstitions of the Hindus, as has been asserted, seem to have picked up some rags from the superstition of every sect and denomination with which they have come in contact, and patched it on to their own comparatively simple creed. The superstition of the Banians, like themselves a great trading community, seems to have been peculiarly attractive to them, and the pinjrapol being their pet institution, speedily secured the sympathies of the Zoroastrians.

The Bombay pinjrapol owed its origin as much to the Parsee respect for dogs as to the superstitions of the Jains. In 1813, the dogs running wild and masterless in the street had become so intolerable a nuisance, that an order was issued for killing them, and the result of this was a succession of street rows and disturbances betwixt the dog-destroyers and dog-reverencers, which led the latter to offer a sum of money for each mangy cur that was released from durance and made over to them. Some 30,000 or 40,000 of these canine quadrupeds were in this way annually packed off, the bulk of them were sent to an island near the mouth of the Tapti to starve or to worry or infect each other. So cruel are the tender mercies of the wicked and superstitious. Great expense was incurred on this account, and as the funds began to diminish from failing zeal, Motichund Amerchund, a great Jain merchant, and partner of Sir Jamsetjee Jejeeboy, exerted himself and obtained an agreement on the 18th October 1834 from Shree Gosainjee Maharaja, and setts of the Hindus, Parsees, and others, by which they bound themselves to raise taxes on opium, cotton, sugar, bills of exchange, and pearls, 'that the lives of a great many animals may be saved, which is an act of great charity.' The Srawaks or Jains agreed to raise a fund amongst themselves for the required ground and building, the rates were collected and sent yearly to the managers appointed, namely, Bomanjee Hormusjee Wadiajee, Sir Jamsetjee Jejeeboy, Motichund Amerchund, Vukutchund Khooshalchund. The agreement, signed by about 450 merchants, contains a clause stating that any excess of the funds may be applied to such charitable objects as may be approved of by the trustees. At one time there were about seven lakhs of rupees (£70,000). Whilst the Bombay pinjrapol was under the vigilant superintendence of Sir Jamsetjee Jejeeboy, the funds poured amply in, and the institution was most carefully conducted. Since 1851 the place has become a sink of animal and moral corruption. When seen by the Editor in 1866, it was filled

with wretched sick animals, and the place was inexpressibly filthy. It fearfully fails to fulfil any one of the ends it professes to aspire after. To the horse, the ox, the goat, the sheep, and the dog, more especially the first and the last, fresh air and exercise are indispensable, not only to health and enjoyment, but to existence. As to the horse, he is a hunter of the hills; to him confinement is a curse, and followed by the worst of ills. This noble beast —who probably has never once within his life been tied up for forty-eight hours on end, whose master, daily even and morn, when there was no work for him to do, saw that he had air and exercise—from the day that he enters the pinjrapol to that when his dead carcase is dragged out of it, is pinned down to one spot. The sheep and goats fare but little better; the dogs are infinitely worse off than the horses. It not unfrequently happens that animals which have been sent there by mistake are recovered by their owners; a single hour in the kennels sends them back covered with vermin, and infected with the most loathsome diseases. Lions, tigers, panthers, and other carnivora are occasionally kept in the pinjrapol; it is forgotten that for every day that one of these is kept alive, one sheep or goat must die to feed it.—*Bombay Standard*, 1858; *Bombay Times.*

PIN-LAY-JALLAT. Burm. A tree of maximum girth 2½ to 3 cubits, and maximum length 15 feet, in the Tenasserim provinces. When seasoned, it floats in water. Its wood is strongly recommended for fuses; it is free from oil and acid, and light, yet strong; it is much used for rockets of enormous dimensions and for wooden guns, and is used for the burning of the dead Phoungyes, and on other occasions.—*Capt. Dance.*

PINNA, a genus of molluscs. The byssus of a Mediterranean species is long enough to be woven into a fabric. Men's gloves, from its byssus, in 1820 cost 13 carlini the pair; women's gloves, 18 carlini; stockings, 6 ducats; waistcoats, 30 ducats; and coat, 100 ducats.—*Jameson*, p. 191, i. 1820.

PINNACE, a boat of the Ganges, rigged like a brigantine, and used for family pleasure-trips or short journeys, rather than for any lengthy travel; generally from 12 to 20 tons burden, and from 40 to 50 feet in length, with a crew of 12 or 15 men.

PINNOTHERIDÆ, a family of the Brachyurous crustacea called Pinnotherans by Milne-Edwards, known by the common name of pea-crabs; of these the genus Elamena, *M.-Edwards*, is founded on Hymenosoma mathæi, figured by M. Ruppell in his work on the Crustacea of the Red Sea. Milne-Edwards thinks that it seems to establish the passage between the Hymenosomata, the Oxystomes, and the Oxyrhynchi. Elamena mathæi (Ruppell, Krabben, pl. v. f. 1) is found in the island of Mauritius and the Red Sea. —*Eng. Cyc.*

PINS.

Epingles, ...	Fr.	Piniti, ...	Malay.
Stecknadeln, . . .	Ger.	Gundu vusi, . . .	Tam.
Tankni, ...	Guj.	Gundu sudi, . . .	Tel.
Alfin, ...	Hind.	Toplu, ...	Turk.
Spilla, ...	It.		

These are imported into India from Europe.

PINTO. Ferdinand Mendez Pinto, a Portuguese leader in the Eastern Seas from 1537 to 1558. He wrote a history of his career, under the title 'Peregrinations,' which were published in 1614, and translated and published in 1653 by H. C. Gent. These afford a fearful picture of the inhuman depravity and bloodthirstiness of the Portuguese adventurers of his time. Faria-y-Sousa, author of 'The Portuguese Asia,' regards Pinto as a truthful writer; but Pinto has been treated as an infamous liar, simply on account of the incredible atrocities which he describes without any reticence or apparent consciousness of their guilt. He was the first European who visited Japan. He landed at Cape Bungo towards the end of 1542, in lat. 33° 32′ N., and long. 132° 2′ E. He was either shipwrecked there or landed intentionally. He returned to Europe 1558, and died 1581.

PINUS, a genus of trees belonging to the natural order Pinaceæ of Lindley, the Coniferæ of Jussieu, the fir tribe of plants. Cone-bearing pines with long leaves, like the common Scotch fir, are found as far south as the equator, in Arakan, the Malay Peninsula, Sumatra, Borneo, Japan, and S. China, also in Arabia, in Australia, and New Zealand. It is a very remarkable fact that no gymnospermous tree inhabits the Peninsula of India, not even the genus Podocarpus, which includes most of the tropical gymnosperms, and is technically coniferous, and has glandular woody fibre, though, like the yew, it bears berries. The absence of oaks and of the above genera (Podocarpus and Pinus) is one of the most characteristic differences between the botany of the east and west shores of the Bay of Bengal. The pine tree genus consists for the most part of timber trees, many of which are of great beauty, and of much value on account of their timber. Many of them are growing along with fir trees (Abies), yew trees, and the larch (Larix), in the Northern Himalaya, in China and Japan, and one or two in Burma, one? in Cochin-China, and one in Arabia. Other eastern coniferæ are species of araucaria, biota, callitris, cedrus, Cunninghamia, cupressus, cryptomeria, dacrydium, dammara, juniperus, larix, podocarpus, taxodium, taxus, and thuja. The pine forests of the hills yield tar, resin, and might yield turpentine, except that, by the native process of preparation, this most valuable product of the crude resin is allowed to evaporate. The pines of New Zealand are the Dammara Australis, Dacrydium cupressinum, Podocarpus totara, P. dacrydioides, P. spicata, P. ferruginea, and Phyllocladus trichomanoides. The San or Sha-mun pine tree of the Chinese is the Cunninghamia Sinensis, a tree of Japan and of the South, Central, and W. Provinces of China, at a distance from the sea-coast. All parts of the tree are used medicinally, as stimulant, tonic, and sedative remedies; it yields a good timber, used for coffins, flooring, furniture, house-frames, and for piles, but these latter must not be alternately exposed to the air and water. Several of the Indian coniferæ have been variously arranged by different botanists, under the genera Abies, Cedrus, and Pinus, but the following are usually recognised as belonging to the last-named genus:—

Pinus alcocquina, *Parlatore*, grows in Japan, at 6000 to 7000 feet.—*Von Mueller.*

Pinus densiflora, *Sieb. and Zucc.*, a tree of Japan, along with P. Massoniana.

Pinus excelsa, *Wall.*, the P. peuce of Macedonia. Its eastern synonyms are—

Kail, . . Beas, Sutlej.	Biar, ... Jhelum.
Lam-shin, . . . Bhot.	Kaiar, Yero, Yari, Kash.
Tongschi, . . . Bhut.	Tser, ... „
Chir; Kachir, . Chenab.	Raisalla, . . . Khas.
Darchir, ... „	Sam; Palsam, . Piti.
Keuri, ... „	Chil, ... Ravi.
Shim; Som-shing, . „	

It is a large tree of Narambetty, Nepal, Simla, Bhutan, Sirmur, Garhwal, and Kaghan; scarce at Murree. Found in the Sutlej valley between Rampur and Sungnam, at an elevation of 7000 to 11,000 feet; at places rises to 12,000 feet. It grows in W. Nepal, not in E. Nepal, and Sikkim, but is common in Bhutan. It is found with the deodar at Narambetty, Theog. Resembles the Weymouth pine, and is remarkable for its drooping branches. Dr. J. L. Stewart says it has recently been identified with P. peuce, which grows only in a confined locality in Macedonia at from 2400 to 5800 feet. It is common in many parts of the Panjab Himalaya, generally growing in mixed forests, from 5000 to perhaps 11,000 feet; the 13,000 feet given as a maximum by Aitchison is probably a mistake. It also grows sparingly in W. Tibet, at 8000 to 10,000 feet; Trans-Indus. Griffith found it in Kafiristan, and Bellew near the Safed Koh, at 9000 to 10,000 feet. Trees of 8 and 9 feet girth are not unfrequent, but it rarely reaches 100 feet in height, although trees of 150 feet occur at times. It furnishes the best wood for most purposes of all the Himalaya conifers next to deodar, and where the latter is scarce or dear, this is used for all the ordinary purposes of construction. In Kullu, as shingles, it is said to last 7 or 8, and inside 15 years; and at Murree, where it is the best wood procurable for shingles and ordinary purposes, the supply in A.D. 1860 was rapidly getting exhausted. The wood is so resinous as to be used for flambeaux and candles.

Pinus firma, *Antoine*, of N. Japan.

Pinus Fortunei, *Parlatore*, of China.

Pinus Gerardiana, *Wall.*, Neoza pine, edible pine.

Chilgoza, . . . Afghan.	Neoza, ... Hind.
Chiri, Prita, . . Chenab.	Ri, ... Kanawar.
Mirri, Galboja, . „	Miri, Galgojal, . . Panj.
Gunobur, . . . Hind.	Julgozah, . . . Pushtu.
Rhee, Newr, . . „	Kashti, ... Ravi.

A moderate-sized tree, confined to the northern and drier face of the Himalaya, beyond the range of periodical rains far among the hills, and its presence is indicative of a dry climate. It grows in one or two small clusters on a ridge with a northern exposure, near Walassa, but does not generally ripen its fruits. It is first seen on the Miru ridge, and above Chini becomes a principal tree of the forest, produces a very large cone, containing, like the stone-pine of Europe, eatable nuts, of an elongated oblong form, which, when roasted like chesnuts, are agreeable to the taste, though with a little flavour of turpentine. The seeds, of which there are more than a hundred in a cone, are collected and stored for winter use, being a regular article of food in Tibet and Afghanistan. They ripen about October, and are extracted from the opened cones by beating. They are largely consumed by the inhabitants, which has probably caused the wood of the tree to be less used than it would otherwise have been. They are oily and difficult of digestion, are stimulant, and an oil extracted from them is said to be applied externally in diseases of the head. This tree has been repeatedly tried in the rainy districts of the Himalaya, but will not succeed, a dry climate being essential to it. It is common in a part of the Upper Sutlej basin, at one spot on the Ravi, on a short portion of the Upper Chenab and its tributary the Miru, also growing near Astor and Gilghit, not far from the Indus, and is found near the Safed Koh (Bellew), and in Kafiristan, etc., north of the Kābul (Griffith) Its range in the Panjab Himalaya may be put at from 5800 to 8000 feet. Dr. Stewart believes there is some mistake in Cleghorn's 10,500 feet on the Sutlej. It does not, as a rule, exceed 6 or 7 feet in girth, although he had seen it up to 12 feet, and its height does not generally range over 50 or 60 feet. It is a short-trunked tree, and the boughs and often the stem are much curved. The timber is but little used for construction, but Dr. Stewart had seen it used for the sticks on which the passenger by the swing-bridge sits, and on which his life depends. It is very resinous, and is generally reckoned the best of all for torches and fuel, but on account of the value of its fruit is not often taken for these purposes. Major Longden says that the Kanawaris do not use its resin as it gets too hard, but he extracted excellent tar from the wood by destructive distillation. On the Sutlej, a rude basket is formed from a piece of the bark having its corners fastened together by wooden pins.

Pinus Griffithii, *Parlatore*, is the Larix Griffithii of the N.W. Himalaya; grows at 8000 to 12,000 feet.

Pinus Kæmpferi, *Lambert*, Abies Kæmpferi or golden pine, is a native of Japan, found wild on the mountains of Fako. The handsomest of all the larches; grows to 150 feet; wood hard and durable.

Pinus Khasyana, *Royle*. Tin-yoo-ben, Burm. Found on the hills in British Burma, between the Sitang and the Salwin rivers, at an elevation exceeding 3000 feet. It is a stately tree, sometimes as high as 200 feet to the top. The wood is very rich in resin. In a full-grown tree on good soil the average length of the trunk to the first branch is 80 feet, and the average girth measured at 6 feet from the ground is 9 feet.

Pinus leptolepis, *Sieb. and Zucc.*, of Japan, up to 9000 feet.

Pinus longifolia, *Roxb.*

Tea-dong, . . . Bhutia.	Thansa, Kangra, Lepch.
Anander, . . . Jhelum.	Dhup, ... Nepal.
Chil, Chir, Saila, Kamaon.	Salcei Dhup, . . „
Gula, . Kangra, Lepch.	Nashtar, Nakhtar, Panj.

A large tree of Darjiling, the Himalaya, Kangra, Simla, Sikkim, Bhutan, grows at 4000 to 7000 feet. This species is, of all the Indian pines (except its near ally P. Khasyana), that which is capable of enduring the most heat, and at the same time the greatest variation in amount of moisture, as it is found at elevations of not more than 1000 feet above the level of the sea, equally in the hot, humid valleys of Sikkim, where it enjoys a perpetual vapour-bath, and on the dry sandstone hills of the Upper Panjab, on which rain hardly ever falls. It is only, however, at low elevations, where the mean temperature is high, that it is capable of supporting a great amount of humidity. Heartwood small, soft, and reddish, not durable, and is readily attacked by insects. It is used for shingles, tea boxes, the bottoms of boats; it is often made

into charcoal. The tree yields 10 to 20 lbs. of resin the first year, and about one-third the quantity the second year, after which the tree either dies or is blown down. Tar is extracted from it, and turpentine is distilled from the tar. The bark is used for tanning and for iron-smelting; the charcoal of the leaves, mixed with rice water, is used as ink. The Pinus longifolia exudes naturally or yields to incisions a very fine turpentine, which is called Gunda baroza in the bazars, Birje and cheer ka gond, PERS., Birozeh tur. But Gunda baroza is a name also given to Indian olibanum. The natives of the Outer Himalaya prepare tar in a simple way from fragments of the wood. The dry chips are put into a large earthen pot with a narrow neck, containing about 10 seers, and in the bottom four or five small holes (one-fifth inch) are drilled. The pot thus filled is luted over with stiff wet mud on the top and sides. A hole being dug in the ground, a smaller pot, holding ¾ seer, is placed in it, and the larger one on the top; the joint being luted, and the surrounding space filled up with earth, a heap of cow-dung bratties (15 seers) is piled over the whole, and as much more as is required to keep up the fire for eight or nine hours. The residue of each pot gives 5 chitaks of tar and 1 seer of charcoal; four men will easily make 2¼ maunds, or 9 large pots full of tar, in the month, and the cost will be Rs. 21, viz. four men at 5 rupees = 20 rupees; purchase of pots, 1 rupee; on 2½ maunds = 3 annas 8 pie per seer. The value of the charcoal, near the railway or a large town, will reduce the cost of tar to 3 annas per seer, or probably less. The product appears to be equal to the tar imported from Europe, which is prepared on a larger scale. Mr. J. D. Smithe, civil engineer, adopted a modification of this plan at the Madhopur workshops. On the large pot, holding 12 seers, and filled with chips, he placed a smaller one inverted, luting the joint and upper surface with stiff mud, five inches thick; these vessels, thus prepared, are put on the top of a third, which we may call the receiver, and, as in the former method, the joint being luted, the whole is covered with fuel, and a fire lighted. Four to eight hours are necessary to extract all the tar. After the fire has been extinguished and the vessels have cooled, the ashes should be raked out, until the under vessel or receiver is visible; the large pot should then be carefully lifted off with a thick cloth in the hands. As the layer of mud is essential for the preservation of the vessels, time and fuel will be saved if by careful management the coating is not broken; each time it is renewed a considerable expenditure of fuel takes place. Care is necessary in lifting the large pot to prevent lute or ashes falling into the receiver which contains the tar. The charcoal should then be taken out of the large vessel and the tar out of the receiver, when they are ready to be charged again, as at first. Common bazar pots may be used, and with good management they may be fired 10 or 12 times; the economical working of the tar factory very much depends upon care and attention. The pots may be worked in a row 1½ foot apart;—by this arrangement there will be a great saving of fuel. The average produce, according to Mr. Smithe, is as follows:—One seer of wood yields 2–6th chitaks of tar and 4–8d chitaks of charcoal, giving 6–9th chitaks as the produce of each seer of wood put into the pot, or 43·1 per cent. To produce a seer of tar, 6 seers 4 chitaks of fresh chips are required for charging a pot, and 2 maunds 6 seers and 9 chitaks of chips for fuel. The estimated cost is about one anna per seer, which, however, seems to be too low. The pots for the tar-making process should be charged with chips about 1 or 2 inches thick and 3 to 5 inches long. The tar produced by the above process, from the chips of deodar (Cedrus deodara), Chil (Pinus longifolia), or Kail (Pinus excelsa), is of a superior description, equal to Swedish tar. It is a mixture of resin and oil of turpentine, more or less blackened by the admixture of empyreumatic products; it thickens after exposure to the atmosphere, and may be used for coating boats; it is valuable as a preservative for all the woodwork of dams, regulating bridges and railway sleepers, also for telegraph posts and wooden fencing.

Pinus Merkusii, *Jungh*, Tin-yoo-ben of the Burmese, grows near the Toung-gyin river, associated with Dipterocarpus; splinters are used for torches.—*Roxb.; O'Sh.; Royle, Ill.* p. 350; *Wall.; Stewart; Cleghorn; Bellew; Hooker*, ii. p. 43; *Gamble; Brandis; Von Mueller; Cal. Cat. Ex.*, 1862; *Thomson's Tr.*

PIPAL. SANSK. Urostigma religiosum, *Miq.* Gaz pipal is the Plantago major, also Abies Smithiana, and Paras pipal is the Thespesia populnea. Urostigma religiosum, the poplar-leaved fig tree, is the celebrated tree of Buddha Gaya, of which a shoot has been cherished at Anaradhapura for twenty centuries. Such trees are maintained in the courtyard of nearly every vihara or temple in Ceylon as objects of veneration.

PIPAL-PAN. TAM., TEL. A small ornament of the shape of a leaf of the Urostigma religiosa, suspended in front of the pubes of young Hindu girls. It is of gold, or silver, or copper, and is their sole available concealment. Young Hindu boys have a little tube of gold, silver, or copper, with a ball at each end, strung on a string.

PIPE-CLAY.

Khurra, ... DUKH. | Namam, ... TAM.

This is of a greyish-white colour, with an earthy fracture, and a smooth, greasy feel; it adheres to the tongue, and is very plastic, tenacious, and infusible. When burnt, it is of a cream colour, and is used for tobacco-pipes and white pottery. It is found in abundance in several parts of India, and is used for the same purposes that it is in Europe. Some castes of Hindus also employ it for making the distinguishing marks on their foreheads, and (moistened with water) it is often applied round the eye in certain cases of ophthalmia, as well as to parts of the body that are bruised.

PIPERACEÆ, the pepper tribe of plants, of which the species of the genus piper are the most important. They are herbs, undershrubs, or shrubs of the tropical regions in both continents, and about fifty species of the genus piper occur in the East Indies, viz. betle, chaba, cuneifolium, lonchites, longum, malamiri, nigrum, peepuloides, plantagineum, reptans, ribesioides, sarmentosum, saxatile, stenophyllum, subpeltatum, sylvaticum, triöecum, and uliæfolium.

PIPER BETLE. *Linn.* Betel, betel vine.

Chavica betel.

Tambul, ...	ARAB.	Barg-i-tambul, . .	PERS.
Ku-tsiang, . . .	CHIN.	Tambula, ...	SANSK.
Tu-pih-poh, . . .	,,	Vettilei, ...	TAM.
Pan, ...	HIND.	Tamalapaku, . . .	TEL.

The leaves of this vine and of P. siriboa are extensively used by the natives of the East and West Indies to chew along with the nut of the Areca catechu and quicklime, as a restorative of the powers of the stomach and promoter of digestion. It is capable, however, of producing, like some other species of piper, intoxicating effects, and should be used in moderation. Piper betle is largely cultivated throughout the Peninsula of India and in Ceylon. In Pegu it grows wild in the Pegu forests, on the Cadoojway Choung.—*Hogg; Eng. Cyc.; M'Cl.; Voigt.*

PIPER CUBEBA, Cubebs; tailed pepper.
Cubeba officinalis, *Miguel.*

Kababeh, . . . ARAB.	Komoon koos, . MALAY.
Dumki mirchi, . DUKH.	Suganda marichi, SANSK.
Koobab-chini, . . HIND.	Val mellaghu, . . TAM.
Lada barekor, . MALAY.	Salava mirialu, . TEL.

A plant of the Archipelago; its fruit is largely used in medicine.—*Hogg.*

PIPER LONGUM. *Linn.* Long pepper.
Chavica Roxburghii, *Mig.*

Dar filfil, ... ARAB.	Chabai jawa, . . MALAY.
Pipool, ... BENG.	Pipal, Maghz-pipal, PERS.
Peik khy-en, . . BURM.	Pilpil, Filfil-i-daraz, ,,
Piperi, ... GR.	Dar-filfil, . . . ,,
Pipel, Pipula moola, HIND.	Pippalu, Krishna, SANSK.
Gaz pipal, . . . ,,	Pipili, . . . TAM., TEL.

A native of the south-east of Asia, growing wild in India, along water-courses, towards the Circar mountains, but is much cultivated. The female spike having attached to it the dried half-ripe berries (resembling the catkin of the birch), is used in medicine. It has nearly the same chemical composition and properties as black pepper, though feebler. It is said to contain piperin. The root (Granthicka, SANSK.), sliced and dried, constitutes the Pipula moola of the native druggists, a substance much used as a stimulant remedy and spice by the Hindus, but it is still weaker than the fruit. Long pepper is a creeper of easy culture, and should be trained on poles, or have strong sticks to grow upon. It is common in all parts of India, is extensively cultivated in the Northern Circars; its use is rather limited, but as, in the commercial returns, it is always included with black pepper, the quantity cannot be ascertained. Long pepper is readily propagated by cuttings. The stems are annual, and the roots live for several years, and, when cultivated, usually yield three or four crops, after which they seem to become exhausted, and require to be renewed by fresh planting. Its berries are lodged in a pulpy matter like those of P. nigrum. They are first green, becoming red when ripe. Being hotter when unripe, they are then gathered and dried in the sun, when they change to a dark-grey colour. The spikes are imported entire. The taste of the berries is pungent, though rather faint.—*O'Sh.; Jaffrey; M. E. J. R.*

PIPER METHYSTICUM, Ava pepper, a native of the Society, Friendly, and Sandwich Islands. It is used in a tincture in chronic rheumatism, and in infusion as an intoxicating beverage, which is also deemed antisyphilitic. To cure venereal, the patient drinks an infusion until he becomes drunk, after which copious perspiration ensues. The national beverage in the Kava of Polynesia is prepared from the root and extreme base of the stem; they are preferred fresh, but are nearly as good when dry. Reducing the roots to minute particles, according to Polynesian usage, by chewing, is a task in Fiji by lads who have sound teeth; in other Polynesian islands it is done by young women. On public occasions, or at carnival meetings, when the chewed root is placed in the bowl and water is poured on, the whole assembly begin to chant appropriate songs, and this is kept up until the dregs of the root have been strained. The beverage has the look of coffee with plenty of milk in it, and an aromatic, slightly pungent taste, which, when once acquired, must, like all acquired tastes, be enticing.—*Dr. Seeman, Viti; O'Sh.*

PIPER NIGRUM. *Linn.* Black pepper vine.

Filfil aswad, . . . ARAB.	Filfil gird, ... PERS.
Maricha, Gol-mirch, BENG.	Filfil-i-Siah, Pilpil, . ,,
Nga-yok-koung, . BURM.	Kolukung, Marchu, SANSK.
Piperi, . . GR. of Hippoc.	Mareechang, Vellajung, ,,
Kala-mirch, . . HIND.	Gammiris, . . SINGH.
Gol-mirch, . . ,,	Babaree, . . . SYRIAN.
Choca mirch, . ,,	Molago valli, . . . TAM.
Lada, ... MALAY.	Mirialu, Moluvu kodi, TEL.
Molago-kodi, . . MALEAL.	

A climbing plant, native of Malacca, Java, and Sumatra; found wild among the hills of the Rajamundry district, but cultivated all along the Malabar coast, in Sumatra, Borneo, the Malay Peninsula, and all countries to the east of the Gulf of Siam. The best pepper comes from Malabar, the least esteemed from Java and Sumatra. The pepper vine is very common in the hilly districts of Travancore, especially in Cottayam, Meenachel, and Chenganacherry districts, where at an average calculation about 5000 candies are produced annually. Its cultivation is very simple, and is effected by cuttings or suckers put down before the commencement of the rains in June. The soil should be rich, but if too much moisture be allowed to accumulate near the roots, the young plants are apt to rot. In three years the vine begins to bear. They are planted chiefly in hilly districts, but thrive well enough in the low country in the moist climate of Malabar. There they are usually planted at the base of trees which have rough or prickly bark, such as the jack, the erythrina, cashew nut, areca, and mango. They will climb about 20 or 30 feet, but are purposely kept lower than that, at 12 to 15 feet. During their growth it is requisite to remove all suckers, and the vine should be pruned, thinned, and kept clear of weeds. The berries are gathered before they are perfectly ripe, and quickly dried on mats in the sun, by which they turn black. When plucked too young, they speedily fall into a state of powder. Such are separated from the others by sieves and winnowing. In this condition it is termed black pepper. White pepper is the same fruit freed from the outer rind; for this purpose the ripe berries are allowed to macerate in water, and the husk is removed. These are smaller, smooth, of a greyish-white colour, varying to yellow, with a less powerful odour and taste than the black. The root is a tonic and cordial. Both Piper nigrum and Piper longum grow wild in considerable quantities in the hilly tracts of Goodem, and probably along the whole of the extensive range of the Eastern Ghats. The latter finds its way in small quantities down to the bazars on the coast, but the black pepper is entirely neglected, and does not appear to be gathered even for local use. Black pepper and long pepper appear to have been used as febrifuges in the east from the earliest periods. The powder and the root of long pepper have been much employed in

Hindu medicine. The root is said to be bitter and dry; it is a stimulant tonic, is employed for coughs and indigestion, also fever. The black pepper from the forests of Malabar and Travancore for centuries has been an article of exportation to European countries.—*Roxb.; Ainslie; Eng. Cyc.; M. C. C. Ind. Ann. Med. Science; Powell.*

PIPER RIBESIOIDES. *Wall.* Tau kwou, BURM. Piper sylvaticum, *Roxb.*, a native of the mountains on the north-west border of Bengal, where the natives call it pahari pipal, or mountain long pepper, and use it, both green and ripe, in their dishes. In the botanic garden it blossoms, and the berries ripen during the rains.—*Roxb.*

PIPER TRIOECUM. *Roxb.* Mirial tiga, TEL. Circar mountains, in shady places; with rich soil, fruit succulent, small, round, red, excessively pungent; an important article of commerce from Madras.—*Roxb.; O'Sh.* p. 575.

PIPSA, a troublesome dipterous insect which swarms on the banks of the streams in Sikkim; it is very small, floating like a speck before the eye. The bite of the pipsa leaves a small spot of extravasated blood under the cuticle, very irritating if not opened. It resembles a flea, and is found on the banks of the Rungeet river, in Sikkim. See Mura.

PIPTANTHUS NEPALENSIS, a plant on the Tendong, in Sikkim, with golden blossoms.—*Hooker's Journ.* ii. p. 5.

PIPTURUS PROPINQUUS. *Weddell.* A bush of the Eastern Islands, South Sea Islands, and East Australia, with a fibre similar to that of the China grass, Boehmeria nivea. P. velutinus, *Weddell*, is closely allied.—*Von Mueller.*

PIR. HIND. A Muhammadan saint, a religious instructor. Pir zadah, son or descendant of a pir. Amongst the Kurds of Persia, pir is a title, though it means literally an old man or old woman. It is often united with Murshid, a guide to the right path, *i.e.* salvation. Pir-o-Murshad is applied reverentially to the religious teachers of the Muhammadans of India and Persia, but is also used in addressing people of high rank.

Piran-i-Pir, the saint of saints, *i.e.* Dastagir, the Pir-i-Dastagir Sahib, a Muhammadan walee or saint whose tomb is at Baghdad. He is considered the chief of their saints. A Muhammadan festival is held on the 11th of Rabi-us-Sani, in honour of Syud Abdul-Kadar Ghilani, or Pir Piran, a Sufi teacher, native of Ghilan, who taught and died in Baghdad. Sadi studied under him.—*Herk.*

Pir Jalal—? oblations are offered at his shrine.

Pir Mangho, a place of Muhammadan pilgrimage, 10 miles west of Kurachee, famous for its hot springs and crocodile tank, from which it is erroneously supposed to derive its name, the crocodile here being the long-snouted garial, not the short-nosed muggur. About a hundred of these are kept in a marsh close by, called muggur-taldo.—*Dr. Buist's Catalogue.*

PIRACY is described in the earliest Malay romances, and is spoken of in glorifying the brave deeds of their ancestors. Piracy has always been frequent along the coasts of China. Pirates continue to infest the Sulu Sea and the southern ports of the Philippines. They come in the middle of the western monsoon, and return in the beginning of the eastern monsoon. They seem to come mostly from Lanun Bay, on the south coast of Mindanao. Dampier, in 1686, calls them the Hillanunes, living in the heart of the country of Mindanao. They are bold, but rarely attack European ships, generally the trading schooners manned by Malays. Their prahus are open boats, about 50 feet long, 12 wide, and 4 deep. They have a swivel throwing a 1 lb. ball, but their plan of attack is to throw themselves in overpowering numbers on board of their prey. Magindano pirates, every year, with their long prahus, well manned, visit some part of the Archipelago, robbing, destroying, killing, or making captive all they meet with. The Dutch and the British have done very much towards suppressing piracy, but the Spaniards nothing. In the Persian Gulf, and on the western coast of India, until the beginning of the 19th century, piracy had prevailed, and in the 17th and 18th centuries an extensive system of piracy prevailed on the Arakan coasts and in the Delta of the Ganges, in which some Portuguese leaders joined.

Piracy from pre-historic times has been a profession with several maritime tribes of the East Indies, who have preyed on commerce on all the coasts from Africa to the remotest islands of the Archipelago. The present seat of piracy in the Indian Archipelago includes Mindanao, Sulu, and the crowd of other islands extending from Mindanao to the north-east coast of Borneo, and separating the Mindoro from the Sulu Sea. Formosa to the Sulu Archipelago and Mindanao is all included, and embracing the Philippine and Basayan groups. In the early part of the 19th century, pirates made their haunts chiefly about Lingen, the island of Billiton, and the west coast of Borneo.

On the western side of the Peninsula of India, pirate races were harassing the seaport towns at the time of the arrival of the Portuguese. The Sidi chiefs of Janjira and Sachin and the Mahrattas engaged in it on the western coast, and even at the present day some of the races on the littoral of Cutch and Cambay are scarcely restrained from following this as a profession. Up to the close of the 18th century, the islands of Kenery and Colaba, near Bombay, were the resort of these predatory bands.

The British continue to guard against piracy in the Persian Gulf up to the present day, and armed ships of the Indian and British navies, all through the close of the 18th and in all the 19th century, have been employed there in protecting commerce. Ibn Haukal, in his version of the Koran, informs us that before the deliverance of the children of Israel from Egyptian bondage, the subjects of a pirate monarch in these parts seized on every valuable ship which passed. The possession of a few ports within and near the entrance of the Persian Gulf, where it is not more than 30 miles across, enabled them to perceive and sally out on all passing vessels. In recent times, the Muscat Arabs, during the period of their ascendency, from 1694 to 1736, were highly predatory; but it was not until 1787 that the Bombay records made mention of the systematic continuance of piracy.

The race whose power and influence were long felt by the neighbouring tribes, and is still intimately connected with their political condition, occupy a part of the coast within the Persian Gulf, comprehended between the mountain range

and the sea-shore, and extending in that direction from Kasab to the island of Bahrein, a distance of 350 miles. On the map, this portion bears the designation of the Pirate Coast. To the Portuguese during their brief career in India, they proved quite as troublesome as they did in the latter part of the 18th century to the British; with these robbers the Imams of Muscat have been repeatedly at war. In 1809, an expedition was sent against them under Captain Wainwright, in His Majesty's ship *Chiffonne*. Their principal stronghold, Ras-ul-Kheima, was stormed and taken, and 50 of their largest vessels burnt or destroyed. Leit, on the island of Kishm, and several other ports, were reduced; but though this had the effect of checking them for a time, they soon rebuilt these ports, and gradually returned to their old practices. The inhabitants of the Pirate Coast consider themselves to be far superior to either the Bedouin or town Arab. The latter, especially those from Oman, they hold in such contempt, that a Muscatti and an arrant coward are by them held to be nearly synonymous. They are taller, fairer, and in general more muscular than either of the above classes, until they attain the age af 30 or 40 years, when they acquire a similar patriarchal appearance.

After 1809, there were some overt acts of attempted piracy, but these were easily prevented by the Indian navy, and on one serious attempt, in 1833–34, *Ras-ul-Kheima* and *Shaya*, vessels of large size, with some 2000 fighting men on board, were prevented from coming out on a piratical enterprise. They were met by one ship of war (*Elphinstone*), and driven back to their ports with great slaughter, and they surrendered a few days afterwards.

The Pirate Coast of Arabia extends from Ras-ul-Kheima to Abuthabee.

Lingah is the chief town of the piratical Joasmees, on the Persian side. It is close to the sea, in lat. 26° 33′ N., about 24 miles from Kishm.

Ramsee town is in lat. 25° 33′ N., and is near Ras-ul-Kheima, in lat. 25° 48′ N., and lat. 56° 4′ E. It is the centre of the pirate ports, and their chief town, containing a thousand houses. It is situated on a point of land projecting into the sea; within the point is a deep narrow bay. Eleven miles from Ras-ul-Kheima is Hamra, a low sandy islet, and near it, on the mainland, the villages of Aruulgavine, Ejman, and Fasht. To the west of the town of Shargah is a small lagoon in which the dows are anchored. South-west of Shargah is the small town of Boo Haile.

The Beniya tribe inhabit the most northerly district of Oman, called Sir (Seer). The tribe has three branches,—Beniya, Manasir, and Owaimir. Those inland possess a fine breed of camels, and are nomades, migrating yearly; the coast dwellers fish in small boats, and dive for pearls. Their pearl fishery is accounted to produce 10,000 tomans yearly. They seize the small boats that approach their coasts. They can furnish 20,000 excellent musketeers.

The Badoo of the town of Huailah, of Khor-Hassan, and Zobara are agricultural and pearl fishers. Within the space of twelve hours, 5000 Badoo could be marched down to the coast.

Ojeyr is the chief seaport of the Wahabees. From Ojeyr to Kateef is two days' journey, and the district is occupied by Uttoobee Arabs, but the Badoo occupy from Kateef to Grane.

The islands of Inderabia and Basheeab are occupied by traders, shepherds, and farmers.—*Bikmore*, p. 318; *Wallace*, ii. p. 29; *Persian Gulf Selections; Wellsted's Travels*, i. p. 243.

PIR BABA, a Muhammadan saint, whose shrine is at Buner, 10 miles E. of Elai. About 400 or 500 fakirs, etc., are in attendance.—*MacGregor*, ii. 5.

PIRI. Tam. A Ceylon tree, which grows to about 20 feet in height and 2 feet in diameter. Its wood is very close in its grain, and is used by the natives for the frames of vessels, and in house work. It produces a fruit which is of no use.—*Edye of Ceylon*.

PIR PANJAL, a range of mountains which extends for about 40 miles between the Baramula pass and Pir Panjal, or Nandan Sar pass, and rising to 16,500 feet above the sea. The most picturesque road into Kashmir traverses the Pir Panjal pass, and is known as the Gujavat and Pir Panjal route. The top of the pass is a fine grassy plateau, about half a mile wide, with an elevation of about 11,500 feet, gradually sloping down to the Aliabad sarai.

Pir Panjal pass is called also the Sona Gulli; it is open for foot-travellers from the 20th April, and for horses about 20th May, and is shut for 3¼ months in the year. Hodgson, Herbert, and the Gerards state 11,500 feet as the height up to which forest trees grow in alpine India, east of the Sutlej. The Pir Panjal range of hills is visible from the Shalimar gardens in Kashmir. Muhammadans say the range derives its name from Panj, five, and Pir, saints, five pious brothers having settled on it, and performed several wondrous feats around; but the name seems to be Pansal, which in the Kashmirian language signifies a pass, and Pir, a devotee. Europeans and Persians call the whole mountain Pir Panjal, but the natives restrict the name to the pass. The mass of this range, according to Vigne, is basaltic.

PIR POINTEE, Father Pointee, or St. Pointee, a Musalman saint. His tomb, resembling that at Sicrigully, though less picturesquely situated, stands on a little cliff above the river, with some fine bamboos hanging over it.—*Heber's Journal*, i. p. 199.

PIRZADAH. Pers., Hind. Son of a Pir, from Pir, a saint, and Zadah, the offspring. It means a religious devotee of the Muhammadans, but not an ascetic, and is considered a reverential appellation. In India, the five famed of these Muhammadan holy men are Ghazi Miyan, whose tomb is at Baraitch; Pir Hathili, sister's son of Ghazi Miyan; Pir Jah'l, of Lucknow; Pir Muhammad, of Jounpur; and another. They are known as the Panch-Piri.—*Pottinger's Travels*, p. 139; *Oudh*, p. 125.

PISACHA, a daughter of Daksha, and wife of Kasyapa. Pisacha, in Hindu life, is a marriage obtained by a forcible abduction, the most objectionable of all the Hindu forms of marriage.

PISACHA. Sansk. An evil spirit, a devil, a ghost, one haunting burning or burying places. The most malignant order of malevolent beings, lower than the Rakshasa. The Pisacha is mentioned several times by Menu (i. 37, 43, v. 50, xii. 44). He is classed with Rakshasa and Yaksha, who are described as eating flesh meat and unclean food.

Pisacha is the Sanskrit word for Peygal. Pisachi, female.—*Williams' Story of Nala*, p. 177. See Pei; Peisacha.

PISH, Chamærops Ritchieana? In Baluchistan, Las, and Makran, the Gudhaf or Gudhap or Gudhab of the Arabs grows luxuriantly among the hills. It is seemingly a palm. It has fan-shaped leaves, which are used for the Makrani houses, and for making mats, bags, shoes, ropes, pipes, cups, etc. Its pith is made into tinder; between the top leaves is a palatable stalk; its small acid berries also are edible, and make rosary beads.

PISHING or Pisheen, a valley to the west of Baluchistan, separated from the valley of Kanhee by a range of mountains. It is to the west of Seistan.—*Ritchie*, ii. p. 13. See Kalat.

PISHON of Genesis, supposed to be the river Indus.

PISONIA, a genus of plants of the marvel of Peru tribe, of the order Nyctaginaceæ. Pisonia inermis, Kongi-putri, DUKH., is without thorns. —*Lindl.*

PISONIA MORINDIFOLIA. Lutchi-kottay-ellay, TAM. The leaves of this pretty lettuce tree make tolerable greens cooked with cocoanut, chillies, etc.; leaves of a light-green colour, turning nearly white during the hot months.—*Jaffrey.*

PISONIA VILLOSA. *Poir.*

Pisonia aculeata, *Roxb.*	Tragularia horrida, *Kon.*
Bagh-achura, . . BENG.	Konki; Kanki putra, TEL.
Karu Indu, . . . TAM.	Embudi chettu, . TEL.

A plant of Bengal and the Peninsula of India, seen growing everywhere. Prickly pisonia makes impenetrable hedges. Konki, in Telugu, means a hook, and has reference to the thorns, which are aculeate backwards, and very prehensile.—*Roxb.*

PISTACHIO NUTS, or Pistachia nuts.

Pistasie, ... DAN.	Pistacchi, Fastuchi, IT.
Pistasjes, . . . DUT.	Pistaciæ, ... LAT.
Pista chenoot, . . ,,	Fistica, Pistacha, . PORT.
Pistaches, ... FR.	Fistashka, . . . RUS.
Pistaschen, Pistazie, GER.	Alfocigos, Pistacho, SP.
Pista, ... HIND.	Pistacie, ... SW.

A small oily seed, the produce of Pistacia vera. They are oblong and pointed, about the size of a filbert, enclosing a kernel of a pale greenish colour, covered with a yellowish or reddish skin. They have a pleasant, sweetish, unctuous taste, and are chiefly served up at the dessert. Pistachio nuts are imported into Bombay from the Persian Gulf, also into N.W. India, through the Bolan pass. They are eaten with relish by natives.—*Faulkner.*

PISTACIA, a genus of plants belonging to the natural order Anacardiaceæ. Seeds solitary, each without albumen. The species are—

P. Atlantica, *Desf.*, —?
P. Cabulica, *Stocks*, Sind.
P. integerrima, *H. f. et T.*, N.W. Himalaya.
P. lentiscus, *L.*, S. Europe, N. Africa.
P. terebinthus, *L.*, *Voigt*, S. Europe, N. Africa.

Pistacia Atlantica, *Desf.*, Tagho, PUSHTU, yields the Rumi mastiki or Kundar rumi of the bazars of the Panjab; used in asthma, also mixed in ointments.

Pistacia Cabulica, *Stocks*, Khinjak, PUSHTU. A tree of Sind, yields a resin similar to mastic.

Pistacia integerrima, *H. et T.*, Zebra-wood tree.

Rhus integerrima, *Wall.*

Kakrein, . . . BEAS.	Kakkeran, Toongoo, RAV.
Kakra, . . . CHENAB.	Kakra-Singhi, . . ,,
Kakrei, Tanhari, ,,	Kakaangche, . SUTLEJ.
Khakkar, . . JHELUM.	Sarawan, TRANS-INDUS.
Kangar, . . . ,,	Shne, Masna, ,,
Drek, Goorgoo, KAGHAN.	

This ornamental tree grows in many places in the Panjab Himalaya at from 1500 to 5500 feet, also in Simla, Garhwal Hills, Hazara, and Afghanistan. Its zebra-coloured wood is in great demand amongst Europeans for chairs and cabinets; it is also made into oil mills. The leaves and young shoots are browsed. The fruit, sumak, is given in indigestion. The kakra-singhi, a large, hollow, horn-like curved gall, with a tawny-brown rough exterior, is considered hot, dry, and astringent, and is used by natives in coughs and asthma, fever, piles, and dysentery. It is also said to allay vomiting, thirst, and difficulty of breathing. —*Cleghorn; Stewart; Powell*, i. p. 338.

Pistacia lentiscus, *Linn.*, Mastic tree.

Mastaka, . . . ARAB.	Rumi mastiki, . HIND.
Uluk-bagh-danu, ,,	Kundar rumi, ,,
Kinnah, . . . ,,?	Kinnah, Kinnoli, PERS.

A native of the south of Europe, North Africa, and Asia Minor, introduced into the Calcutta Garden in 1806. The bud, bark, leaves, and fruit have all been used in medicine, but have been laid aside in modern times. The leaves are evergreen; fruits very small, pea-shaped, reddish when ripe. The resin is called—

Rumi mastaka, . ARAB.	Ulmastiga, ... SP.
Gum mastic, . . ENG.	Kinnoli, . . . TURK.
Kundar rumi, . PERS.	

Mastic is obtained from the trunk by incisions made in the month of August. It occurs in oval tears of variable size, smooth, diaphanous, brittle, breaking with plane, brilliant, glassy, and pale yellow surface, and owing to its brittleness being usually covered with its own dust. Its odour is agreeable; flavour weakly balsamic; it softens in the mouth, and becomes ductile like white wax. It melts at a moderate heat, and then exhales a sweet odour. Mastic is quite insoluble in water; it yields to alcohol 80 per 100 of soluble matter, leaving a substance resembling caoutchouc, which is slowly dissolved by ether. This resin gives its name to the process of mastication, being largely chewed in the east. It is much used by dentists for filling up carious teeth; it is burned as incense; and in some parts of Greece it is added to bread in small quantities to give it an agreeable flavour. Mastic is extensively employed as a transparent varnish, dissolved in turpentine or alcohol, with other resinous bodies. A species of mastic, called tum, is obtained in Africa from the Pistacia Atlantica. The true resin is sold in all the bazars for about three rupees the seer. It is used by hakims in diarrhœa and diseases of the stomach or liver. It comes from Kābul, but the best is said to come from Turkey and the Levant, hence called Rumi.—*Roxb.; O'Sh.* p. 278; *Powell.*

Pistacia terebinthus, Terebinthus vulgaris.

Katinge rumi, . ARAB.	Zungbari, . . . PERS.
Butum, ... ,,	Sukhur, ... ,,

A native of Barbary, Greece, and the south of France. A resinous juice of much value is afforded by this tree. It is seldom seen in clumps or groves. It is said to produce cypress or chian turpentine, and to supply a kind of follicular gall. Its small, brown, dried fruits, called Hab-ul-Khizra, are said to come from Bokhara, and to

be used as an astringent in special diseases, and for palpitation of the heart.—*Powell.*

Pistacia vera, *Linn.*, Pistachio tree. Fistak, Pista, HIND. A large bush or small tree, from 15 to 20 feet high, of Asia Minor, Syria, Persia, N. Turkestan, Mid Asia, Bokhara, Kābul, Koh-i-Kush, and S. of Europe. It yields the pista or pistachio nut, of which about 140 tons are annually imported via Peshawur and the Bolan pass. The gall found on it, pista-ka-phul, gul-i-pista, and bazghanj, or bozaghanj, are imported into Bombay from the Persian Gulf, and used as an astringent medicine, also as a dye for silk. By the Hindu physicians the fruit is considered a warm and moist remedy; the kernel contains much oil, and acts as a demulcent and restorative. It is principally used in special diseases. The bark is employed as a tonic in indigestion. The galls act as astringents, and are used in diarrhœa. According to Mr. Elphinstone, it grows wild in the Hindu Kush. The almond and the pericarp are imported into India from Kābul, with the kind of gall termed gul-i-pista, and a resin called aluk-ul-imbat.—*O'Sh.* p. 276; *Royle's Ill.* p. 178; *Faulkner; Birdwood; Powell*, i. p. 337.

PISTIACEÆ, Lemnads, or Duck-weeds, a natural order of endogenous plants. The species are floating or land plants, with very cellular, lenticular, or lobed fronds or leaves. The common duck-weed, Lemna, may be regarded as the most simple of all phænogamous plants. It inhabits the ditches of the cool parts of the world. Pistia is found in the tropics; Ambrosinia in the basin of the Mediterranean.—*Eng. Cyc.*

PISTIA STRATIOTIS. *Linn.*, *Roxb.*, *Rh.*

Unter ghunga, . DUKH.	Agasa-tamare, . . TAM.
Toka pana, . . HIND.	Antara-tamara, . . TEL.
Taka pana, . . ,,	Akasa-tamara, . . ,,
Kodda pail, . MALEAL.	Niru budiki, . . . ,,

An aquatic stemless plant, growing in all tanks and ditches. It is said to occasion dysentery to those who drink the water. Its juice is given medicinally. The natives of several districts of Southern India were in the habit of using the fresh living plants of the Pistia stratiotes or Agasa-tamare for attracting and stupefying bugs, but large quantities of this plant were collected and tried in several hospitals and public institutions, and found useless.

PISUM ARVENSE. *Wight.*

Keia, ... BENG.	Mattar, . . . HIND.
Wan tau, . . . CHIN.	Mattar rewari, . ,,
Tsing, siau, tau, . ,,	Kala mattar, KAGHAN.
Bisillah, . . . EGYPT.	Karani, . . . KASH.
Field pea, ... ENG.	Kulawan, . . . SIMLA.

Cultivated throughout India, sown after the rains in drills, and varies in price according to the quality; when green, they are tolerable as a vegetable, but are best in soup. Procurable in December and January.—*Riddell.*

PISUM SATIVUM. *Linn.*

var. α. macrocarpum, *Ser.*, sugar pea.
var. β. quadratum, *L.*, Chota-mutur, grey pea.
var. γ. agreste, Patna pea, common field pea.

Hummus, . . . ARAB.	Shanma; Ahandil, LADAK.
Khandoo; Sen, . BEAS.	Watana, . . . MAHR.
Burra-mutur, . . BENG.	Kachang, . . . MALAY.
Common pea; Pea, ENG.	Harenso, . . . SANSK.
Patana, ... GUJ.	Rata-gora-dya, . SINGH.
Mutur; Khandu, HIND.	Vella pattani, . . TAM.
Batanah, ... ,,	Patanlu, ... TEL.
Batani, ... ,,	Gundu sanighelu, . ,,

This is the pea of the garden. Cultivated throughout the plains of India, and grown in the N.W. Himalaya up to 14,000 feet. At the latter height it does not ripen its seed, and is used as fodder. It is found in the Sutlej valley, between Rampur and Sungnam, at an elevation of 8000 to 14,000 feet. Cultivated in Kanawar and Spiti. 100 parts of the pea, from Benares, yielded—Moisture, 12·65; nitrogenous matter, 23·50; starchy matter, 60·28; fatty or oily matter, 1·11; mineral constituents (ash), 2·41.—*Ainslie; Eng. Cyc.; Cleghorn*, p. 66.

PITA. TAM. Aloe or agave fibre.

Cantala, Banskeora, HIND. | Petha kalabuntha, . TAM.

The species of agave commonly called aloe plants are natives of America, which have become so naturalized in many parts as to appear to be indigenous in Africa, parts of India, and in the south of Spain. The agave plants resemble the true aloe in their sword-shaped leaves with parallel veins, which, however, grow to a gigantic size—that is, from eight to ten feet in length—in a cluster from the root, with their margins usually armed with short thorns, and their points with a hard and sharp thorn, which makes them useful hedge plants; the leaves abound in fibres of great length, of considerable strength, also tough and durable. The Mexicans make their paper of the fibres of agave leaves laid in layers. The expressed juice of the leaves evaporated, is stated by Long, in his History of Jamaica, to be also useful as a substitute for soap.—*Royle, Ill. Him. Bot.* p. 375; *Royle, Fib. Pl.* p. 4.

PITAKA, Tein-pitaka, three divisions of the sacred writings of the Buddhists. Pitakattayan, or the three Pitaka, do not seem to have been committed to writing until B.C. 85, or 458 years after Sakya's death, during the reign of Watta Gamini, king of Ceylon.—*Hardy; Fytche*, p. 167.

PITAMAHA, born at Gauri Sankar, and lived at Kuru Kshetra. He taught that the world, time, and space, like God, are eternal; and he enjoined the practice of the three sects, Saiva, Sakta, and Vaishnava.—*Ward*, iv. p. 31.

PITAMBAR (from Pita, SANSK., yellow, and Ambar, cloth), a yellow amber-coloured cloth, or soft silk dhoti, ten yards long, forming both a skirt and a body covering, or worn by men as a dhoti. The silk pitambars of India, or men's silk loin-cloths, are worn by Hindus at entertainments and festivals, as also in religious worship. Saris are nearly universal for Hindu women's wear, and sousse, made into petticoats and trousers, is as universal for Muhammadan women and men also; and it has this advantage over saris, that the colours and patterns differ very little anywhere within the confines of India; whereas saris, dhotis, and loongis must be made to suit particular localities, and the patterns of one locality would inevitably be rejected in another. See Clothing.

PITAMBARA, clothed in yellow garments, the colour of the clothing of Buddhist and Hindu religious ascetics.

PITAPUR, in Gujerat, occupied by the Bagela race.

PITAR, father, is derived from the Sanskrit root Pa, which means to protect, to support, to nourish. The father, as genitor, was called in Sanskrit Ganitar, but as protector and supporter of his offspring he was called Pitar; hence, in the

Veda, these two names are used together, in order to express the full idea of father. Thus the poet says—

'Dyaus me pętâ genitâ,
Jovis mei pater genitor,
Ζευς ἐμου πατηρ γενετηρ.'

In similar manner, Matar, mother, is joined with ganitu, genitrix, which shows that the word Matar must soon have lost its etymological meaning, and have become an expression of respect and endearment; for among the early Aryans Matar had the sense of maker, from Ma, to fashion. In the non-Aryan nations of Europe and Asia, the terms are—

Language.	Father.	Mother.
Turkish,	Baba.	Ana.
Georgian,	Mama.	Deda.
Mantshu,	Ama.	Eme.
Javanese,	Bapa.	Ibu.
Malay,	Bapa.	Ma.
Syami (Tibet),	Dhada.	Ma.
Arabic,	Ab-Walid.	Walidah.
Tibetan,	Pha.	Ama.
Serpa (Nepal),	Aba.	Ama.
Murmi (Nepal),	Apa.	Amma.
Pakhya (Nepal),	Babai.	Ama.
Persian,	Pidr.	Madar.
Lepcha (Sikkim),	Abo.	Amo.
Bhutani,	Appa.	Ai.
Dhimal (N.E. Bengal),	Aba.	Ama.
Koch (N.E. Bengal),	Bap.	Ma.
Garo (N.E. Bengal),	Aba.	Ama.
Burman (Burma),	Ahpa.	Ami.
Mru (Burma),	Pa.	Au.
Sak,	Aba.	Anu.
Talain (Siam),	Ma.	Ya.
Ho (Central India),	Appu.	Enga.
Santhali (Central India),	Baba.	Ayo.
Uraon (Central India),	Babe.	Ayyo.
Gayeti (Central India),	Baba.	Dai.
Khond,	Abba.	Ayya.
Tuluva (Southern India),	Anme.	Appe.
Badaga (Southern India),	Appa.	Avve.
Irula (Southern India),	Amma.	Avve.
Singhalese,	Appa.	Amma.
Chinese,	Fu.	Mu.
Tamil,	Appa.	Amma.
Telugu,	Tandri.	Thullee.

—*Lubbock's Origin of Civil.* p. 415.

PITCH.

Zift, Kar, ARAB., TURK.	Pitch, GUJ., HIND.
Sung-shu-kau, CHIN.	Pece, IT.
Brai, Poix, FR.	Smola-gust aja, RUS.
Pech, GER.	Pez, SP.

Pitch is the residuum of tar, inspissated by heat or boiled down to dryness. In China, black dammer and impure elemi are used as substitutes for pitch. In British India the black dammer is used similarly.—*M'Culloch.*

PITCHER PLANTS are of the natural order Nepenthaceæ, and there are several species in Ceylon, the Khassya, the Malay Peninsula, Sumatra, Java, and Borneo. N. rajah, N. Lowii, N. Edwardsiana, are all Borneon species. Other known species are N. ampullacea, distillatoria, lœvis, phyllamphora, and Rafflesiana. They are quite common near Mount Ophir in Malacca, and the pitchers there contain about half a pint, and are beautifully ciliated with large ciliæ; the broad pitcher—for this, like the Rafflesiana, produces two kinds—is generally crimson; the long pitcher differs from the other in its trumpet shape and green colour, which is spotted with crimson. The leaves are moderately large and broad,—at least those of them which produce the broad pitcher, and which are found near the base of the plant,—are dark green above, and of a fine peach-coloured red beneath. The Nepenthes ampullacea produces green or spotted short and broad pitchers; it is also a climbing plant, and found in thick jungles. The old stems falling from the trees become covered in a short time with leaves and vegetable matter, which form a coating of earth about them; they then throw out shoots, which become in time new plants; but apparently the first attempts to form the leaf are futile, and become only pitchers, which, as the petioles are closely imbricated, form a dense mass, and frequently cover the ground as with a carpet of these curious formations. As it continues growing and endeavouring to become a plant, the laminæ of the leaves gradually appear, small at first, but every new one increasing in size, until finally the blades of the leaves are perfect, and the pitchers, which, as the leaves developed themselves, have become gradually smaller on each new leaf, finally disappear altogether when the plant climbs into the trees. This formation of the pitcher may afford an instructive lesson to the naturalist, as, though not to the same extent, the principle is perceptible in all of this curious tribe, the leaves of seedlings and weak plants always producing the largest pitchers. The best known to Europeans is Nepenthes distillatoria, *Ait.*, of the Khassya mountains; it is the N. phyllamphora and N. Indica, *Lam.* None of the plants of Borneo so much attract curiosity as the various and beautiful pitcher plants, eight different species of which were discovered in the western part of the island. The pitchers, which in some instances would contain upwards of a pint of water, hang from the midrib of the leaf of which they are a formation; they precisely resemble pitchers, being furnished also with a lid. The Nepenthes Rafflesiana produces its pitchers singly; they are large and generally crimson; it grows on rocky islands in the neighbourhood of Singapore, and it is easily distinguished from its near ally, the native of Borneo and Mount Ophir, by its inferior size, shortness of the column which supports the lid, the white and powdered appearance of its stems, and its bushy habit, never exceeding four or five feet in height. The largest Borneon one, Nepenthes Hookeriana, grows in shaded jungles, climbing to the tops of the trees. The pitcher is nine inches in length, having a large lid standing on a column, which is a continuation of the beautiful edge of the pitcher; that part which is broadest and turned towards the midrib of the leaf from which it depends, is furnished with two broad wings.—*Wallace*, i. p. 31; *Low's Sarawak*, p. 68.

PITH, ENG., Sola or Shola of Hindustan, is obtained from the Æschynomene aspera. At the Madras Exhibition of 1855, the Trichinopoly Local Committee exhibited a large collection of figures and architectural models, carved in the pith of the typha. The attitudes of the figures were stiff, but the draperies characteristic. Also pith work made from the rushes called Nultee in Tanjore.

PITHA-STHANA. SANSK. Seat or place of a seat. Of these are 51 places where the limbs of Sati fell, when scattered by her husband Siva, as he bore her dead body about, and tore it to pieces after she had put an end to her existence at Daksha's sacrifice. At the Jwala-Mukhi, Vindhya-Vasini, Kalighat, and others of the Pitha-Sthana, the temples are erected to the different forms of Sati or Devi, and not to the phallic emblem of Siva, which may be there as an ornament or accessary, but not as a principal.—*Garrett.*

PITHECOLOBIUM ANIMALLAYANUM of Beddome. This very beautiful tree, with its large spreading head, is very conspicuous in the moist woods on the higher ranges of the Animallays, 5000 to 8000 feet, and other hills to the south of them. P. bigeminum, *Martius*, is a large tree of the Himalaya and S. India.—*Beddome, Fl. Sylv.* xvi. p. 189.

PITHECOLOBIUM DULCE. *Willd.*

Inga dulcis, *Willd.* | Mimosa dulcis, *Roxb.*
Manilla tamarind, . ENG. | Karka puli, . . . TAM.

This tree is supposed to have been introduced from the Philippine Islands, but it is common throughout the Madras Presidency; it is one of their best coppice fuels, and is largely grown for that purpose, and is also much used as a hedge plant. A cubic foot of unseasoned wood weighs 50 to 53 lbs., and when seasoned 40 lbs., and its specific gravity is ·640; it is hard, coarse-grained, and brittle, of a reddish-brown colour, and when sawn emits an unpleasant odour; it is used for country carts, packing-boxes, and the panelling of doors.—*Beddome, Fl. Sylv.* p. 188.

PITHECOLOBIUM SAMAN is the rain tree. It grows rapidly.

PITHECOLOBIUM SUBCORIACEUM. *Thw.* Meemini mara, SINGH. A large tree 30 to 40 feet high, growing, not uncommon, at an elevation of 4000 to 6000 feet in the central province of Ceylon; wood unknown.—*Thw. Zeyl.* part ii.

PITHECUS, the orang-outang. The following species are known:—

Pithecus Brookei, *Bl.* P. Wurmbii et P. Abelii, *Owen*, though neither the species described by Van Wurmb, nor that by Dr. Abel, the Mias rambi, MALAY, *Brooke.* A native of Borneo.

Pithecus curtus, *Blyth*, the Mias chapin of the Dyaks. A Borneon species.

Pithecus morio, *Owen*, Mias kassar, MALAY, *Brooke.* From Borneo.

Pithecus Owenii, *Bl.*, small orang with short forearms. Adolescent female. Hab. unknown.

Pithecus satyrus, *L.* apud Brooke, S. Muller, and others, Mias pappan, MALAY, *Blyth.* From Borneo.—*Ben. As. Soc. Journ.* No. 4, p. 383.

PITHORAGARH, a military cantonment in Kamaon district, North-Western Provinces; lat. 29° 35′ 35″, and long. 80° 14′ 30″ E.—*Imp. Gaz.*

PITI. HIND. Pulse of the kind called mah ground up into a fine paste with water.

PITI and Hungrung are two valleys in the Himalaya. That of the Piti river is entered from Kanawar by the Hungrung pass, elevated 14,800 feet; the Parang pass, 18,500, leads over the range dividing the Parang from the Piti rivers. The district of Piti, which was formerly almost independent, but paid tribute to, or exchanged presents with, all the Tibetan countries in its neighbourhood, namely, with Garu, Ladakh, and Lahul, as well as with Kanawar, followed, in 1846, the fortunes of Lahul in being transferred to British rule. It is a very thinly populated valley, the villages being small and distant, and the arable tracts of no great extent. The mountains on its southern border, by which it is separated from Kanawar, are so very elevated that they wholly intercept all access of humidity from the districts to the northward of them, and render the climate entirely rainless. The houses are in consequence very generally built of unburnt bricks, made of the fine lacustrine clay so common in the valleys, and their flat roofs are thickly covered with a layer of the same material. The gradual transition, in ascending the Sutlej, from Hinduism to Buddhism, is very remarkable, and not the less so because it is accompanied by an equally marked change in the physical aspect of the inhabitants, the Hindus of the Lower Sutlej appearing to pass by insensible gradations as we advance from village to village, till at last we arrive at a pure Tartar population. The people of Upper Piti have quite the Tartar physiognomy, the small stature and stout build of the inhabitants of Ladakh, to whom also they closely approximate in dress. To what extent mere climatic influences may cause these differences, and how far they depend on an intermixture of races, it is difficult to decide. It is impossible, however, to avoid being struck by the coincidence between these physical and moral changes in the human race, and the gradual alteration in the forms of the vegetable world, which are observable as we advance from a wet to a dry climate.—*Thomson's Travels in W. Himalaya and Tibet*, p. 109; *H. f. et T.* p. 223.

PITRA BAKSH, from Pitra, paternal ancestors, the Patrii of the Romans, is a Hindu festival about the end of September, on the last day of Bhadrapada or first day of Aswin, on which offerings of fire and water are made to the manes of deceased ancestors. See Astronomy.

PITRI, the soul of a deceased ancestor; also the manes of ancestors to whom the obsequial worship Srad'ha is performed. They are the Feralia of the Romans, and in Hinduism also embrace the ten Prajapati or mythical progenitors of the human race; also the sons of the gods, according to a legend in the Harivansa, and in the Vayu-Purana, though all the Puranas give similar accounts of the Pitri.

The offerings to ancestors are balls of rice and flour (pinda); thus of a simple nature, as was the case with the Romans; for Ovid, in his Feralia, remarks ironically, Parva petunt manes,—the manes are easily satisfied.—*Wilson; Dowson.*

PITRI, the Aryan divinity of food.

PITRI-ISWARA. The worship of the ancestorial manes, the Pitri-iswara or father-gods of the Rajputs, continues for fifteen days. The rana of Mewar goes to the cemetery at Ara, and performs at the cenotaph of each of his forefathers the rites enjoined, consisting of ablutions, prayers, and the hanging of garlands of flowers and leaves sacred to the dead, on their monuments. Every chieftain does the same amongst the altars of the 'great ancients' (barra boora); or, if absent from their estates, they accompany their sovereign to Ara. See Dharma-raja.

PITRI-MEDHU, SANSK., from Pitri, forefathers, and Medhu, flesh. The early fathers, the progenitors of the human race, their manes, the dii patrii and dii manes of the Romans.

PITRI-PATI, lord of the manes; Yama, judge of the dead.—*Dowson.*

PITT, WILLIAM, Prime Minister of Great Britain. In 1784 he introduced a Bill in the British Parliament to establish a Board of Control over the Court of Directors of the East India Company. The Board was to consist of six Privy Councillors, who were to act as Commissioners, having control and superintendence of all the affairs of the British possessions in the East

Indies. Of these six, two were to be the Chancellor of the Exchequer and one of the Principal Secretaries of State, either of whom was to preside, and in their absence the senior of the remaining four. With the senior, who was known by the designation of President of the Board of Control, the whole business of the Board soon rested; he was essentially a new Secretary of State. The Bill materially diminished the powers of the Directors of the East India Company.

PITTA and Kaloochia. URIYA. Pitta, a tree of Ganjam and Gumsur, extreme height 36 feet, circumference 3 feet, and height from the ground to the intersection of the first branch, 15 feet. Pitta is used for posts, ploughshares, and firewood as the kaloochia, but is a larger tree and very plentiful.—*Captain Macdonald.*

PITTAL, a cultivating race in Rajputana, who are supposed to be Kurmi under another name.—*Campbell*, p. 93.

PITTAPUR, a large zamindari in Rajamundry.

PITTOSPORACEÆ, *Lindl.*, of 3 genera, 9 species, viz. 7 Pittosporum, 1 Billardiera, 1 Sollya. Wood of Pittosporum bicolor, *Hk.*, and P. undulatum, *Vent.*, from Victoria and New South Wales, is white, adapted for turners' purposes, and recommended as a substitute for the boxwood used by engravers. P. tobira, *Roxb.*, is a pretty shrub of China. Mr. Gamble names P. glabratum, humile, dasycaulon, ferrugineum, tetraspermum, Nilghirense, eriocarpum, and floribundum.

Pittosporum Ceylanicum, *Wight, Ill.*

P. floribundum, *W. et A.*	Senacia Nepalensis, *D.C.*
Celastrus verticillatus, *R.*	Katteya-gass, . . SINGH.

A moderate-sized tree of the Oova district of Ceylon, growing at an elevation of 3000 to 5000 feet.—*Thw. Enum. Pl. Zeyl.* i. p. 68.

Pittosporum tenuifolium, the lemon tree of New Zealand, attains to 12 or 15 feet in height. It yields a fragrant resin.—*G. Bennett.*

PITTS, JOSEPH, of Exeter, visited Mecca A.D. 1678.

PITT STRAIT, called Sagewyn by the Dutch, is bounded on the north by Battanta Island, and on the south by the north coast of Sallawatty and the group of small islands stretching from thence to the adjacent coast of New Guinea. Its length is about 39 or 42 miles, and its greatest breadth is about 7 or 8 miles. Pitt Strait and Dampier Strait are separated from each other by Battanta Island.

PITYRANTHE VERRUCOSA. *Thw.* Kleinhovia verrucosa, *Gardn. MS.* This tree is found in Ceylon, in the Battecaloa, Jaffna, and Trincomalee districts.

PITYRIASIS VERSICOLOR, a parasitic fungus of Melanesia and Polynesia, which causes the vegetable itch, the Tokelu ringworm.

PIYA DASI or Priya Darsi, a title of the Buddhist king Asoka, king of Magadha, who lived in the third century B.C. His era is near that of Antiochus the Great.

PLACSHADWIPA, Asia Minor, called also Sakadwipa.—*As. Res.* iii. 304, vi. 515, viii. pp. 264. 288. 297.

PLACUNA PLACENTA, the window shell genus of shells, is found in great abundance in the Tamblegam lagoon near Trincomalee, and their collection was rented out, 18 millions being gathered annually. The shells are exported to India and China as a substitute for window glass, and small pearls are found in them. On the Coromandel coast of the Peninsula of India, they are found fossil in the tertiary strata of the eastern coast line.

PLAGUE, or Levantine plague, also Bubonic plague, are terms by which the nations of Europe designate a contagious disease of a severe form which from time to time has appeared as epidemic in Egpyt, in S. Arabia, Syria, Turkish Arabia, Southern Persia, extending to Turkey in Europe, Malta, Gibraltar. It is known to the Arabs as Ta'un. It prevailed severely in Baghdad in 1830, and appeared in Egypt in 1842. It broke out at Pali in Rajputana about A.D. 1830-1840, and appeared in China during the fifteen years of civil war, from 1855 to 1870. The Chinese called it Yang-tzee. It prevailed specially in the province of Yunnan and some of the neighbouring districts, and was believed to have been introduced there from Burma, but this unlikely point was never established. On the outbreak of the civil war, it became very prevalent, and was still raging in 1879, though the rebellion had been long put down. The disease first attacked animals which live in or on the ground. The rats, who were the soonest assailed, came out in troops from their holes, and, after staggering about and falling over each other, dropped dead. Buffaloes, oxen, sheep, and deer also very quickly succumbed, but fowls, which spend part of their time above the ground, more often escaped. Those who died of it were supposed to be possessed of a devil, and could not be buried, lest the repose of their ancestors should be disturbed. The bodies were placed on a bier, and exposed to the sun outside the gates, so that the traveller who passed a village where the Yang-tzee was raging was nearly choked by the odours with which he was suddenly brought into contact.—*M. Emile Rocher on the Chinese Malady called Yang-tzee.*

PLAGUSIA POTOUS. *Cuvier.* The Jerree Potoo of Russell, Ikan ledah of the Malays, is a fish of excellent flavour, and, like Plagusia trulla, passes at European tables under the denomination of 'sole.' The species are all distinguished for their tenacity of life. The fishermen at Penang assert that some species of Plagusia shoal at certain seasons.

PLA-KAT, SIAM., literally fighting fish, is the Macropodus pugnax.

PLANCHONIA VALIDA. *Blainv.* A timber tree of the Andamans.

PLANETS in Hindu mythology are minor deities. Brahaspati is not a planet, but 'the lord of prayer.' See Graha; Haft Dhat.

PLANKS.

Planker, ... DAN.	Papan, ... MALAY.
Planken, . . DUT., GER.	Tolstule-olosku, . RUS.
Bordages, Planches, FR.	Plankor, ... SW.
Takhta, ... HIND.	

Thick strong boards, cut from various kinds of wood.—*M'Culloch's Com. Dic.* p. 920.

PLANT is a term designative of all the vegetable kingdom, which botanists classify into orders, genera, and species, supposed about 500,000. The *telegraph plant*, Desmodium gyrans, has small leaflets in pairs on the leaf-stalks, which exhibit a spontaneous jerking motion.

Vinegar plant is a mould, the spawn (Mycelium)

of which forms a tough web. It is often seen floating in vinegar, and it induces fermentation if placed on saccharine fluids.

The *pitcher plants* are species of Nepenthes, growing in Ceylon, Malay Peninsula, Java, Sumatra, and Borneo.

The *hand plant*, Cheirostemon platanoides, so called because the curved stamens of the flower have a singular resemblance to a clawed hand, and the ancient Mexicans venerated it.

Venus fly-trap is the Dionœa muscipula. On the upper surface of its lobes are six minute bristles (three on each side), and the instant any one of these bristles is touched, the lobes close on each other, and entrap the insect which had alighted on the leaf.

The *Cephalotus* of Australia has pitcher-like leaves.

PLANTAGINACEÆ. *Lindl.* The rib-grass tribe of 1 gen. with 15 species of Plantago. Soda is obtained in Egypt from the ashes of P. squarrosa.

Plantago amplexicaulis, *Cav.*, Gaj-pipali, HIND. Said to be an astringent.

Plantago ispaghula, *Roxb.*, Spogel seeds.

Buzr katoona, . . ARAB.	Ispungur, . . . SIND.
Fusliom, ... GR.	Ispaghal verei, . . TAM.
Ispaghol, Isabghul, HIND.	Isapagala vittulu, . TEL.

Cultivated in India during the cold season for the seeds, which are used as an emollient and light article of diet for convalescents. In making a decoction of ispaghul, take of ispaghul seeds two drachms, distilled water one pint; boil and strain. This preparation is a simple demulcent, was recommended by Mr. Twining in dysenteries, and is much used in India in catarrh, gonorrhœa, and nephritic affections.

Plantago major, *Linn.*, Way-bread.

Ch'e'-ts'ien, . . CHIN.	Fasliyun, ... GER.
Cart-track plant, . ENG.	Bartang, ... HIND.

The Chinese name looks like an adaptation of Psyllium.

Plantago psyllium, *Linn.*, Flea-wort, ENG., Bartang, HIND. The seeds, called flea-seed, contain a great quantity of mucilage, and in Britain are extensively employed by muslin manufacturers for stiffening their goods; they are also used by paper-stainers and bookbinders. They form rich mucilaginous drinks, useful in catarrh and other ailments for which linseed is used.—*Roxb.; Ainslie; O'Sh.; Hogg; Smith; Voigt; Powell.*

PLANTAIN, Banana, Musa Paradisiaca.

Mauz, ... ARAB.	Pisang, ... MALAY.
Biyu, ... BALI.	Vellakai, Pesang, MALEAL.
Ng-hyet-praw, . BURM.	Mauza, ... PERS.
Nep-yan, . . . ,,	Kehl kang, . . SINGH.
Mauz, Kayla, . . HIND.	Valie pallam, . . . TAM.
Gadang, ... JAV.	Ariti pandu, . . . TEL.

Plantain is the name applied to various species of the genus Musa, of which, in the East Indies, the best known are M. paradisiaca, which yields the edible plantain or banana, and M. textilis, the Manilla hemp plant. The bananas appear to be natives of the southern portion of the Asiatic continent (R. Brown, Bot. of Congo, p. 51). Transplanted at an unknown epoch into the Indian Archipelago and Africa, they have since spread also into the new world, and in general into all intertropical countries, sometimes before the arrival of Europeans. Humboldt put a very high value on this fruit as an article of food. According to him, it affords, in a given extent of ground, forty-four times more nutritive matter than the potato, and 133 times more than wheat. In the East Indies it is only used as a dessert. In Jamaica, Demerara, Trinidad, and other colonies, however, many thousand acres are planted with the banana. The vegetation is so rapid, that if a line of thread be drawn across and on a level with the top of one of the leaves when it begins to expand, it will be seen in the course of an hour to have grown nearly an inch. The *fruit*, when ripe, is of a pale-yellow, from 2 or 3 inches to a foot in length, and 2 inches thick, and is produced in bunches weighing 40 lbs. and upwards. In the Straits Settlements, the most approved varieties are the royal plantain, which fruits in eight months; one which bears in a year, the milk plantain, the downy plantain, and the golden plantain or banana. A variety termed Guindy was imported from Madras, where it was in great esteem. It had this advantage over the other kinds, that it could be stewed down like an apple. The Malays allege that they can produce new varieties by planting three shoots of different sorts together, and by cutting the shoots down to the ground three successive times, when they have reached the height of 9 or 10 inches. In some districts of Mexico, the fruit is dried in the sun, and in this state forms a considerable article of internal commerce, under the name of plantado pasado. When dried and reduced to the state of meal, it cannot, like wheat-flour, be manufactured into macaroni or vermicelli, or at least the macaroni made from it falls to powder when put into hot water. The fresh plantain, however, when boiled whole, forms a pretty dense firm mass, of greater consistency and toughness than the potato. The mass, beaten in a mortar, constitutes the 'foo-foo' of the Negroes. Plantain meal cannot be got into this state unless by mixing it up with water to form a stiff dough, and then boiling it in shapes or bound in cloths.

In Pegu there are scarcely any good plantains to be had, owing to the Burmese habit of only eating green fruit, and their total indifference to the finer qualities of flavour. The great use of all fruit with the Burmese is to serve as an addition to their curry, for which purpose one kind of plantain is just as good as another. The plantain or banana holds the same place in Tenasserim that the apple does in England and the United States. It is used as a vegetable as well as an article for the dessert, the great proportion being eaten with rice and meat in the place of potatoes. Like the mango, the Musa is indigenous in Tenasserim, but the wild fruit is too full of seeds to be eatable. A species grows wild in Tenasserim jungles, and is rather an ornamental plant, which is all that it has to recommend it. Unlike the common plantain, it never throws up shoots from its roots. The plantain and banana embrace many varieties. Mr. Mason had the Burman names of twenty-five before him. 'The numerous varieties,' writes Voigt, 'we have in vain tried to put in some order. The attempt made for this purpose, in Schultens, appears to us to have only increased the confusion.'

The *Manilla hemp*, from which a fabric of the finest texture is prepared, is made from the leaves of the Musa textilis. Several varieties of the banana are cultivated in the Dekhan,

—the large red, the green, and the yellow. A small sort, which is supposed to be the real banana of the West Indies, is perhaps the most luxuriant. The plants blossom at all seasons, and so soon as the drupe of fruit begins to ripen, which is known by some turning colour, it is cut and hung up to ripen in the house. The plant will not bear again, and if not cut down it will perish of itself, on which the surrounding shoots grow up and blossom as the former. The plants are generally grown in beds or clusters in a good, rich soil, when fine fruit is almost the sure return. In transplanting the shoots of 2 or 3 feet high, about one-half is generally cut off; the green fruit is used in curries; the natives of the Peninsula of India also use in their curries the extremities of the flower shoots, the heart of the stem, and that portion of it from which the roots proceed.

The stem yields a fine white silky fibre of 5 or 6 feet in length, specifically lighter than hemp, flax, and aloe fibre, by ¼th or ⅓th, and possessing considerable strength. The plantain will flourish in almost any soil where the climate is warm and moist. A young shoot being planted attains maturity in eight months, producing a bunch of fruit weighing 30, 50, and even 100 lbs., and throwing out from its roots and around its stem from 7 to 10 fresh shoots. These will each become a distinct plant, producing its own bunch of fruit. There may be from 300 to 400 plants in an acre, each producing on an average seven suckers, thus making in all from 2100 to 3200 plants in an acre. The produce of fruit at the lowest estimation would be from 900 to 1200 lbs. annually; and this fruit has its market value.

The plant is cultivated everywhere in Southern India, where the varieties are the rustaley, superior table plantain; poovaley, or small guindy variety; payvaley, a pale ash-coloured sweet fruit; monden, 3-sided coarse fruit; shevaley, large red fruit; and putchay laden, or long-curved green fruit. All these yield fibres, but of very different quality. This fibre has a particular tendency to rot and to become stiff, brittle, and discoloured by steeping in the green state, and it has been ascertained by trial that the strength is in proportion to the cleanness of the fibre. If it have been well cleaned, and all the sap quickly removed, it bears immersion in water as well as most other fibres, and is about the same strength as Russian hemp. The coarse large-fruited plantains yield the strongest and thickest fibres; the smaller kinds yield fine fibres, suited for weaving, and, if carefully prepared, these have a glossy appearance like silk. This gloss, however, can only be got by cleaning rapidly, and before the sap has time to stain the fibre; it is soon lost if the plant be steeped in water. The rope ought not to be hard spun, as it becomes stiffer when wet, and is liable to snap if it get into a twist or knot. Almost every part of the plantain may be converted into fibre, but it most abounds in the stem and leaves, and can be made available for textile or cordage purposes. The combings or tow separated during the preparation of the fibres is of value as a substitute for horse-hair for stuffing mattresses, etc.; and the peduncle of the core can be pounded into half-stuff for the paper-makers, and form an excellent material for the finest or the toughest kinds of paper. In the West Indies the spiral vessels are employed as tinder. In the process of preparation of plantain fibre, the stem should be cut down six inches above the ground, and then divided longitudinally into four parts, and the juice expelled by passing each slip longitudinally through the common sugar-mill, with grooved hard-wood rollers, or a mill the rollers of which are 3 feet long and one foot in diameter. In the process of crushing, the stalks and the harder and softer parts of the stem should be passed through separately, which can be easily effected if the rollers be horizontal. In this way the produce will be four or five pounds of fibre from each tree. The fibres from the midrib of the leaf are the best; and in general if the stem yield four pounds nett of fibre, the stalk will give one pound out of four. After the crushing, the fibres are to be well washed and boiled in soda or other alkaline ley to separate the gluten and colouring matter, keeping the fibres from the several parts quite separate in this process of boiling. They are then bleached, and the highest coloured fibres do not require more than six hours, but the darkest from twelve to eighteen. The finest plantain fibre, when carefully cleaned and dressed, by what may be termed the 'fresh process,' in contradistinction to the system of rotting the fibres free, has been said to be well suited for the imitation of silk in carriage braid and carpet work. The average value put upon such fibres was said to be £70 per ton, when Russian hemp was selling at £50 per ton. In the West Indies, the total expense of producing a ton of fibres was calculated at £9, 13s. 4d. Early in the year 1880, two gentlemen in Bombay commenced operations on a moderate scale at Bassein, giving employment to about 40 day-labourers for a period of above one year; the out-turn of fibre, waste, and paper-stuff, produced at the rate of two tons per diem by the simplest conceivable machinery, and at comparatively trifling cost, readily commanding the following prices, on 9th December 1880, in the Liverpool markets:—Plantain fibre, £20 per ton; plantain waste, £10 per ton; plantain tow, £10 per ton.

From 800 trees, which was the average daily quantity manipulated by Messrs. Price and Lacey, the yield was as follows:—Clean fibre, one ton; waste, half ton; tow, half ton; while the cost of production was Rs. 52:—800 stems at Rs. 2 = Rs. 16; cartage, Rs. 16; 40 coolies, for cutting, splitting, washing, drying, packing, etc., Rs. 10; fuel for engine, Rs. 5; sundries, Rs. 10.

The superintendent of the Calcutta Botanic Garden has found that, during the dry months, simple exposure of the sliced stem to the sun is sufficient to prepare the fibre for the paper-maker, provided the paper-mill be on the spot. What is still wanted is a cheap method of removing the cellular tissue, which contains a large quantity of sap, and is useless for paper-making, so that when shipped on the voyage to England there may be no risk of fermentation.

On the Arakan coast, the layers of the stem of the plantain, termed there Pa-tha-you-sha, are sold in a dried state; some of it is even twisted into a bast rope. It would probably command a good price as a cordage or paper material, or for textile fabrics.

The *leaves* are used in regimental hospitals, for dressing parts that have been blistered.

The *meal* is prepared by stripping off the husk

of the fruit, slicing and thoroughly drying the core in the sun, after which it is powdered and sifted. It has a fragrant odour, and its flavour is said to depend a good deal on the rapidity by which the slices are dried. It should be husked and sliced by nickel or bamboo knives, as those of steel injure the colour of the meal. It is calculated that the fresh plantain will yield 40 per cent. of meal, that an average bunch of 25 lbs. weight will yield 5 lbs., and that an acre of plantain walk of average quality producing 450 bunches during the year, would yield upwards of a ton of meal. In the W. Indies plantain meal is largely employed as the food of infants, children, and convalescents. In composition the plantain fruit approaches most nearly in nutritive quality to the potato, and the meal of the plant to that of rice.

	Rice.	Potato.	Plantain.
Starch, sugar, etc., . .	87·4	79·0	86·0
Protein compounds, .	7·5	8·0	5·2

The varieties which are rich in saccharine matter make an admirable preserve, on being skinned and split longitudinally and dried in the sun, by which process they immediately acquire a consistence like Turkey figs, and become capable of being packed and preserved in the same way.

In S. America, the fruit is not only used as an article of diet in its fresh state, but, when dried, forms an article of internal trade, besides having its flour separated, and cooked or made into biscuits. It is also preserved in the Society Islands.

The *skins* of the fruit are used by the tanners in dyeing leather black. — *Surgeon T. Key in Proceedings of the Madras Committee; Madras Ex. Jur. Rep.; Royle's Fib. Pl.; Simmonds' Com. Prod.; Dr. A. Hunter in M. E. Proceedings; Mason's Tenasserim; Dr. M'Clelland in Records of the Government of India; Dr. King in Report of Calcutta Ag.-Hort. Gard.*

PLASMA, a green, semi-transparent calcedony, having a dark tint, which is supposed to be coloured by chlorite. It is found chiefly in India, and is made into beads and other ornaments. Occasionally specimens are found among the ruins of Rome. — *Waterston; Faulkner.*

PLASSEY, on the Bhagirathi river, in the Nadiya district of Bengal, is in lat. 23° 47′ N., long. 88° 17′ 45″ E. It is famous in the history of British India as the scene of a battle which was here fought and won by Clive on the 23d June 1757, with 700 European troops, 1400 sepoys, and 570 sailors, and the victory threw Bengal, Behar, and Orissa into British hands.

Orme states that the nawab, Suraj-ud-Dowla, had 50,000 foot and 18,000 horse, and 50 pieces of cannon, 24 and 32 pounders. There were also 40 Frenchmen, under the command of Sinfray. The action was a cannonade, and Clive computed the enemy's loss at 500 killed, that of the English at 22 killed and 50 wounded.

It was not until the 12th August 1765 that Shah-i-Alam, emperor of Dehli, at a conference with Clive, held at Allahabad, granted to the English E.I. Company the Diwani of Bengal, Behar, and Orissa. Clive agreed to pay to the emperor a tribute of 2 lakhs monthly, from the proceeds of the revenues. But the memorable battle-field has ceased to exist, changes in the bed of the river having swept it almost all away. Of the famous mango grove called the Lakha Bagh, or the tope of a lakh of trees that was 800 yards long and 300 broad, all the trees have died or been swept away by the river, excepting one, under which is buried one of the nawab's generals who fell in the battle. So long ago as 1801, there were no more than 3000 trees remaining. It is now a cultivated plain. The spot where the solitary tree yet survives is called Pir-ki-jaga, and is held sacred by Musalmans. — *Tr. of a Hind.* i. p. 51; *Malcolm*, vi. p. 256; *Orme*, ii. p. 173.

PLATALEA LEUCORODIA, Spoon-bill.

Cherita, . . . Beng.	Weisser loffeler, . Ger.
Lepelaar, ... Dut.	Chamach-buza, . . Hind.
Spoon-ibis, . . . Eng.	Becquaroueglia, . It.
Pale, Poche, Truble, Fr.	Cucchiarone, . . . ,,
Spatule, Cueiller, . ,,	Gentu-muku-kōnga, Tel.
Loffel gans, . . . Ger.	Llydon big, . . Welsh.

One of the Plataleinæ, the spoon-bill sub-family of birds of the family Tantalidæ, common in India, Europe, Africa, Asia. It breeds in India in lofty trees, but also in marshes. Other known species are—

Platalea major, *Temm.*, Japan.
P. minor, *Schlegel*, Japan.
P. ajaya, *Linn.*, America.
P. flavipes, *Gould*, Australia.
P. melanorhynchus, *Gould*, Australia.

PLATANEÆ, the oriental plane tribe of plants, comprising one genus and four species, — one of Europe and Asia Minor, one N. America, and two from Asia Minor and Central Asia. The Platanus orientalis has palmate leaves resembling those of the common sycamore. It grows in the western parts of Asia, and extends as far east as Kashmir. Its wood is fine grained and hard, and when old it acquires dark veins so as to resemble walnut-wood. The tree was valued for its shade by the Greeks and Romans, and it was held sacred in the east. P. occidentalis is found in most parts of N. America, from Mexico as far as Canada. The timber is of a reddish colour, and will not bear exposure to the weather. There is but this one genus in the order, and six species. The family resembles Artocarpeæ. — *Hogg; Eng. Cyc.*

PLATANISTA GANGETICA. *Gray.*

Dolphinus Shawensis.	D. Gangeticus.
Platanista of Pliny.	Sou-sou of India.
Dauphine du Gange, *T. Cuv.*	Susa of Buffon.

Inhabits the Indian seas, the Ganges and its tributaries. It eats prawns, Palæmon carcinus, also the fish Wallago attu and Saccobranchus fossilis. The flesh and blubber are eaten by some low castes.

Platanista Indi, *Blyth*, the porpoise of the Indus, is larger than P. Gangetica, and of a paler colour. —*Jerdon.*

PLATANUS ORIENTALIS. *Linn.*

Doolb, ... Arab.	Chunar, . Hind., Pers.
Chinar, . Hind., Pers.	Buna, Buin, Bonin, Punj.

The oriental plane is indigenous in Asia Minor and in most of the countries of the Levant, and it extends into Kashmir. Ancient Greeks and Romans prized it particularly for the close shadow which its spreading foliage afforded, and they celebrated many of their festivities beneath its branches. A plane tree is mentioned as having existed in Lycium, in the hollow of which the Consul Licinius Musicanus gave a dinner to 19 friends. The wood is much like that of the beech, but it

is less hard, has a finer and closer grain, and is more capable of receiving a good polish; it is, however, very apt to warp and split, is not durable, and is frequently attacked by the worm. Immersing the wood in water for several years, is said to improve its quality. It is used for gun-stocks. According to Belon, the Greeks of Mount Athos were in the habit of making boats of a single piece, out of the trunks of the largest trees. It grows in Kashmir from seed, but requires to be transplanted. Some re-planted by Akbar in A.D. 1588, when seen by Mr. Vigne in 1838 were 20 feet in circumference. Vigne had seen some grand trees in the valley opposite to Therapia on the Bosphorus; and one near Avin, at the foot of the Elburz mountains, measured by him, was 64 feet in circumference. It appears to be tolerably common in Afghanistan, and is frequently seen at villages, etc., in the Panjab Himalaya, extending sparingly east to the Beas, and up to 8300 feet in Ladakh. In the Kashmir valley it is abundant, the trees ranging up to 75 feet high; and Dr. Stewart had noted seven or eight of more than 20 feet, the largest being 28 feet girth in Srinagar, Kashmir. The spread of two trees measured by him had a radius of 37 and 44 feet respectively in one direction. The finest grove in Kashmir is the Nazim Bagh, on the banks of the lake, near the city of Srinagar, which at one time consisted of 1200 noble trees, said to have been planted about the 17th century. To the eastward it does not thrive. In Kābul, where timber is scarce, Irvine states that it is the only material for gun-carriages; and in Kashmir it furnishes part of the wood for making the small painted boxes.—*Dr. Stewart; Book of Trees*, p. 152; *Royle's Ill.* p. 344; *Hugel's Travels in Kashmir*, p. 85; *Cleghorn's Pan. Rep.*

PLATAX ARTHRITICUS. *Cuv. and Val.*

Ikan bonna, *Bell.* | Chætodon arthriticus, *C. and V.*

The total length of this fish is 1 foot 7 inches. It inhabits the seas of Penang, Sumatra, Java, and Singapore. The flavour is excellent, the large air-vessel is thin, and yields little isinglass.—*Cuv. and Val.*

PLATINUM or Platina, Kum-phok, BURM., Peh-kin, CHIN., from Plata, silver. An important metal, first made known in Europe by Mr. Wood, assay-master in Jamaica, who met with its ore in 1741. In 1750 he published a paper upon it in the Philosophical Transactions. The name was given to it on account of its colour; it was originally called Platina del Pinto, because it was found in the auriferous sand of the river Pinto. It has since been found in China, Burma, Brazil, Colombo, St. Domingo, and in the Ural mountains. It occurs along with gold in the Hukong valley, and metal-workers alloy it with copper and silver, with which they form bowls of tobacco-pipes. It is said to be found also in the Shan states. The sands of the Namtowa river, about 36 miles S.E. of Jeypore in Upper Assam, on the other side of the mountains, is the most prolific source of the platina.—*As. Res.* xviii. part ii. p. 279.

PLATO, B.C. 429–348, the Iflatun of the Arabs, an illustrious philosopher of Greece, son of Ariston and Perictione. He was born at Athens in May 429 B.C. From his twentieth till his twenty-eighth years he studied under Socrates, the Sucrat of the Arabs, a great part of whose discourses he committed to writing. He resided then in Egypt and afterwards in Italy, and then returned to Athens where for some time he taught at a place called the Academy. On the invitation, however, of the elder Dionysius, he went to his court, but his free speaking displeased the tyrant, who is said to have sold him as a slave. He was bought by Anniceres, a native of Cyrene, who freed him and he returned to Athens. The books which exist consist of a long series of dialogues, with Socrates as the chief interlocutor. They are dialectical, ethical, and physical. His original name was Aristocles, but he received the name of Plato from the breadth of his forehead and chest. Plato, Epicharmus, and others adopted a philosophy similar to that of the Vedanta, a system of perceptions of primary or secondary qualities. He died on his 82d birthday, B.C. 348. He had Aristotle as a pupil.

PLATTER LEAVES, used by the Hindus, are made of leaves of the Eugenia jambolana, Ficus Bengalensis, F. cordifolia, F. religiosa, Mangifera Indica.—*Birdwood, Arts.*

PLATYCERCUS HYPOPHONIUS, *G. R. Gray*, is called by the Malays 'Kastori raja,' or prince parrot, from its being the most brilliantly plumaged of all that family. Platycercus vulneratus, of Timor, a green species of parrot?

PLATYCERIUM, a genus of staghorn ferns of Australia, of which P. alcicorne and P. grande are the more remarkable. P. (Acrosticum) alcicorne retains much moisture in its dead, sterile fronds, which form large scales, rising one over another. In stormy weather they are sometimes thrown down by the weight of water and vegetable matter thus accumulated about them. Platycerium grande, *J. Sm.*, is the elkhorn fern of Borneo and neighbouring islands. — *J. Backhouse, Visit to Australia.*

PLATYCODON GRANDIFLORUM. *Smith.*

Kih-kang and Kih-hung, CHINESE. A plant of China of the Campanulaceæ or Bellwort tribe, from the provinces of Sze-chuen, Hu-peh, Ho-nan, and Shan-si. It is said to be used to adulterate ginseng.

PLAVA, a name of the men of Bhutan.

PLAYFAIR. Several relatives of this name served as medical and military officers in the 19th century in the East India Company's armies of Madras and Bengal. Dr. Sir Lyon Playfair, C.B., an eminent chemist and philosopher of Great Britain, was at one time in Bengal. Lieutenant-Colonel Playfair wrote on the Fishes of Zanzibar, also a History of Aden.

PLECOTUS AURITUS. *Jerdon.*

Pl. Darjilingensis, *Hodgson.* | Pl. homochrous, *Hodgson.*

The long-eared bat of Europe and Darjiling. Pl. Timorensis, *Geoffroy*, is from Timor.

PLECTOCOMIA, a genus of palms, growing in Malacca, Java, Assam, and the Khassya Hills, with leaves of great length, having a hook at the end by which to support themselves. P. Himalayana, *Griff.*, is the Rhenoul of the Lepchas. It is not a very large plant, but it climbs lofty trees, and extends 40 yards through the forest; 6500 feet is the upper limit of the palms in the Sikkim Himalaya, the Rhenoul alone attaining this height. Griffith also described P. Assamica and P. Khassyana, and Kurz mentions P. macrostachya of Tenasserim. — *Hooker*, i. p. 147; *Seeman; Gamble.*

PLECTRANTHUS PARVIFLORUS. *Willd.*

P. graveolens, *R. Br.*, a plant of N. Holland, with blue or purple flowers.

PLECTRANTHUS RUGOSUS. *Rottler.*

Lummitzera densiflora, *Sprenger.*
Isodon plectranthoides, *Schræd.*

Pioomar, Chugu, CHENAB.
Sola, Solei, ... ,,
Flea-killer, . . . ENG.
Bui, . . . JHELUM.
Kot, Siringri, Itsit, RAVI.
Pok, Rosbang, . SUTLEJ.
Chichri, Toarb, . . ,,
Sirru kalengu, . . TAM.
Khwangere, . TR.-INDUS.

A small, rather slender, shrubby plant, has a wholesome, pleasant-tasted, bulbous root, much eaten by the natives, particularly during the period of their great festivals. Its leaf is rough and not unlike that of Borage; it grows in the Himalaya at Mount Chur, Sirmore, Dehra Doon, and at Tinnevelly. It is abundant in the Panjab Himalaya from 3000 to 9000 feet, and occurs in the Salt Range. In places it is used as bedding to keep off fleas. The leaves have an aromatic, sago-like smell, and a somewhat bitterish taste.—*Ainslie; Stewart, Panjab Plants; Voigt.*

PLECTRANTHUS SECUNDUS. *Roxb.*

P. cordifolius, *D. Don.*
P. mollis, *Spreng.*
P. divaricatus, *Weinm.*
P. incanus, *Lam.*
P. Nagpurensis, *Rotl.*
Ocimum molle, *Ait.*

A plant of Mysore and the Western Dekhan, Kandalla, Roza, Ellora; also in Nepal.—*Roxb.*

PLEURONECTES SOLEA, the sole.

Kowlie mutchie, DUKH.
Ikan leda, . . MALAY.
Naak meen, . . . TAM.

—*Ains. Mat. Med.* p. 155.

PLEUROPTERA, a tribe of mammals, generally known as the flying lemurs, flying cats, and flying foxes. See Mammalia.

PLINY, a historian of Rome, whose name was Caius Plinius Secundus, born A.D. 23. He died A.D. 79, suffocated by a pestilential vapour near Mount Vesuvius. He was a voluminous author, but most of his works have been lost. The Historia Naturalis or Historia Mundi still remains; it is in 37 books. Notices occur in it of Khuzistan, Koh, Lokman, Okelis, and the Kol race.

PLOCARIA CANDIDA. *Nees.*

Eucheuma spinosa, —?

Kyouk puen, . . BURM.
Hai-tsai, Hai-tsau, CHIN.
Ceylon moss, . . ENG.
Agar-agar, . . MALAY.

This is abundant on the east coast of the Bay of Bengal. The Chinese name Hai-tsai means sea vegetable, and is applied to all the Algæ used as articles of diet. Agar-agar is also applied by the Malay race to the Gigartina tenax and Sphærococcus growing on the rocky shores of Malaysia. The Plocaria genus of plants belongs to the alliance Algales, the order Ceramiaceæ, and the sub-order Sphærococceæ. One of the species, P. helminthocorton, a native of the Mediterranean, is called Corsican moss, and has a considerable reputation as a vermifuge. Plocaria candida is abundant on the Tenasserim coast, and is valued for invalids. It was first brought to public notice by Dr. O'Shaughnessy as the edible moss of the Eastern Archipelago, and referred by him to the genus Fucus. The fructifications, however, being in small tubercles, the Rev. Mr. Mason considered it as a species of Agardh's genus, Sphærococcus, which now constitutes a member of the genus Plocaria. It is an allied species with the Ceylon moss (Gigartina lichenoides), first described as Fucus amylaceus by Dr. O'Shaughnessy, the Plocaria lichenoides of Mr. Mason; also with a species found on the coast of Devonshire in England, P. compressa; likewise with the Corsican moss of the Mediterranean, P. helminthocorton; also with the agar-agar, P. tenax, a species used in China as a substitute for glue and gum-arabic, but differs from the Irish moss or Chondrus crispus, and is not of the same natural family as the Iceland moss, which, indeed, is a lichen, the Cetraria Islandica. The Tenasserim moss is wholly free from the bitter principle which renders other fuci so objectionable. Mr. Mason seems to consider it identical with the Ceylon moss, for he gives the same account of it as Dr. O'Shaughnessy gives to that from Ceylon. It contains, he says, a considerable proportion of starch, and was hence named by Dr. O'Shaughnessy the starch fucus, F. amylaceus, but its specific name has been since changed to candida, white, probably from a mistaken idea that the substance is naturally white, whereas it becomes so only by bleaching in the sun; its natural tint is a shade between olive and purple, such as the natives designate red. According to Dr. O'Shaughnessy, 100 parts contain—Vegetable jelly, 54·5; true starch, 15·0; wax, a trace, 0·5?; ligneous fibre, 18·0; gum, 4·0; sulphate and muriate of soda, 6·5; sulphate and phosphate of lime, 1·0; iron, a trace, 0·4? From the tendency of pectine or vegetable jelly to form insoluble compounds with saline and earthy bases, it is necessary to steep this fucus for a few hours in cold rain-water as the first step in its preparation. This removes a large portion, if not the entire, of the sulphate of soda, leaving all the gelatine and starch. It should next be dried by the sun's rays, and ground to a fine powder. When ground, boiling for 25 minutes or half an hour dissolves all the starch and gelatine. The solution while hot should be passed through muslin or calico, and thus the ligneous fibre is removed; lastly, the strained fluid should be boiled down till a drop placed on a cold surface gelatinizes sufficiently. With milk and sugar, and flavoured with lemon-juice or sherry, this substance, when so prepared, would afford the invalid a pleasant article of diet. It may be available in several processes of art and various manufactures.—*O'Shaughnessy; Mason's Tenasserim.*

PLOCEINÆ, the weaver birds, the tisserins of the French, a sub-family of the Fringillidæ and tribe Curvirostres. They form curious pensile nests.

Ploceus baya, *Blyth*, the common weaver bird, Ceylon, all India, Assam, Burma.
P. manyar, *Horsfield*, Burma, Archipelago.
P. Bengalensis, *Linn.*, black-throated weaver bird, British India, Assam, Tiperah, Burma.
P. Philippinus, —? Java, Burma.

They build nests like a crucible, with the opening downwards, and usually attach them to the tender branches of a tree hanging over a well or tank. P. baya is found throughout India; its nest is made of grasses and strips of the plantain or date palm leaf stripped while green. It is easily tamed and taught some tricks, such as to load and fire a toy cannon, to pick up a ring, etc. P. Bengalensis occurs also in Hindustan and Burma. P. manyar is of all British India.

PLOTOSUS ANGUILLARIA and Pl. albilabris occur in the seas of the Malay Peninsula. At

Penang, the latter species is less numerous; both are eaten by the poorer classes of natives. The wounds of both are equally dreaded. Plotosus canius, *Buch. Ham., Cal. Cat.*, is the Notopterus l'allasii, *Cuv. et Val., Cal. Cat.*

PLOTUS MELANOGASTER. *Gmelin.*

Goyar, ... BENG.	Banwa, ... HIND.
Indian snake bird, . ENG.	Sili, ... SIND.
Chakuri, . . . GOND.	Kallaki pitta, . . TEL.

This beautiful diver is found throughout all India, Ceylon, Burma, and Malayana. In some parts it is exceedingly numerous, but they hunt singly. They swim and dive with rapidity, float low in the water, the head and neck alone visible. The lengthened scapular feathers are looked on as a badge of royalty by the Khasias, and they are esteemed by all. They were the badge of one regiment of the Bengal irregular cavalry. It has a hair sieve at the far end of its stomach, which prevents the passage of bones into the small intestine.—*Jerdon*, ii. p. 866.

PLOVER.

Pluvier, ... FR.	Piviere, ... IT.

Is a name applied in ordinary conversation to species of birds of the families Cursoridæ and Charadridæ.

Cursorinæ.

Cursorius Coromandelicus, *Gm.*, Indian courier plover.
Rhinoptilus bitorquatus, *Jerd.*, double-banded plover.
Glareola orientalis, *Leach*, large swallow plover.
G. lactea, *Temm.*, small swallow plover.

Charadrinæ.

Squatarola Helvetica, *Gm.*, grey plover.
Charadrius longipes, *Temm.*, golden plover.
Ægialitis Geoffroyi, *Wagler*, large sand plover.
Æ. pyrrhothorax, *Temm.*, small sand plover.
Æ. cantianus, *Latham*, Kentish ring plover.
Æ. Philippensis, *Scopoli*, Indian ringed plover.
Æ. minutus, *Pallas*, lesser ringed plover.

The courier plover runs about rapidly, nodding its head occasionally when it stops, running for a distance at speed, suddenly stopping, erecting the body, and then starting off again. The large and small swallow plovers hawk over the fields of grain or rumnahs of grass, catching insects in the air.—*Jerdon.*

PLUKENET. Leonard Plukenet's works were published in London between 1696 and 1705, in 4 volumes quarto, containing 454 plates, with 2740 figures of plants, many of them Indian. These figures are small, and often much reduced from the natural size, especially when the plants were large, but are generally very characteristic; they are much less costly and more easily procured than those of Van Rheede.

PLUM.

Nai; Kia-king-ts'ze, CHIN.	Prugna, ... IT.
Blomme Svedske, DAN.	Ameixa, ... PORT.
Pruim, ... DUT.	Sliva, ... RUS.
Prune, ... FR.	Aruela, ... SP.
Pflaume, ... GER.	Plommen, . . . SW.

The fruit of the tree Prunus domestica, indigenous to the greater part of the northern hemisphere; 274 varieties of this fruit are enumerated. Dried plums form an article of commerce under the names of prunes and prunellas.—*Smith's Mat. Med.; Faulkner.*

PLUMBAGO, black lead, graphite.

Blyant, ... DAN.	Tshernyi Karandash, RUS.
Potloot, ... DUT.	Lapiz plomo, . . SP.
Plombagine; Potelot, FR.	Carburetto de hierro, ,,
Reisblei pottloth, . GER.	Engelsk blyerts, . SW.
Piombaggine, . . . IT.	

Plumbago, a carburet of iron, is used for making leads for pencils and for crucibles. Barrowdale, in Cumberland, was long the only known mine that produced lead of that fine quality requisite for the manufacture of drawing-pencils. The Cumberland mines had been wrought since Queen Elizabeth's time; pure Cumberland lead costing as much as from 30 to 40 shillings a pound, being found in detached pieces, so that the supply was occasionally irregular, and the search for it laborious and often fruitless. Inferior descriptions come from Spain. Veins occur in the hills near Nambrapane in Ceylon. These are largely worked. The best kind of plumbago for crucibles is Ceylon, as it resists the action of fire better than any other substance, except asbestos, and the export has risen from less than 24,000 cwt., valued at £1000, in 1850, to 136,000 cwt., valued at nearly £44,000. Lieut. Evans, 51st Regiment M.N.I., exhibited plumbago of indifferent quality from beds of shale that accompany iron-ore at Malacca. Indifferent plumbago was also exhibited along with iron-ore and slaty shales from Cuddapah. It was found by Captain Boswell, of the 52d Regiment, in the hills of Paparassam, where it occurs in considerable quantities. Darjiling and Burma are also mentioned as localities from which it has been brought; it is found to the east of Nat-taik in large quantities on a low range of hills near the village of Nyokestoke. It is not utilized. Finely powdered graphite can, by an extreme degree of pressure, be rendered nearly as compact as the best mineral graphite. The great manufacturers of pencils in England reported the Kamaon and Travancore specimens as quite useless for the manufacture of black lead pencils, observing that they could not use the specimens in the state in which they had been sent without damaging their machinery, at the same time they could not conceive why purer specimens should not be found in the same locality. General Cullen, Resident of Travancore, reported that two varieties were found, one in thin laminæ, another granular. The granular or fibrous variety he had discovered in two localities, and both of them in laterite, a few feet only below the surface. One locality is about 5 or 6 miles N.E. of Trevandrum, and the other about 12 or 14 miles N.E.; he brought in from this latter locality, on his visit to it, about 3 cwt. Some small deposits are also found immediately on the W. of the town of Trevandrum. Graphite in thin scales or laminæ is common nearly throughout the laterite tracts of Travancore and Cochin, but more or less abundant in particular places. It is found in some places in laminæ of considerable size, particularly in a laterite hill about 25 miles N.E. of Trevandrum at a place called Caviattencudul, near the foot of the Ghat mountains. It is also found in laminæ of good size in the disintegrated gneiss of the ghats on the Tinnevelly side, also common in the kunkur or travertine deposits near Culdacoorchy and Amba-samudrum. The Vizagapatam graphite is probably also found in laterite, of which there was a large deposit at Bimlipatam. Plumbago mixed with boiled oil, and applied to canvas and other cloths, renders it non-combustible. A powdery plumbago has been obtained from Jammu territory. It was discovered by Dr. W. J. Thornton, Civil Assistant-Surgeon, Gurgaon, in October 1861. It is found in masses of variable sizes, and in general

quite detached, though in some cases the rock all round is full of plumbago mixed with finely divided micaceous particles.—*Cat. Ex.*, 1862; *On the Graphite of Kamaon by Dr. Royle; Letter from the Resident of Travancore*, 9th February 1857, *Bombay Gazette; M. L. S. Journal; Rohde's MSS.; M. C. C.; M. E. J. R.; Simmonds.*

PLUMBAGO EUROPÆA.

Chitra vani, . . SANSK. | Chitra, Shitraj, . SANSK.

An erect, branching, smooth, herbaceous shrub. The whole plant, especially the root, is very acrid. The properties of this species and of the P. scandens and P. Zeylanica are nearly identical. A paste made with rice congee and the bruised bark is applied by the natives of India to buboes in the incipient states; it acts as a vesicatory.

PLUMBAGO ROSEA. *Linn.* The root, in various forms, is much employed as a poison in India; as an irritant to occasion abortion, it is introduced into the vagina, and applied directly to the neck of the uterus. The bark of the plumbago root of various species, especially the P. rosea, rubbed into a paste with water and a little flour or congee, occasions pain in about five minutes, which increases in severity till, in a quarter of an hour, it is equal to that of a cantharides blister or mustard sinapism. If the paste be removed, in half an hour the pain becomes allayed, and in a period of 11 to 18 hours a large uniform blister, full of serum, is occasioned. The blistered surface heals readily without unpleasant ulceration. — *O'Sh.; Ainsl.; Powell; Roxb.; Voigt.*

PLUMBAGO ZEYLANICA. *Linn.*

Shituruj, . . .	ARAB.	Tumba kodivali,	MALEAL.
Chutra, . . .	BENG.	Kodiveli-chitra mulum, ...	TAM.
Ken-kyok-phyoo,	BURM.	Agni mata, . . .	TEL.
Yen-lai-hung, . .	CHIN.	Chitra mulum, . .	,,
Chitur mul, . .	DUKH.	Tella chitra mulum,	,,
White-lead wort, .	ENG.		
Chitra-chita, . .	HIND.		

The white plumbago is common; so are the other varieties, red and blue, and blossom throughout the year, but the blue is the handsomest; is propagated by layers. The red, the white, and the blue flowered plumbago are common in Tenasserim gardens, and the first two are cultivated by the Burmese for the vesicatory power of their roots.—*Roxb.; Riddell; Mason; Ainslie.*

PLUMIERA ACUMINATA. *Ait., Roxb.*

Gobur-chumpa, .	DUKH.	Vada ganneru, . .	TEL.
Pagoda tree, . . .	ENG.		

A small elegant tree, common. A pure white caoutchouc is obtained from this tree. It is abundant and luxuriant in the Pinjore valley, is called by the Burmese, China champac; its straggling and often leafless branches shoot out from their extremities delicate orange-coloured blossoms, tinged with red, and of sweetest fragrance.—*Riddell; Royle; O'Sh.; Mason.*

PLUMIERA ALBA. Gulachin, DUKH. The white chumpa. This and P. rubra, *Jack*, have been introduced from the West Indies.

PLUTSCHAU, HENRY, a Danish Protestant missionary, who came to India in A.D. 1705, along with Bartholomew Ziegenbald.

POA, a genus of grasses of the natural order Panicaceæ. The following are species grown in the south and east of Asia:—

P. Chinensis, *Retz*, P. India, China, bura-pini nuti.
P. cylindrica, *Roxb.*, Canton.
P. cynosuroides, *Retz*, Egypt, India.
P. diarrhena, *R. and S.*, Bengal.
P. elegantula, *Kth.*, Bengal.
P. Gangetica, *Roxb.*, Bengal.
P. multiflora, *Roxb.*, Bengal.
P. nemoralis, *Linn.*, Europe.
P. nutans, *Kon.*, Bengal, Coromandel.
P. punctata, *Linn.*, Bengal.
P. paniculata, *Roxb.*, Bengal.
P. plumosa, *Retz*, Bengal.
P. Roxburghiana, *Schultz*, Bengal.
P. tenella, *Linn.*, P. India.
P. unioloides, *Retz*, P. India, Bengal, Moluccas.
P. viscosa, *Retz*, P. India, Bengal.

Species of this genus have followed the migrations of man. They mostly contain a sufficient quantity of nutritive matter to render them fodder for various animals. P. annua is perhaps the commonest of British plants, springing up on every neglected spot around the habitations of man. P. pratensis is known by the name of the smooth-stalked meadow-grass, and is found in most pasture lands. P. nemoralis, the wood meadow-grass, is also a common grass in shady places.—*Voigt.*

POA CYNOSUROIDES. *Retz.*

Eragrostis cynosuroides, *R. and S.*
Uniola bipinnata, *Linn.*
Briza bipinnata, *Linn.*

Kusha, Kusa,	HIND, SANSK.	Kusa dharbagaddi,	TEL.
Pavitra, . . .	,,	Aswalayana, . . .	,,

A plant of Egypt and India, the kusha sacred grass of the Hindus, being sacred to Siva, as are also the pipal, banyan, the neem (Melia azaderachta), while the Ocimum sanctum or tulsi is sacred to Vishnu and Krishna. Some Hindu legends make Garuda the offspring of Kasyapa and Diti. This dame laid an egg, which it was predicted would produce her a deliverer from some great affliction. After a lapse of five hundred years, Garuda sprang from the egg, flew to the abode of Indra, extinguished the fire that surrounded it, conquered its guards, the devata, and bore off the amrita (ambrosia), which enabled him to liberate his captive mother. A few drops of this immortal beverage falling on the kusa, it became eternally consecrated; and the serpents, greedily licking it up, so lacerated their tongues with the sharp grass, that they have ever since remained forked; but the boon of eternity was ensured to them by their thus partaking of the imperishable fluid. This cause of snakes having forked tongues is still, in the popular tales of India, attributed to the above greediness. At the Ganges bathing-places for pilgrims, the Brahman guides usually present the pilgrim with blades of this grass.

POAY NGHAT, BURM., is used in Burma for caulking boats.

POCHAN, of Dehra Ghazi Khan, a woman's scarf.

POCHARD, the English name of the Branta rufina, *Pallas*, the red-crested pochard; Aythya ferina, *Linn.*, the red-headed pochard, of the sub-family Fuligulinæ.

PODADENIA SAPIDA. *Thw.*

Rottlera Thwaitesii, *Bail.* | Stylanthus Thwait., *Bail.*

A large tree of Ambagamowa in Ceylon, and at Marai-Calai, near Ratnapura, at an elevation of 1000 to 2000 feet. The fleshy aril has an agreeable flavour.—*Thw. Zeyl.*

PODICIPIDÆ, the grebe family of birds; Podiceps cristatus, the great-crested grebe of Europe, Asia, all Africa, America, Himalaya,

Bengal, Sunderbuns. Perhaps commoner in India than is generally supposed, from its secluded habits, and the great difficulty of porcuring specimens.

Podiceps Philippensis or P. minor, the little grebe of Europe, Asia and its islands, North Africa; very common in India.

PODOCARPUS, a genus of the yew tribe, large timber trees of the East and West Indies, the Archipelago, South Africa, and South America.

P. polystachys, *R. Br.*, Nepal, Khassya, Malacca, Singapore, China, Japan.
P. elongatus, *l'Herit*, —?
P. Chinensis, *Swt.*, China.
P. cupressina, *R. Br.*, Penang, Java.
P. macrophylla, *Wall.*; P. maki, *S. and Z.*, Chinensis, *Wall.*, Japan, Amboyna, Nepal, Penang.
P. Koraiana, *Sieb.*, Japan.
P. nageia, *R. Br.*, Japan.
P. Japonica, *Sieb.*, Japan.
P. cuspidata, *Endl.*, Japan.
P. grandifolia, *Endl.*, Japan.
P. spicata, *Brown*, N. Zealand.
P. totara, *Don*, N. Zealand.
P. bracteata, *Bl.*, N. Zealand, Borneo.
P. latifolia, *Wall.*, N. Zealand.
P. neriifolia, *Don*, N. Zealand, Burma.

P. amara, *Blume*, grows on the volcanic mountains of Java, to the height of 200 feet.

P. bracteata, *Blainville*, attains to 80 feet, of Java, up to 3000 feet; also in Borneo, Burma, and Andamans.

P. cupressina, *R. Brown*, is of Java and the Philippines, grows 180 feet high, and furnishes a highly valuable timber.

P. dacryoides, *A. Richard*, of the swampy ground of New Zealand, is the Kahi Katea of the Maoris and the white pine of the colonists. It is a tall, gregarious tree, grows to 150 feet, with a diameter of 4 feet.

P. ferruginea, *Don*, is the Miro, a large timber tree of New Zealand; attains the height of 30 to 40 feet, and 6 to 8 in circumference. Its timber is red and hard, and it yields a dark-red coloured gum-resin.—*G. Bennett*, p. 415.

P. latifolia, *Wall. Pl. As.*, the Neerambali or Nerve tree of the Tamils, is a tall, erect tree of Tounghoo, Khassya, the South Tinnevelly mountains, and Courtallum. It was the first conifer detected in Southern India. It is exceedingly ornamental when only a few feet in height, and well worth cultivating; it flowers in August and September, and ripens its fruit in January and February; the tree is abundant on the hills above Calcad in the dense moist forests, at 3000 to 5000 feet elevation. The timber appears to be very good.—*Beddome, Fl. Sylv.*

P. neriifolia, *Don*, Theetmin, BURM., meaning the prince of trees. These are large trees with stems not very regularly shaped, and found on the higher hills between Sitang and Salwin rivers, and on the range which skirts the coast of the Tenasserim provinces in British Burma. The wood is close-grained, and a cubic foot weighs 50 lbs. The average length of the trunk to the first branch is 20 feet, and average girth measured at 6 feet from the ground is 6 feet.—*Brandis' Cal. Cat. Ex.*, 1862; *Royle's Ill. Him. Bot.* p. 349; *Gamble.*

P. totara is the totara or mahogany pine, the most valuable timber tree of New Zealand. It grows to 80 or 90 feet, with 15 or 20 feet in circumference. Its timber is of a red colour, darkened by age and exposure, excellent in plank or spar for durability and lightness.—*Bennett*, p. 415.

PODOPHYLLUM EMODI. *Wall.* Occ[illegible] in Nepal and Kamaon, and on the Chur mou[illegible] tain in the Himalayas, at an elevation of 10,0[illegible] feet. P. hexandrum was found by Dr. Royle on the Kedarkanta mountain, at an elevation of 12,000 feet. P. peltatum is the May apple of the United States, where the root is considered to be a valuable and powerful cathartic.—*O'Sh.* p. 170.

PODOSTEMON. Dr. Wight, in Icones, gives of this genus of plants, P. dichotomus, elongatus, griseus, olivaceus, rigidus, subulatus, Wallichii, Wightii. P. Wallichii, *R. Br.*, and P. Griffithii, *Wall.*, have been found on the Khassya mountains. One species which grew near the Jaintia Hills on the stones at the bottom of the Oongkot, is a remarkable water-plant resembling a liverwort in its mode of growth. Several species occur at different elevations in the Khassya, and appear only in autumn, when they often carpet the bottom of the streams with green. In spring and summer no traces of them are seen, and it is difficult to conceive what becomes of the seeds in the interval, and how these, which are well known, and have no apparent provision for the purpose, attach themselves to the smooth rocks at the bottom of the torrents. All the kinds flower and ripen their seeds under water, the stamens and pistil being protected by the closed flower from the wet. This genus does not inhabit the Sikkim rivers, probably owing to the great changes of temperature to which these are subject.—*Hooker's Journ.* ii. p. 314; *W. Ic.*

PŒCILONEURON INDICUM. *Bedd.* Kirbally, CAN., a good-sized tree, common in the ghat forests of South Canara and Malabar up to an elevation of 4000 feet; wood very hard, and used for rice-pounders in South Canara; it flowers in March and April. P. flata limbata produces a kind of wax.—*Beddome, Fl. Sylv.*

POEPHAGUS GRUNNIENS, the yak.

POETRY. The poetry of the Hindus is rich, high, and varied, abounding in luxuriant descriptions, and occasionally displaying both grandeur and tenderness; but it is often rendered dull by repetition and bombast, and deformed by an indelicacy unknown to Europeans. Paradise Regained says—

> 'They loudest sing
> The vices of their deities, and their own
> In fable, hymn, and song, so personating
> Their gods ridiculous, themselves past shame.'

In Hindu poetry, despairing lovers very commonly address objects of nature, clouds, elephants, and birds on the subject of their lost or absent mistresses, as in the Megha duta, the 4th Act of the Vikramorvasi, and the 9th Act of the Malati Madhava. One important cause of distinction between modern European poetry and ancient eastern poetry is, that the latter was not intended for quiet perusal in the cabinet, but for public recitation, as minstrelsy. Hence great attention is paid to classes of letters, and to the flowing of sounds one into the other, without any interval or hiatus between. The most common Sanskrit metre is the stanza of four verses, containing eight syllables. The popular poetry of the Tamil people is of two kinds, viz. that which is intelligible to the ordinary labourer, such as the writings of Siva-vikkyar, and three-fourths of the writings

of Auvaiyar, the Tamil poetess; and the other kind is the classic poetry, such as that of Kamban.

Nearly the whole of Tamil literature, including works on medicine, arithmetic, grammar, and even dictionaries, is in poetry. With the exception of the commentaries on poetical works, prose composition may almost be said to owe its origin to European influence. Only a very imperfect idea of Tamil poetry can be given. In some respects natives alone can fully appreciate its excellence; while, on the other hand, they are blind to some of its defects.

Beschi, in an appendix to his high Tamil grammar, remarks that the Tamil poets use the genuine language of poetry. They rarely mention any object to which they do not couple some ornamental epithet. When they speak of a tree, they describe it either as green, or loaded with flowers, or shady, or majestically large, or as having all these qualities. They never mention a mountain without representing it as rising among woods, or watered by fountains, or decked with flowers. Sometimes they employ this embellishment to excess. They are full of metaphor and allegory. They are at times extravagantly hyperbolical. In the Tamil Naishadam, it is said of Damayanti, the consort of the hero, that when Brahma had created her, her beautiful form had only one rival in the universe, and that was the fair moon. But Brahma, determined that every beauty should centre in Damayanti, took a handful of beauty from off the face of the moon, and threw it into that of Damayanti. The deformity thus made is still apparent in the moon. The Tamil poets delight in similes, as all eastern poets do. They indulge in fiction, and pay little regard to nature. Their Parnassus is Pudiyamalai, near Cape Comorin. They have neither Apollo nor Mercury. Their Minerva is Saraswati. They invocate Ganapati. Pathos and sweetness rather than vigour are the characteristics of Indian poetry. They are not 'thoughts that breathe and words that burn,' so much as thoughts that please and words that charm. Milk and honey flow, but such milk and honey as to prove an unwholesome diet to some minds.

Dr. Caldwell observes that, 'whilst an elevated thought, a natural expressive description, a pithy, sententious maxim, or a striking comparison, may sometimes be met with, unfortunately elegance of style, or an affected, obscure brevity, has always been preferred to strength and truthfulness, and poetic fire has been quenched in an ocean of conceits. Nothing can exceed the refined elegance and "inked sweetness" of many Telugu and Tamil poems; but a lack of heart and purpose, and a substitution of sound for sense, more or less characterize them all; and hence, whilst an anthology composed of well-selected extracts would please and surprise the English reader, every attempt to translate any Tamil or Telugu poem in extenso into English, has proved to be a failure. To these causes of inferiority must be added a slavery to custom and precedent at least equal to what we meet with in the later Sanskrit. Literature could never flourish where the following distich (contained in the Nannul, or classical Tamil grammar) was accepted as a settled principle:—"On whatsoever subjects, in whatsoever expressions, with whatsoever arrangement, classical writers have written, so to write is denoted propriety of style."'

Tukarama, the great Mahratta poet, was originally a corn chandler in a village near Poona, but he became a devotee of the popular deity Vitoba. He died in 1649. His poems are moral and religious. They abound with fine images and noble thoughts, and their author stands high among the poets of India.

The following poetesses have lived at different times and contributed to the Urdu poetical literature:—

Atab Begam, Behar.
Roshini Jan of Lucknow.
Bhangan of Paniput.
Begam Jan, daughter of Nawab Khair-ud-Din Khan.
Begam, daughter of Mirza Baber, belonging to the zanana of Bahadur Shah of Dehli.
Beni Jan of Benares.
Begam, daughter of Nawab Intizam-ud-Dowla, and wife of Asaf-ud-Dowla of Oudh.
Begam, daughter of Arnad-ul-Mulk Ghazi-ud-Din Khan.
Mutilabale of Barelli.
Beranija of Dehli.
Nur Jahan, Mirasin, of Furkhabad.

The better known of the poets who have written in Hindi and its dialects adopted the following takhallus or poet-names:—

Ajaz.	Insha.	Mahakam.	Razakh.
Asaf.	Josash.	Maruf.	Sheda.
Balhar.	Jurat.	Mastan.	Souda.
Be Dar.	Kalandar.	Mir.	Soz.
Chand.	Kudrat.	Mir Taki.	Suraj.
Dard.	Latif.	Na.	Wali.
Fadvi.	Lutf.	Nazir.	Yakin.
Ihsan.	Maazzaz.	Niaz.	

The following poets have written in Persian:—

Sadi.
Jalal-ul-Din.
Kamal-ud-Din.
Shah Sharf-ud-Din.
Mir Murad Ali Khan.
Jami.
Hafiz.
Kamal-ud-Din.
Sharf.
Shams-ul-Haq Tabriz.
Syed Sabir Ali, Tatwi.
Be Dil.
Kazim-wala-Isfahani.
Fakhri.
Amir Khusru.
Nazim.
Agah.
Jamal-ul-Din Abdur Razaq
Asofi.
Nizami.
Khakani.
Mahmud, Ghaznavi.
Arselan.
Maharram.
Faek.
Roomi Sadiq Mail.
Hissam.
Syed Shah Azim-ud-Din, Tatwi.
Saib.
Mir Mushtaq.
Wazir.
Husain.
Wakif.
Mirza Qatil.
Zahid.
Sharf-Boo Ali, Kalandar.
Syed Azim-ud-Din.
Rafiq, Sabzi Farosh Shah, Tatwi.
Kamal.
Wali Mahomed Taghari.
Khaliq.
Nasrati.
Mahomed Takki Sabha.
Syed Azim-ud-Din.
MirzaHusain, Wazir, Wafa.
Mir Hotuk, Afghan.
Ghulam Sarwar, Lahori.
Mir Syed Ali Mushtaq, Tabatabai.
Aqa Mahomed Ashiq, Isfahani.
Mirza Mahomed Husain, Wafa.
Jalal-ud-Din.
Azad.
Umar Khayyam.

—*Mahabharata; Calcutta Review*, No. 109, p. 28; *Balfour's Guldastah-i-Soohn; Dravidian Comp. Gram.* p. 89; *Madras L.S.J.*, July 1864; *Rev. H. Bower.*

POGOOL, alias Koondul, TAM., large ear-rings.

POGOSTEMON PATCHOULI. *Pellet.*

Pogostemon intermedius, *Benth.*

Pachouli, Patcha pat, BENG. | Kottam, MALEAL., TAM.

A labiate plant used as an ingredient to mix with tobacco for smoking, also for scenting women's hair. It is found in every bazar throughout India. It grows in Sylhet, Penang, and the Malay Peninsula, and seems to grow abundantly in a perfectly wild state at Penang. M. de Hugel found it growing wild near Canton. The odour

of the dried plant is strong and peculiar, and to some persons not agreeable; the dried tops imported into England are a foot or more in length. In Europe it is principally used for perfumery purposes, it being a favourite with the French, who import it largely from Bourbon. They were led to use it because a few years before real Indian shawls bore an extravagant price, and purchasers distinguished them by the odour of patchouli, with which they were perfumed; and on discovering this secret, the French manufacturers got into the way of importing the plant to perfume articles of their own make, and thus palm off home-spun shawls for real Indian. The Arabs use and export it more than any other nation. Their annual pilgrim ships take up an immense quantity of the leaf; they use it principally for stuffing mattresses and pillows, and assert that it is very efficacious in preventing contagion and prolonging life. The characteristic smell of Chinese and Indian ink is owing to an admixture of this plant on its manufacture. Some people put the dry leaves in a muslin bag, and thus use it as is done with lavender, for scenting drawers in which linen is kept; and this is the best way to use it, as its odour, like musk, is most agreeable when very dilute. It requires no sort of preparation, being simply gathered and dried in the sun; too much drying, however, is hurtful, inasmuch as it renders the leaf liable to crumble to dust in packing and stowing on board. By distillation it yields a volatile oil, on which the odour and remarkable properties depend. This oil is in common use in India for imparting the peculiar fragrance to clothes. Among the richer classes of natives in Penang it sold at the rate of a dollar and a quarter to a dollar and a half per pikul. In Bengal, some which was imported from Penang several years previous sold at 11 rupees 8 annas per maund. Later investments have sold at a much lower rate.

POHONTJAT. JAV. A wild tree in Java, which furnishes a beautiful vermilion dye.

POI, in Tahiti, a bowl used as a dish. It is made of kou wood, and has partitions for delicacies, such as dogs, raw fish, shrimps, and herbs.

POILA or Poliya, a slave race.—*Wils.*

POINCIANA, a genus of plants of the order Fabaceæ. The following species grow in south and east of Asia:—

P. aculeata —? W. and E. Indies.
P. elata, *Linn.*, all Peninsular India.
P. Gilliesii, *Hooker*, Chili.
P. pulcherrima, *Linn.*, India, Bengal, Moluccas.
P. regia, *Bojer.*, Madagascar.

POINCIANA ELATA. *Linn.*

Nirangi, ... CAN.	Suncaishla, . . . TEL.
Pade Narrayan, . . TAM.	Sunkeswaram, . . ,,
Chitikeswaram, . . ,,	

A very beautiful, middling-sized, very showy tree, abundant in a planted state in avenues, topes, gardens, native cemeteries, etc.; its flowers are large, showy, yellowish, inodorous; the wood is yellow, tolerably close and even grained, easily worked, and gives a smooth surface; warps slightly but never cracks; unseasoned 54 to 58 lbs. per cubic foot, and when seasoned 45 lbs.; sp. gr. ·720. It is well suited for cabinet work. It has been successfully used as a protection for the footings of rivers and channel banks. Where it is not wanted to spread laterally and to cause obstructions, it should be planted in cuttings in December; its grows quickly; its wood might be used for basket boats. Its leaves are extensively used for manuring indigo fields in Cuddapah.—*Drs. Roxb.* ii. p. 355; *Cleghorn; Beddome, Fl. Sylv.* p. 178.

POINCIANA REGIA. *Bojer.* The royal poinciana is a gorgeous shrub, introduced from Madagascar into India, bears showy coloured flowers, bright scarlet variegated with yellow. It flourishes well in the Tenasserim Provinces. This tree does not attain a great size, but it is very pretty, and should be planted in mixed avenues.—*M. E. J. R.; Mason; Madras Hort. Garden Cat.*

POINT CALIMERE, a low sandy projection, on which a white pillar has been erected as a beacon, in lat. 10° 17′ N., long. 79° 52′ 30″ E. It is the S.E. extremity of the low drained land, which may be taken for the delta of the river Cauvery. It is thickly planted with cocoanut palms.—*Findlay.*

POINT DE GALLE. The town and fort are built on the point which is rocky and bluff to seaward, with a rocky islet near, called Pigeon Island, surrounded by smaller ones. The entrance of the bay is about a mile wide, and there, as well as inside, the depth of water varies from 2 to 14 feet. It is 70 miles S.E. of Colombo, and is a fortified seaport town, having the only good harbour on the southern coast of the island. It was formerly in the possession of the Dutch, by whom the fort at the entrance of the harbour was built. The light on the S. bastion is in lat. 6° 1′ 25″ N., and long. 80° 12′ 32″ E. It was the Kalah of the Arabs, is supposed by Sir J. E. Tennant to be the Tarshish of Scripture. It has been the resort of merchants from the most ancient times, and continues to be a great commercial emporium.—*Findlay.*

POINT DIVI, on the E. coast of the Peninsula of India, is at the N.E. branch of the Kistna delta. Its lighthouse is in lat. 15° 58′ 44″ N., and long. 81° 9′ 21″ E.

POINT PALMYRAS, projecting into the Bay of Bengal at Mypurra Island, is in lat. 20° 43′ 15″ N., and long. 81° 1′ 40″ E.

POINT PEDRO is the N.E. point of Ceylon. Its custom-house is in lat. 9° 50′ 30″ N., and long. 80° 15′ 10″ E. It is a corruption of the Portuguese words Punta das Pedras or Rocky Cape. A little town of same name is a mile west of the cape.

Point Pedro Shoal, a dangerous shoal which encompasses the N.E. extremity of the island of Ceylon.—*Findlay.*

POINT ROMANIA, in lat. 1° 21½′ N., forms the S.E. extreme of the Malay Peninsula. The circumjacent coast is level land covered with trees. It is fronted by the six Romania islands.

POISON.

Tuh-yoh, ... CHIN.	Gift, ... GER.
Lau-hway-jin-tih-yoh, ,,	Zahr, . . HIND., PERS.
Kwan-yoh, ... ,,	Veleno, ... IT.
Poison, Venin, . . . FR.	Veneno, ... SP.

A poison used by suicides in British India is opium mixed with sweet oil. The ordinary plant used to stupefy is the Dhatura. In China, the most common and convenient drug is opium. Mandarins of high rank are said to wear on their persons a small bead, filled with what is called

peacock's blood, which it is said they take when they wish to destroy themselves suddenly. The Bikh poison of the Himalaya is largely used to poison tigers. Dr. Buchanan first acquainted the European world with the existence of four kinds of Bikh, viz. Singya Bikh; Bish or Bikh, the poison; Bikhma, a powerful bitter; and Nirbisi. He referred the first to a species of Smilax. The Bish, *i.e.* the poison, is the root of Aconitum ferox. The substances used for poisoning rivers in order to obtain fish, are Croton tiglium, Anamirta cocculus, Capsicum frutescens, and Kare kai (Tulu), a species of Posoqueria, probably nutans or longispina. The inhabitants of Mysore and Coorg habitually poison the rivers. From two years' discouragement of poisoning, and one year's discouragement of fine cruives, there were marked advantages.

Poison oak, the Yen-fu-tsze of the Chinese, is the Rhus semialata; poison bulb is Crinum Asiaticum; poison nut is Strychnos nux vomica; and poison turnip, Cicuta virosa. The expressed juice of the root of Maranta arundinacea is stated to be a valuable antidote to some vegetable poisons, and also servicable in cases of bites or stings of venomous insects or reptiles.—*Royle's Ill.* p. 46; *Simmonds, Com. Prod.* p. 627.

POITA, SANSK., from Oopa and Veeta, pure. The poita, or jandiam, or zonar, is worn as a sacred initiatory cord by Brahmans, by all the Parsee race, by the Kshatriya, the Rajput, and all the Vaisya race of Hindus. The artisans in Southern India are goldsmiths, Komsala; carpenters, Wodla; blacksmiths, Komala; braziers, Konsagara; stone-cutters, Sungtrash. The investiture of a young Brahman with the poita (a contraction of the Sanskrit yagnopavit)—*i.e.* the sacrificial thread—is analogous to the assumption of the toga virilis of a Roman patrician. The almanac is consulted for an auspicious day. The lad is shaved, washed, and clothed in red. The staff of mendicancy is placed in his hand, and he assumes for a moment the dress and character of a Brahmachari or religious student, at the service of a spiritual guide, as prescribed by Menu. He repeats a sacred text, goes through the form of alms-begging and pretending to renounce the world, and then, at the earnest request of his family, returns to his scholastic or secular pursuits. See Pavitra; Punal.

POIVREA COCCINEA. *W. Ic.*

Combretum coccineum, *Lam.* | C. purpureum, *Vahl.*

The scarlet poivrea is the popular favourite amongst the climbing plants in Madras. It requires a trellis not too high; the sooner it gets a procumbent position, the more luxuriant it will grow and flower; easily propagated by cuttings of the young wood in sand under glass. Native of Madagascar.—*Jaffrey.*

POKAR. Several Tamil treatises on medicines,—Pokar Yokamarkkam, Pokar. Elamuru, Pokar Tirumantiram, and Pokar Nikandu,—attributed to Pokar, who is said to have lived at a very remote period, but they are spurious.

POKHRAJ. HIND. P. Zafrani and P. Zard are varieties of the topaz.

POKO NEREI. MALAY. A tree growing amongst mangroves at Singapore, used to prevent diarrhœa.

POKURNA are a singular tribe of Brahmans, of whom it is calculated there were, about A.D. 1820, 1500 to 2000 families in Jeysulmir. They are also numerous in Marwar and Bikanir, and are scattered over the desert and valley of the Indus. They follow agricultural and pastoral pursuits chiefly, having little or no concern in trade. The tradition of their origin is singular: it is said that they were Bildars, and excavated the sacred lake of Poshkur or Pokur, for which act they obtained the favour of the deity and the grade of Brahmans, with the title of Pokurna. Their chief object of emblematic worship, the khodala, a kind of pickaxe used in digging, seems to favour this tradition. See Palliwal.

POL. SANSK. A gate; eastern or sun gate is Sooruj-pol; Bal-pol, the gate of Bal, the sun-god.

POLA, amongst the Mahrattas, a bull set at large, dedicated to Siva or Vishnu, and stamped with the trident or discus. The Pola festival is held on the new moon of Sravana or Bhadra (July—September), in which bullocks are exempt from labour, are decorated and led through the town in procession.

POLA, in Telugu, means land, whence Polamu, a field.

POLAI, of Singapore, a very remarkable light white wood used to make floats for fishing-nets, and might probably be exported, and used with advantage as a substitute for cork, and some similar substances.

POLANISIA, a genus of plants of the order Capparidaceæ. Dr. Wight gives Polanisia Burtporensis, Chelidonii, and icosandra.

Polanisia Chelidonii, *D.C.*

Cleome Chelidonii, *Linn.*

Of the Peninsula of India, with large rose-coloured flowers; seeds pungent, are powdered and used in curries.

Polanisia felina, *D.C.*

Cleome felina, *Linn.* | Aria-vila, . . MALEAL.

This small plant grows at Courtallum, and is used medicinally.—*Voigt*, p. 75.

Polanisia icosandra, *W. and A.*

Cleome icosandra, *Linn.*	Cleome viscosa, *Roxb.*
Cleome dodecandra, *Linn.*	
Hurhurya, BENG., HIND.	Kukka vaminta, . TEL.
Kat-kuddaghu, . MAL.	Nela vaminta, . . ,,
Naia-veli, . . . TAM.	Pedda vaminta, . ,,
Nahi kuddaghu, . ,,	

A plant of both Peninsulas of India, of Bengal, Nepal, Saharunpur. The bruised leaves are used in Cochin-China as a counter-irritant and as a vesicant, in the same way as sinapisms in Europe. The root is used as a vermifuge in the United States of America. The seeds are employed medicinally in India, and sold in the bazars under the name of chori ajuan. They yield an oil when subjected to very powerful pressure, which is of a light olive-green colour.—*Eng. Cyc.; Mason.*

POLAO. HIND. A savoury dish made of rice and fowl or mutton or beef, with cardamoms, cloves.

POLAYAN, in Malabar, a slave race, both domestic or agrestic. The husband resides with the wife, though with a separate master, and the children inherit the rights of the mother.

POLE, CAPTAIN, an English officer who fell at the taking of the Travancore lines in A.D. 1809, and was buried in a sandy waste 25 miles from the scene of battle. A few years after, the Shanars of the neighbourhood commenced the

worship of his spirit. It consists in offering to his manes spirituous liquors and cheroots.

POLE-CAT, a species of martes. The black-faced pole-cat of Tibet has a tail one-third of the entire length; soles clad, fur long. A specimen obtained in the district of U, in the south of Sanpu, was brought along with a specimen of the Tibetan badger (Taxidea leucurus). The length from snout to vent is 14 inches, and the tail is 7 more, so that M. toufæus only of Tibet and M. flavigula of the Himalaya can compare with it in size.—*Hodgson; Beng. As. Soc. Journ.*, 1849.

POLEEY or Pallia. GUJ. A tombstone raised over a peasant who has fallen in defence of his homestead. See Pallia; Pat'har.

POLIANTHES TUBEROSA. *W.*

Rujuni-gundha, . BENG.	Sandhy-araga, . . SANSK.
Gool-shaboo, . . HIND.	Undimandari, . . TEL.
Andi-malleri, . MALEAL.	

The common tuberose. Cultivated in gardens, flower worn by native women in their hair. The natives say its seeds are the white todri of the oriental bazars, which, as also the other todri, Europeans supposed to be from Malacca. The flower has a delightful fragrance, and throws out its odours strongest at evening.—*Roxb.* ii. p. 166; *Honigb.* p. 329; *Mason; Powell.*

POLIMERA, a boundary, and in Hindi Polach means arable land. Polimera amma is the goddess of boundaries.

POLIOÆTUS ICHTHYŒTUS. *Horsf.*

Pandion lineatus, *Jerd.*	I. lucarius, *Hodgs.*
Ichthyœtus bicolor, *Gray.*	Haliætus plumbeus, *Hodgs.*
I. Horsfieldii, *Hodgs.*	
Mach-moral, . . BENG.	Mudhuya, . . . HIND.

The white-tailed sea eagle is rare south of the Nerbadda, but common in Hindustan, Burma, and Malayana. It lives chiefly on fish, but will carry off a teal or wounded duck. P. humilis, *Temm.*, a miniature of the last, is found in Malacca and the islands. It is the I. nanus of Blyth.

POLISHING SLATE, Polier Schiefer, a mineral, occurring massive, with a slaty texture. Its colour is white, yellowish-white, or yellow, brittle, opaque. Specific gravity, 0·59. It is found near Biliu in Bohemia, at Zwickau in Saxony, and Auvergne, and is supposed to be a volcanic product. Its analysis by Bucholz in 100 parts gives—Silica, 83·5; alumina, 4·0; lime, 8·5; oxide of iron, 1·6; water, 9·0. Curatella and Trachytella leaves are employed in Guyana and China for polishing wood, and even metal; and those of Delima sarmentosa are employed in Ceylon for the same purpose.—*Royle, Ill.* p. 58.

POLKÉE. TEL. Several unspecified woods, white, black, and red.

POLLAM. TAM. Narrow valleys between the Eastern Ghats.

POLLANARRUA, now a ruined city in Ceylon, was its capital in the middle ages. It was captured and sacked by the Tamil invaders in A.D. 1023, recovered by Wijaio Bahu in 1071, but again plundered in A.D. 1204. These ruins are the most extensive and best preserved in Ceylon. There are many gigantic stone figures of Buddha, and the remains of various temples and other buildings. Compared with those at Tissemaha-rama, these ruins are modern, only dating from A.D. 718, and though looked upon as entirely Buddhist remains, both the Delada Malagawa and the Jagta-maha-rama more nearly resemble the Hindu temples seen in India than other Buddhist temples in Ceylon.—*Frere, Antipodes*, p. 186.

POLLOCK, a general officer of the Bengal army who conducted operations against Kābul in 1842.

POLLY, Palle, Palli, Palleya, Pally, Pilly, as in Trichinopoly, Lingampilly, is a Bengali, Hindi, and Dravidian word, meaning a house, a village, a district, a school, a mosque, a church, and generally a place of concourse. It has probably the same origin as the Greek Poleo, to frequent, and Polis, a city. Pol in Sanskrit is a gate. Trichinopoly is said to be from Tri-sira-palli, the town of the three-headed giant.

POLO. HIND. A Tibetan game of hockey on horseback. It is the national game of the Balti race. It is also played by the Dards, and amongst all the people from Leh on the S.E. to high up the Gilghit valley on the N.W., and even in the Chitral valley beyond. The writer Joannes, in his History of the reign of the Emperor Manuel Comnenus, shows that polo was played at Constantinople in the middle of the 12th century as a common game.—*Drew, The Northern Barrier.*

POLO, the family name of three travellers into Central Asia and China. In the year 1266, Nicolo and Maffeo Polo, the father and uncle of Marco Polo, were at Constantinople, whither they had gone from Venice with their merchants' wares. Having laid in a store of jewels, they resolved to cross 'the Greater Sea' (Black Sea), on a venture of trade, to Soldaia; and, having stayed there a while, they thought it well to extend their journey farther, 'and travelled until they came to the court of a certain Tartar prince, Barca Kaan (Barka, a brother of Batou Kkan), whose residences were at Sara and Bolgara.' While here a great war broke out between 'Barca and Alau (Barka's cousin, Hulaku Khan), the Lord of the Tartars of the Levant,' and in the end 'Barca, the Lord of the Ponent,' was defeated, and so the two brothers Maffeo and Nicolo could not get back to Venice by the way they had come, nor until they had gone 'across the whole longitude of Asia.' Leaving Bolgara they went on to 'Ucaca,' and thence departing, 'and passing the great river Tigris' (Volga), traversed a desert country for 17 days, until they came to 'Bocara' (Bokhara). 'Whilst they were sojourning in that city there came from Alau, Lord of the Levant, envoys on their way to the court of the Great Kaan (Mangu Khan, brother of Hulaku), Lord of all the Tartars in the world.' The two brothers joined the party, and journeyed a whole year until they reached the court of Kablai Khan, who had now succeeded his brother Mangu as Khakhan of the Tartars. Before the death of Mangu Khan, A.D. 1259, it had been intended to remove the seat of the Tartar capital from Karakorum into Cathay or Northern China; but this step, which in the end converted the Tartar Khan into a Chinese emperor, was left to be carried out by Kablai Khan. The two brothers were received with great honour and hospitality by Kablai Khan, and when the time came for them to go back to Europe, he charged them with a letter to the Pope, in which he begged that 100 persons of the Christian faith might be sent to him acquainted with 'the Seven Arts,' able clearly to prove that 'the Law of Christ' was best,—which,

if they did, he declared that he and all under him would become Christians. Kablai Khan also delivered into their hands a golden tablet as a passport, by showing which they were honourably provided with whatever they wanted, whithersoever they went. The two brothers travelled back westward, and after three years came to 'Layas in Hermenia' (L'Ayas or Ayas), a port on the Gulf of Scanderoon, which was then 'one of the chief places for the shipment of Asiatic wares arriving through Tabreez, and was much frequented by vessels of the Italian Republic' (Yule, Marco Polo, note to chap. viii. of Prol). In April 1269 they reached Acre, where, hearing of the death of Clement IV., they returned to Venice, there to await the end of the long papal interregnum by which it was followed. When Gregory X. was at last elected Pope, they at once started on their second journey to the court of Kablai Khan, about November 1271, this time taking young Marco Polo with them. From Acre they proceeded by Ayas and Sivas, and then by Mardin, Mosul, and Baghdad, to Ormuz, at the mouth of the Persian Gulf, hoping to go on to China by sea. This they were not able to do, and so, turning their faces landward, they traversed successively Kirman and Khorasan, Balkh and Badakhshan, and ascended the Upper Oxus to the Pamir plateau, 'a route not known to have been since followed by any European traveller except Benedict Goes (1602–1607), until the spirited expedition of Lieut. John Wood, of the Indian navy, in 1838' (Yule, Marco Polo, Introduction). Crossing the steppe of Pamir, the travellers proceeded by Kashgar, Yarkand, and Khoten, and the vicinity of Lake Lob, through the Gobi desert to Tangut, until at length, some time during the midsummer of 1275, they arrived at the stately pleasure dome of Kablai Khan in 'Xanadu' (Shangtu). They afterwards proceeded with the Khakhan to his capital, 'Cambalu,' now Pekin. They rose rapidly in the great Khan's favour. Marco was entrusted with several missions in different parts of the empire, and in Chiampa or Southern Cochin-China, and the Indian Seas, and Southern India; while to all the hints of the Venetian merchants to be allowed to return home with their gathered wealth, 'the aged emperor growled refusal.' Hulaku, the founder of the Mongol dynasty of Persia ('Lord of the Levant'), was succeeded by his son Abaka, who married a daughter of the Greek emperor Michael Palæologus. His brother Nicolas, who succeeded him, became a Muhammadan, but his son Arghun Khan was hostile to the Muhammadans. He sent embassies (conducted by a Genoese named Buscarelli) to the Pope and the kings of France and England, proposing an alliance against the Saracens and Turks; and in 1290 Edward I. sent Geoffrey de Langley on a return mission to him. Arghun Khan, having lost his favourite wife in 1286, sent to Kablai Khan to select another for him; and about the very time that Geoffrey de Langley's mission was setting out for England, the Polos were commissioned by Kablai Khan to escort the new bride he had chosen for his great nephew from 'far Cathay,' by sea, to the Persian court.

The bridal party sailed from the port of 'Zayton' (Chinchau) in the spring of 1292. They touched at Ceylon, at a port on the Coromandel coast, at Kayal, a port of Tinnevelly, the Koil of the present pearl fisheries, and at other ports on the Malabar and Konkan coasts of Western India, at one of which they passed the monsoon of 1293. Marco Polo notices the fine cottons of Coromandel, the abundance of pepper and ginger of Malabar, the incense of Tannah, and the pepper, ginger, indigo, and cotton of Gujerat. Sailing on the close of the monsoon from India, the party reached Ormuz about November 1293, and the Persian camp two months later. Here the fair princess wept as she took leave of the three Polos, who went on to Tabreez, and, after a long halt there, proceeded towards Venice, where they arrived some time in 1295, having been absent from home nearly 24 years. The publication of The Book of Ser Marco Polo became one of the influences which inspired Columbus. It was thought that no great breadth of ocean rolled between Western Europe and Eastern Asia, and, full of this idea, Columbus launched boldly on the Atlantic, convinced that the first shores reached by him would be those of 'Chipangu' (Japan), Cathay, 'Chamba' (Cochin-China), and India. From the time of the Saracen conquest of Egypt, Syria, and Persia, Christians had been forbidden to pass through those countries to the east, and the direct overland trade of Europe with India had entirely ceased. Marco Polo, therefore, was the first after Cosmas Indicopleustes (circa A.D. 535–550) to give a written account of India, and yet we owe its existence to the accident of his having late in life been taken in a sea fight by the Genoese, and thrown into prison, where he was persuaded by a fellow-prisoner to dictate his narrative to relieve the tedium of their captivity.

In Marco Polo's old age, and the years following his death, a remarkable land trade, but temporary, sprang up between China and the trading cities of Italy, of which curious details are given in the book of Pegoletti. The chief imports from the east were the rich satins and damasks of China. European linens were carried for sale on the way; but to China itself, in general, only silver, to purchase goods there. Factories of Genoese merchants were established at Foh-kien. This trade was apparently carried on entirely by Italian merchants travelling to make their own purchases. —*Sir George Birdwood; India Office Records.*

POLYALTHIA CERASOIDES. *Dun, W.A.*

Uvaria cerasoides, *Roxb. Fl. Ind.* ii. p. 666.

Hoom, ... MAHR. | Chilka dudugu, . TEL.

A straight-growing, handsome tree of moderate size, timber whitish and close grained; much used in the Central Provinces and in the Bombay Presidency in carpentry, and for boat masts and small spars. It is common in dry forests near the foot of all the mountains on the western side of the Madras Presidency, in the Salem forests, the Nullamallays, Mysore, Orissa, and the Godavery forests; it flowers in the hot months, and the flowers are fragrant and of a greenish colour.—*Roxb.; Beddome, Fl. Sylv.* part i. p. 1.

POLYALTHIA COFFEOIDES. *Thw.*

Guatteria coffeoides, *Hook. et Thom. Fl. Ind.* p. 141.

A highly-ornamental tree in Ceylon and in all the moist forests on the western side of the Madras Presidency, from 1000 to about 3500 feet elevation. The Kurumbars make ropes from the bark, which, when fresh, has a strong smell of

ammonia. The tree is in flower at all seasons.—*Beddome, Fl. Sylv.* p. 72.

POLYALTHIA FRAGRANS. *Dalz.* A large tree, common in the moist forests of the Animallays, 2000 to 3000 feet, in Malabar, on the South Canara Ghats, and Bombay Presidency.—*Beddome, Fl. Sylv.* p. 74.

POLYALTHIA LONGIFOLIA. *Wall.*

Uvaria longifolia, *Roxb.* | Unona longifolia, *Duval.*
Deodaree, . . . HIND. | Assothee, Ashok, . TAM.

This is a very handsome tree, of erect growth, and yielding a good shade. It is extensively planted as an avenue tree at Madras. Timber whitish-yellow, light, and very flexible, tolerably close and even grained; sp. gr. ·592. Weight, 37 lbs. per cubic foot seasoned, and used for drum cylinders.—*Beddome, Fl. Sylv.* p. 38.

POLYANDRY. As a rule, throughout the south and east of Asia, woman is monandric, living with one husband, but there have been polyandrists in the same region from the most ancient times till the present day. It has been supposed by some writers that polyandry was peculiar to no division or race of mankind, but was a phase at one stage of the development of every race. It prevailed amongst the Jews and Arabs, among the Spartans within historic times, and among the Celts of Britain in Cæsar's time. As a rule, in India, the population are monandrists and monogamists. But both polygamy and polyandry are met with. From the most ancient times, we read of the existence of forms of polyandry amongst various nations, wide apart the one from the other. It still prevails in modified ways in Tibet, in the Himalaya, amongst some Dravidian races in Southern India, and in Ceylon amongst the indigenes, probably also a Dravidian race. It is said to be followed in parts of Africa, and also in North America. Humboldt found it common in the island of Lancerota, one of the Canaries. Polybius (book iv. chapter iii.) tells us that the Arcadians, in order to smooth and soften their rough and stubborn dispositions, ruled the study of music and dancing, and appointed frequent festivals and sacrifices, which both sexes were obliged to celebrate together, the men with women, and the boys with virgins. Aristotle, followed by Polybius (book xii. ex. ii.), mentions that among the Locrians of Italy all nobility of ancestry was derived from women and not from men. One hundred noble families of the Locrians seem to have migrated into Italy from Asia Minor, along with some of their women, and only the descendants of these women were reputed noble and regarded as descendants of the hundred families. It was from these hundred families that the hundred virgins were taken by lot, as the oracle had commanded, and were sent to Troy. They had amongst them an institution which they had adopted from the people of Italy, amongst whom they were mixed. At the time that they drove the Sicilians out of this part of Italy, the latter had a custom of appointing a young man to lead the procession in their sacrifices, and he was always chosen from the noblest and the most illustrious of their families. But instead of a young man, the Locrians appointed a virgin for the office, because nobility among them was derived from women. The one brother after another succeeding to a widow, among the Jews, alluded to in the question of the Sadducees, may have the relation to the Asiatic polyandry that a normal state has to an abnormal. Indeed, we read in ancient scripture of the son succeeding to or taking his father's wives, a practice which reached a height in Solomon's time. And Marco Polo tells us that amongst the Mongols, in the time of Kablai Khan, brothers took deceased brothers' wives, and sons the wives of their fathers, their uterine mother excepted. In the west, Cæsar (lib. v. ch. xiv.) says of the Britons of his time, 'Uxores habent deni duodenique inter se communes, et maxime fratres cum fratribus, et parentes cum liberis. Sed si sunt ex his nati, eorum habentur liberi a quibus primum virgines quæque ductæ sunt.' 'Ten and even twelve have wives common to them, and particularly brothers among brothers and parents among their children; but if there be any issue by these wives, they are reputed to be the children of those by whom respectively each was first espoused when a virgin.' And it may be that the 'bundling' is but a partial continuation of another social custom of the ancient Britons, who often contracted conditional marriages, a practice largely followed by the Swiss at the present day. But Dr. Vaughan, in his Revolutions in English History (pp. 97 and 98), questions if Cæsar's knowledge of the Britons was such as to warrant his making that statement. He grounds this scepticism on his belief in the natural instincts of barbarians which operate as powerful safeguards of the chastity of women, and on the fact that among the Britons, according to Pomponius Mela, iii. 2, women were held in high estimation, shared in the honours of priesthood, had the gifts of inspiration, prophecy, and of working miracles, and, like Boadicea and Cartismandua, ruled in failure of male descent. He notices the silence of Diodorus and Strabo as to the custom of polyandry, though both were familiar with what Cæsar had written; and he mentions also his disbelief of the statement of Xiphiline, who attributes the usage imputed to the Britons by Cæsar to the Caledonians in the time of Severus. Dr. Vaughan also disregards the authority of Dion Cassius, who wrote two centuries later, in which a British woman is made to say in defence of her countrywomen, that they only did openly with their equals what the Roman women did secretly with their inferiors. The high feelings of the Britons on the purity of their women, he considers established by the fact that it was the wrong done to the chastity of the daughters of Boadicea that filled the cup of indignation among the Britons to overflowing; and the statement of Tacitus, that it was the scandalous proceeding of Cartismandua, in marrying beneath her rank, that helped to produce such disaffection among her subjects as to compel her to fly to the Romans for protection. But when discrediting Cæsar as to the Britons, and Xiphiline as to the Caledonians in the time of Severus, from the disaffection produced by the marriage of Cartismandua beneath her rank, Dr. Vaughan was evidently not aware that the same would result were a Nair woman of the present day to consort with an inferior.

The lending of wives in ancient times in India is repeatedly noticed in the older writings of the Hindus. King Saudasa or Kalmashapada allowed his wife Madayanti to associate with the sage Vashishtha. According to some, this was a

meritorious act on the king's part, and a favour to Vashishtha; according to others, it was to obtain progeny. Similarly, Colonel Yule (Cathay, i. p. lxxxix.) makes mention of the Hazlakh, who are great gamblers, and stake wife, mother, or daughter on their play. When a caravan of travellers comes into their country, the wife or sister or daughter of some chief comes and washes them. And if any of these ladies takes a fancy for one of the strangers, she carries him home and entertains him with all kindness, and makes her husband or son or brother provide for him in every way; nor as long as the guest is keeping company with her does the husband come near them unless for necessary business. This custom is related by Marco Polo of the people of Kamul. He says of it, 'Il le tiennent a grand honneur et n'en ont nulle honte. Car tuit cil de ceste province sont si honni de lever moliers comme vous avez ouy' (Panthier, p. 157); and it is a notorious allegation against the Hazaras of the Hindu Kush, that they carry on the same practice (Wood, p. 201, and Burnes).

The custom here seems of a kind similar to those noticed by Sir R. K. Porter amongst the Kisty tribe in Circassia, and amongst the Torneo in Lapland. Before the khalifs had extended their principles, with their power, over every part of N. Persia, in Atropatia (now restored to its more ancient name of Azerbijan) women estimated their dignity according to the number of husbands they could boast.

The prevalence of polyandry in the Vedic times is shown in Kashivat saying, 'Aswins, your admirable (horses) bore the car which you had harnessed (first) to the goal, for the sake of honour, and the damsel, who was the prize, came through affection to you and acknowledged your (husbandship) saying, You are my lords.' But polygamy was likewise known, for Kashivat, an illustrious rishi, married ten sisters at once; and this practice continues to the present day amongst Kulin Brahmans; and the last raja of Tanjore, who died in 1855, a Mahratta Kshatriya and descendant of Sivaji's brother, married eighteen young Mahratta women at once.

The fortunes of the five Pandava princes, and the history of their adventures in an archery contest at the court of Drona, is detailed in the epic poem of the Mahabharata. The third of the brothers, Arjuna, was declared victor, and received as his prize the king's daughter, Draupadi, who was equally the wife of his brothers, and possessed five husbands instead of one. When the Pandava were remonstrated with by king Drupada for making his daughter Draupadi their joint wife, Yudishthra, the eldest, according to the Mahabharata, replied to him that Jatila, of the family of Gautama, an excellent woman, had lived with seven saints; and that Varkshi, the daughter of a Muni, resided with ten brothers, all of them called Pracheta, or men whose souls had been purified by penance. These two arguments leave no doubt but that polyandry was then an institution in parts of India. Arjuna and his wife and her other four husbands lived for some years at the fort of Bairath, and the remains of a Gurkha structure on the same site are still visible on a hill near the north-west corner of the Doon. In British India, polyandry continues almost universal in the hill districts attached to the Doon, called the Jounsar and Bawar pargana. In the Jounsar district, when the eldest brother marries, the woman is equally the wife of his younger brothers, though the offspring are called the children of the eldest brother. When much difference exists in the ages of the brothers of a family, the elder marry a wife, and when the younger grow up they marry another, but the two wives are considered equally the wives of all the brothers. M'Clelland (p. 180) gives a long list of polyandric races, namely, those of Tibet, Kashmir, of the Himalayan regions, the Toda, Coorg, Nair, and other races in India and Ceylon; in New Zealand (Lafitan, i. p. 555) and one or two other Pacific islands, in the Aleutian Archipelago, among the Koryak, the Saporogian Cossack, on the Orinoco, in parts of Africa, and in Lancerota. To these he adds the ancient Britons, some of the Median cantons, the Picts, and the Getes; while traces of the custom occurred among the ancient Germans. To these Sir John Lubbock adds that of some families among the Iroquois.

It has certainly existed from time immemorial in the valley of Kashmir (Vigne, i. p. 37), in Tibet, and in the Siwalik mountains. It is found in Sylhet and Cachar (Jo. As. Soc. Ben. ix. p. 834); among the Coorgs, and on the Neilgherry Hills among the Todas. And it regulates the laws of inheritance amongst races in the southern extreme of the Peninsula of India. In Tibet polyandry continues prevalent. The eldest brother proposes to a girl's parents, and if agreed to, she is brought to her future home, where a three-days' carousal completes the ceremony. In the upper valleys of the Sutlej, in Spiti and Kanawar, are mixed races exhibiting much Tibetan blood, and religion apparently more Buddhist than Hindu. The Tibetan colony at Mahasu, just above Simla, are powerful, ruddy-looking people, entirely unlike Indians. Their women are industrious, but very unattractive. The Tibetan forms an interesting study for the curious in national manners and character. The eldest son has the privilege of choice, but the woman he marries is in common with his brothers. In such a state of society, female chastity is not much valued till the question becomes intermingled with the rights of property. Before marriage, therefore, a woman may associate with men with but little remark; but after she has entered into the fraternal copartnery, they are taken cognisance of by the law.

Turner mentions that the Tibet women in his day, with their three or four husbands, were just as jealous as a Muhammadan polygamist is of his several wives. He saw one woman who had five husbands, all brothers, though the chief, indeed real, husband is the elder brother. Major Cunningham remarks that amongst the Bhoti of Ladakh polyandry is strictly confined to brothers. Each family of brothers has only one wife in common. The most usual number of husbands is two, but three and even four husbands are not uncommon. This system, however, prevails only among the poorer classes, for the rich, as in all eastern countries, generally have two or three wives, according to their circumstances. Polyandry, he adds, is the principal check to the increase of population, and, however revolting it may be to our feelings, it was a politic measure for a poor country, which does not produce

sufficient food for its inhabitants. Every spot of ground within the hills which can be cultivated, has been under the plough for ages; the number of mouths must remain adapted to the number of acres, and the proportion is preserved by limiting each proprietary family to one giver of children. The introduction of Muhammadanism in the west, by enlarging the views of the people and promoting emigration, has tended to modify this rule; and even among the Lamaic Tibetans, any casual influx of wealth, as from trade or other sources, immediately leads to the formation of separate establishments by the several members of a house. Mr. Dunlop, in his Hunting in the Himalaya (p. 181), observes that wherever the practice of polyandry exists, there is a striking discrepance in the proportions of the sexes among young children as well as adults. In a village with upwards of 400 boys, there were only 120 girls. He does not suppose that female infanticide prevails or is the cause of the preponderance, as a wife is generally purchased for a large sum from her parents. But in the Garhwal Hills, where polygamy is prevalent, there is a surplus of female children. The polyandry of Ladakh is noticed by Moorcroft (Trav. ii. pp. 321, 322), and also in the Journal of the Asiatic Society of Bengal for 1844, p. 202, etc.

In Sirmore, three or four or more brothers marry one woman; they are unable to raise the requisite sum individually, and thus club their shares, and buy one common spouse. Women are here articles of property. The custom has a deplorably injurious effect upon the morals of the females in this country, particularly in point of chastity. From the degree of community of intercourse prevailing by custom, the men do not feel shocked at an unlimited extension of it; and the women do not feel shame in a practice from which they are not discouraged by early education. Of a family of four or five brothers, only one or two are in general at home at the same time; some are out on service as soldiers, or with the minor chiefs; others are travelling; the elder usually remains at home. If any quarrel were to arise, a common cause would be made against the offender, and ejectment from house and board ensue. The first-born child is the property of the elder brother, and the next in succession are supplied in turn. The mean number of inhabitants to a house in various parts of Kanawar is six. Polyandry, or a plurality of husbands, prevails also in Chinese Tartary and in the hilly tracts towards the plains. Besides this drawback on the increase of the population, there is another peculiar to Chinese Tartary and the adjoining countries,—that is, celibacy, which is professed by numbers of the inhabitants; and in some villages the monks or lamas and nuns form almost half the population.

Masson, writing of the Sikhs, says it was no unusual arrangement for the many brothers of a family to have a wife in common; and he had known the soldiers of M. Allard request permission to visit their homes, alleging that their brothers had gone on a journey, and their wives were alone. The plea was considered a good one. But such customs must not be imputable to them as Sikhs; they are rather the remains of an ancient and rude state of society prevailing among the Jat race.

Polyandry prevails in Kamaon between the Tons and Jumna about Kalsi, by Rajputs, Brahmans, and Sudras, the brothers of a family all marrying one wife, the children all attributed to the eldest brother. The Padam or Bor Abor in North-Eastern India are polyandrous, and it is not uncommon for an Abor woman to have two husbands, brothers, living under one roof. Among the Miri, a clan of the Abor, two brothers will unite to buy a wife.—*Eth. of Beng.* p. 33.

Polyandry may somewhat explain the comparative indifference with which some races regard the purity of their unmarried women. And this view is supported by the still existing Hindu belief as to the visits of the gods to certain women. This is an ancient notion of the Aryan Hindus, as of the Greeks and Romans, and it is alluded to in the mythological history of the origin of the Pandava heroes, now demi-gods. Descended from the ancient sovereigns of the countries of Hindustan bordering upon the Jumna, called Pandavan raj, or the kingdom of the Pandus, Pandu, son of Vyasa and Pandea, was the reputed father of these five heroes. Their mother's name was Kunti, the sister of a prince of Mathura, who was the father of Heri and Baldeva, the Indian Hercules. Kunti, in consequence of the sins of the ancestors of herself and her husband, was doomed to experience the greatest curse that can befall a Hindu woman, sterility. However, by a charm, she contrived to remove the anathema by enticing the gods to her bed. Thus, says Colonel Tod, she had by Dharmaraja (Yama or the Minos of the Greeks), Yudishthra; by Pavana, Bhima; by Indra, Arjuna; and Nycula and Sydiva by the Aswini Kumara (the Hindu Esculapius, or the sons of Surya), the twins of the Hindu Zodiac (Cole. Myth. Hind. p. 248). Over all Kamaon, amongst the richer people, the custom of many brothers having one wife in common has long ceased to be practised, though the widow of an elder brother is commonly remarried to the next brother. This is also a custom with some Jat and Gujar tribes. The Chamar or leather workers of Kanawar, however, like the Bhot, still practise polyandry.

Amongst the Toda and Kurumbar of the Neilgherry mountains, the brothers of a family have usually only one wife between them. She is, moreover, allowed to consort with strangers, without the slightest objection or jealousy on the part of her proper lords.

Polyandry prevails in Travancore, and in the two provinces of the Madras Presidency, called Malabar and Canara, about 300 miles long and 50 broad. Mr. Strange describes it (Hindu Law, p. 67) when he says, the inheritance runs in the female, and not in the male line. A man's sons are not in the list of his heirs. His property goes to his sisters, sisters' sons, sisters' daughters, sisters' daughters' sons and daughters, mother, mother's sisters and their children, and to his maternal grandmother, her sisters and their children. Failing these and their stock in the same way of descent, it goes, as in other parts of the Madras Presidency, to the man's disciple and fellow-student, and then escheats. This rule of descent is termed Marumakatayam, or Nepotism in the female line. The origin of this, he adds, is stated to have been in the time of Parasuramen, the first king of Malabar, who introduced Brahmans

into the district, and gave them possessions therein, and to prevent these properties from being split up, decreed that they should vest in the elder brothers, whom alone he permitted to contract marriage. The sons of these were to be accounted as sons for the whole family. The junior brothers being without wives, are allowed to consort with females of lower classes. The offspring of these unions not being legitimate, could not rank as Brahmans, or inherit from their fathers. Their inheritance was hence made to follow from their mothers. The lower castes fell into the same system of promiscuous intercourse amongst themselves. With them, the females before attaining maturity go through a form of marriage, the bridegroom not necessarily taking the position of husband. After maturity, they may consort with whom they please, and with as many as they please, provided that the connection be with members of their own or some higher caste. The offspring succeed to the estate in the mother's family, it being obvious that parentage cannot be traced out in the line of the male. The castes that follow this rule of Marumakatayam are all, excepting Brahmans and Aka Podwals, a class of pagoda servants, the artisans, viz. carpenters, brass-smiths, blacksmiths, and goldsmiths, and some of the lowest denominations, such as the Cherumars, or slave tribe; with the Malayers and the Paniars, the rule of descent is to sons. The Teeyer or toddy-drawers, and the Mookwa or fishermen of North Malabar, follow Marumakatayam, while those to the south observe Ma-katayam, or descent to sons. In North Malabar, most of the Mopla (Mopilla, mother's son), although Muhammadans, follow also the rule of Marumakatayam, in this respect having conformed to Hindu usage in the times of the ascendency of the Hindus. The adherents to Marumakatayam form united family communities, termed Tarwada. The remotest member is acknowledged as one of the family, if living under subordination to the head of the family and taking part in their religious observances. The senior male of whatsoever branch is the head of the family, and is termed Karnaven. The other members are termed Anandraver. There is nothing analogous to the state of widowhood as existing elsewhere; females, whether in alliance with males or not, reside in their own families. In theory, the property is held to vest in the females only, the males having right of management and claim to support. Practically, the males are co-sharers with the females. In default of males, females succeed to the management of the family property. In some families the management devolves on them preferably to the males, and in such case the senior female takes it. All members of the family, even the remotest, are entitled to maintenance. On failure of sister's progeny, male and female, the head of the family may make adoption. The descent being in the female line, the adoption must be a female. In view of the probable minority of her offspring at the period when the management may fall in, a male, her brother, may be taken, in adoption, at the same time with herself, in order to afford provision for the administration of the affairs of the family, and for conduct of the religious rites to be observed therein.

Part of the peoples here alluded to as practising polyandry on the Malabar coast, are called Nairs. Dr. Buchanan, writing regarding their social customs and the results from this practice of polyandry in his time, states that they marry before they are ten years of age, but the husband never afterwards cohabits with his wife. Such a circumstance, indeed, would be considered as very indecent. He allows her oil, clothing, ornaments, and food; but she lives in her mother's house, and after her parents' death, with her brothers, and cohabits with any person that she chooses of an equal or higher rank than her own. If detected associating with any man of low caste, she becomes an out-caste. It is no kind of reflection on a woman's character to say that she has formed the closest intimacy with many persons; on the contrary, the Nair women are proud of reckoning among their favoured lovers many Brahmans, rajas, and other persons of high birth. In consequence of this, no Nair knows his father; every man looks upon his sister's children as his heirs, and it is not easy to see the inducement to the Nair to marry, as he has the burden without any of the enjoyments of wedded life. But this legal or authorized practice must have its check in the social or natural state of man, which, as of most creatures, is one of true monogamy; and proof of this, and yet also of the lateral descent law, is furnished by the account given of the death of a raja of Travancore, who in 1860 died of a decline at the age of 46, after a reign of thirteen years. He had been much affected by the death of a lady of his family, and made a pilgrimage to several shrines, practising great austerities and fastings. His medical attendants (native and European) warned him of the risk in his feeble health, but he persevered, and sank of exhaustion and weakness. He took an affectionate leave of his family, and showed his solicitude for his people by requesting that the custom of shutting the shops for fifteen days when a raja dies, might be dispensed with on this occasion, on account of the dearth and distress from which the people were then suffering. On account of the imbecility of the first nephew,—sister's son,—the second nephew had long been acknowledged as the first prince by the family and the British Government, and then ascended the throne.

The royal family of Travancore seem, however, in 1883 to be recognising their own children; for three daughters of the maharaja Rama Varma were married on the 18th May with great pomp, all the great officers of the State joining in the marriage procession. Behind them came Nair ladies decked with jewels, and wearing jessamine wreaths. Each of these carried in her left hand a silver salver containing rice, a piece of folded silk, a red little box with red powder, and two green balls. Behind these, Tanjore nautch girls. After them came young Nair women dressed in kimkhab, with jewels from head to foot, some in Tanjore fashion, and others in the fashion of the Malayali. After them Nair ladies of Trevandrum, gorgeously dressed, with various kinds of jewels, and with roses and jessamines in their hair. After these were three elephants in a row, richly caparisoned, and with golden head-ornaments, and with howdahs, in each of which was seated the bridegroom, dressed alike in kimkhabs, with brilliant ear-rings, gold chains with diamond pendants, and with gold bangles set with precious stones given

by the maharaja to his sons-in-law. The bridegrooms had all of them a sword in their right hand and umbrella-bearers behind. Numerous other elephants then followed.

As this custom is of interest ethnologically, the following description of it is given. Kookel Keloo, Nair, district munsiff in Malabar (Madras Lit. Soc. Jour. No. 48, p. 52, 1859), says the Eeyoover or Teeyer (toddy-drawers) are a section of the servile class of people who, during the time of the Brahmans and Perumals, came to Malabar from Ceylon to earn their livelihood. It cannot, however, be accounted for, how they in many parts, though not throughout the whole of Malabar, came to adopt the beastly custom of the Kummaler of the country, of a single girl being married to three and four brothers; and likewise, in some parts of the country, where this sad custom is not so generally prevalent among them, the practice of taking their deceased brothers' widows for wives as the Musalman Mopilla do. It is only in the taluks of *Nidunganad*, Kuttanad, Chowghat, and some parts of Vettutnad, and a few adjoining spots in South Malabar alone, that a woman among the Nair is kept at the same time by two or three different men, who are, though, never brothers. It is, though, very possible that the Teeyer may have taken the idea from this latter error, and themselves fallen into the other and more shameful one; or perhaps they observe the custom, as they in general are, as a document in its beginning shows, sprung from the Kummaler or the Kummalers from them, through their then frequent intermarriages. The document calls them also Eeyoovahaiyer, a word equally low and contemptuous in Malabar, and of the same meaning as the word Kummaler. Moreover, amongst the Nair of the whole of North Malabar (that is to say, from part of Cooroombranad as far as Mangalore), though sometimes unchaste practices occur in their families, yet I can, he says, most confidently assert that the above abominable custom of one woman being kept by two or three men at the same time, never in ancient or modern times was once known. A Nair there will, though, occasionally marry two or three women in succession, if the first or second prove barren, or all the children born die, or from any other like cause or domestic difference. Many of the Teeyers also of that part of the country do in some measure follow the custom of the Nairs; but the Teyettees (Teeyer women) of the remaining Teeyers there are notorious harlots, and become the concubines of strangers of any caste or religion, and this without the least prejudice to their own caste, or any loss of esteem in society; on the other hand, any such act proved against any females of the other castes, subjects the person to excommunication from caste, banishment from society, and all religious advantages. The Teeyer females of South Malabar do not, though, so readily as those of the north, yield themselves to this disgraceful practice. Owing to the very great number of castes, and the peculiar and different manners and customs of various parts of the country, the superficial inquiries of most foreigners have led them into error, and in their works they generally ascribe the same pernicious practices to all castes and parts of the country indiscriminately. However, the Nairs, Teeyers, and indeed all the other numerous castes of Malabar (including the Cochin and Travancore countries, these being indeed the most striking in this respect), are in some way or other in a greater or less degree of error; and reformation therefore is indeed much needed among them all. It is, though, very lamentable to find them dormant in their original state of depression, and not seeking for reformation rather than growing blindly proud of their vain and different castes and privileges, and ready to run any risk, even that of hazarding their lives, only to preserve their castes.

The Ashary, in Malabar, the carpenter caste, the brassfounder, gold and iron smiths, continue the practice of polyandry, but in civil inheritance follow from father to son. The elder brother marries, and the wife is common to all the brothers. If a junior wish to marry, he must live apart and set up business apart; but if any of his younger brothers reside with him, his wife is common to them. Anandraver is the term applied to the junior members of a Tarwada community living under the law of inheritance called Marumakatayam. (See Karnaven; Tarwada.) In the Madras Journal of Literature and Science for July 1864, a native of the country furnishes a translation of a work entitled the Bhutala Pandyana, Aliya Santanada Kattukattale, in which is given the following mythical explanation of the causes which led Bhutala Pandya to frame the Aliya Santana rules. It relates that Deva Pandya, a wealthy merchant of the Pandya country, was sending new ships, richly laden, to a dark island covered with snow, but before launching them, Kundodara, a Bhuta raja, or king of the demons, an attendant on Siva, observing that the ships were new, demanded a human sacrifice. Deva consulted with his wife as to sacrificing one of his own seven sons, but the wife fled with them to her native town. On which Deva lay in deep distress, until his sister Satya-vati, hearing of the case, came and offered her own boy, saying to Deva, 'You should not care for this trifling matter. Do you give the boy Jaya Pandya, a son of mine, as a human sacrifice.' But Kundo-dara refused the boy, being aware that Jaya was the son of Vira Pandya, king of that dominion, who had been defeated by Chand Rangada raja, and that Jaya was a Mahapurusha, destined to be a great man; he desired Jaya to assume his, the demon king's name, as Bhutala Pandya, and promised to restore him to the dominions of which Chand Rangada had deprived him. On this, the demon king entered Ujjain, subdued the eight demi-gods, Bhairava, etc., gave Bhutala a throne that Davendra had given to Vikramarka, and entered the town of Jayantika, accompanied by Bhutala. On the demise of the king Siddha Vira Prassiddha Raya, Jaya was elected king. Jaya ruled for six years, during which the Makkala Santana, *i.e.* the law of inheritance by direct descent of sons, was, for the following reasons, set aside, and that of Aliya Santana, *i.e.* inheritance on the line of nephews, substituted. The ships of Deva had during a mercantile voyage grounded on the miry bank of an island covered with snow and darkness, and the crew were in great distress, when the demon king appeared and bid them load the ships with the Siddha sile stone (a green stone, husuru sile galu) and Siddha-rasam, and pray to him. This being done, a fair wind brought the ships to the river mouth of Hangara katte at Kalianpur

harbour. King Jaya, on ascertaining that the ships belonged to his uncle Deva, sent for him to receive them, but the demon king again demanded one of Deva's sons as a sacrifice. Deva consulted as to this with his wife, who refused the goods on that condition, and the cargo of stone and liquid was then delivered to king Jaya, who placed both the stone and the liquid in front of the idol Someswara, changing its name to Sidheswara, and erected a temple and image to Kundo-dara, the demon king, to which he gave the name of Maheswara. On the demon king's recommendation, he framed a code of laws, containing 30 rules, introducing the Aliya Santana rule (the descensus a matre). At this time king Jaya is styled 'master of the throne of king of kings, master of the masters of the four countries called Tulu, Malayala, Haiga, and Karnatica, the first person in the era of Sativahana.' In the sixth year of his reign, the demon king ordered him to bury the green stone (emerald), and shut up the Siddha-rasa well, and the image of Naga set thereon. The castes enumerated in these rules are the

Tulu varu.	Kambararu (potters).	Agasa (washermen).
Mala varu.	Devadiga.	Halepaika.
Jainaru.	Saliya (weavers).	Mundala.
Nayamma varu.	Mulekudeya.	Karinnara.
Masadika.	Panchala.	Holeya.
Haricetti.	Kshauraka (barbers).	Andekoraga.
Pari-yaru.		

King Jaya prohibited the Brahmans officiating in death and birth ceremonials; prohibited the Maha-layam or inauspicious ceremony for the deceased; prohibited the giving of the Panchagavyam; prohibited the Punya-Homa sacrifice with dubh grass on births and deaths, and permitted only the Nirmalya or remains of idol offerings for the dead, and authorized the continuance of the Puja and Abhi-shekam to the deity for those who brought forth children or died. In the twelfth year of his reign, he invited Jains from the Balaghat, and they built Mangalore and other towns. King Jaya made the Aliya Santana rules applicable to the Kshatriya, the Vaisya, and the Sudras, but permitted Brahmans to continue the rule of direct descent.

The explanation of the above fable seems to be that in the time of king Jaya, all great works, such as shipbuilding, as is still the case in Polynesia, were inaugurated by human sacrifices in propitiation of demons; that a woman of rank twice refused to part with any of her sons for such a purpose, and her husband's sister offered her son Jaya in their stead, but was refused; from which king Jaya declared that descent of property should follow from the sister's side.

Mr. Strange mentions (in literis) that polyandryism in Malabar has prevailed only among those classes whose rule of inheritance is by Nepotism, termed Marumakatayam. It has prevailed in like manner in Travancore, where the same rule of descent is followed. There is, however, a strong tendency in Malabar to throw up the said rule of descent, and to convey property from father to son, and this feeling is owing to the gradual abandonment of polyandryism. The connubial connection which is in question is termed ordinarily, in Malabar, Guna-dosham (Guna, good, Dosham, eyil; for better for worse). In Travancore it is styled Mundu-vanga (Mundu, cloth, Vanga, receiving). The girl taken is of ripe age, and her consent must be obtained. Personal acquaintance thus precedes the formation of the union. The ceremonial consists in the man presenting her with a Mundu, or white muslin cloth. In North Malabar, a small sum of money is tied up in a corner of the cloth. Small presents of money are given to Brahmans. There is an assemblage of friends at the girl's house, and a supper is given either before or after the ceremonial. The hour is about 8 P.M. The girl sometimes is taken to the man's house, but sometimes remains in her own, and is visited by him there. Each party is unrestricted as to the number of such connections that may be formed, but these ordinarily do not exceed two or three. The descent being in the female line, the parentage as to the father was immaterial. Jealousies and quarrels, terminating sometimes in murder, are, however, rife, as might be expected. The connection depends simply upon the will of the parties, and may be broken off by either at pleasure. But the unions in Malabar are now commonly of single couples, the woman living in the man's house strictly as his wife. The classes among whom polyandryism has prevailed in Malabar are the Nair, the Teeyer of North Malabar (those of South Malabar adhering to the descent to sons), and a branch of the slave tribes called Kallady. The term 'Nair' is derived from Naiker, the honorary plural of Naik, which comes from the Sanskrit term 'Nayakah,' meaning a chief man. The four classes of workmen in Malabar, namely, the Ashary (carpenter), Mushaly (brassfounder), Tattan (goldsmith), and Perun-kollan (ironsmith), still follow a peculiar form of polyandryism. This is kept up only in the family. The elder brother marries, and his wife is common to all the other brothers. If a junior wish to marry, he must live apart and set up business apart; but if any of those junior to him should reside with him, his wife is common to them. These classes have descent from father to son.

Kookeloo (Kookel Keloo), a Nair, writing on this subject, mentions that in the Malealam country, the Ainkudi Kummaler are the five artisan castes,—the Ashary or carpenter, the Mushaly or brazier, the Tattan or goldsmith, the Perun-kollan or blacksmith, and the Tol-kollan or tanner. These five castes follow the custom of marrying one girl among three or four brothers; and this Kummaler custom of three or four brothers marrying one girl, is followed in some parts of Malabar by the Eeyoover, Juver or Teeyer, toddy-drawers, and partially, also, is the custom of the Muhammadan Mopilla, in taking the wife of a deceased brother. The Kummaler and Teeyer are sprung from the same race, and in earlier times intermarried, and this may explain the similarity amongst them of this social practice. It is only in the taluks of Nidunganad, Kuttanad, Chowghat, in some parts of Vettutnad, and a few adjoining spots in South Malabar, that a woman amongst the Nair is kept at the same time by two or three men, who are not brothers. Although the customs of Nair, the Teeyer, and other castes of Malabar, Cochin, and Travancore, particularly by the two latter countries, are thus more or less identical, the practice of polyandry does not seem to have ever prevailed generally amongst the Nair and many of the Teeyer of North Malabar, from Kurumbranad to Mangalore.

As the result of the Aliya Santana rules, it is stated that, in the present day, the husband during his life gives his personal property to his wife and children, mortgages his permanent property, and on his demise transfers it with the debts to the sisters and their children, so that the territorial possessions have all fallen to Brahmans, Muhammadans, and Christians.

In Canara, a similar system of inheritance obtains to that in Malabar, which is termed Aliya Santana, or nephew inheritance. As in Malabar, the Brahmans do not follow this rule. In its details, the Canara law of Aliya Santana corresponds with that of the Malabar Marumakatayam, saving that the principle that the inheritance vests in the females in preference to the males is in practice better carried out in Canara, where the management of property vests ordinarily in the females, while in Malabar the males commonly administer thereto.

The Aliya Santana of the Tuluva country is similar to the old Italian law of descent, a matrice, a sister's children being considered more surely of a man's own blood than those by his married wife (Coorg Memoirs, p. 30). In the Tuluva country, a Brahman widow can devote herself to the temple, and reside outside or inside its walls. If within, she is a servant of the idol, and receives men of her own caste only. The offspring of such, if boys, are called Moylar; and if girls, are said to be given in marriage to the boys. But if the woman elect to reside outside, she must pay a monthly sum to the pagoda, and may cohabit with any one of pure descent.

The Coorgs continue to have a kind of marriage communism within the family, the wives of the brothers of one house being common property. Children, therefore, are rather children of the family or of the mother, than of the ostensible father. The Coorgs quote, as their authority for this custom, the story of Draupadi. But the state of family life in many Coorg houses, resulting from this custom, is very sad, giving rise to jealousy, mistrust, heart-burnings, quarrels, and often deadly hatred. At present, two or three generations continue to live together in the ancestral home, a large human bee-hive,—the grandfather and grandmother, their sons and daughters-in-law, the children of these families; some houses containing sixty, seventy, eighty souls and upwards; but families are constantly being torn up and separated from the discord that occurs.

Dr. Baikie alludes to a somewhat similar community amongst the Canarese-speaking races to the north. The habits of the Coorgs may vary amongst themselves. Reliable information from another source is to the effect that the first to take to himself a wife is the elder brother. But if she remain unfruitful to him, she passes to the next brother, and only when she fails to have offspring to any brother does she become an outcaste from the family.

Until abolished by the governor, Sir Henry Ward, about A.D. 1860, polyandry prevailed throughout the interior of Ceylon, chiefly amongst the wealthier classes, of whom one woman had frequently three or four husbands, and sometimes as many as seven. The custom was at one time universal throughout the island. Valentyn, ch. vi. p. 95, is quoted for the fact that the king of Kotta, Wijaio Bahu VII., who was reigning when the Portuguese built their first fort at Colombo, had one wife in common with his brother; and Raja Singha I. was born in polyandry; but the influence of the Portuguese and Dutch sufficed to discountenance and extinguish it in the maritime province. As a general rule, the husbands are members of the same family, and most generally brothers. According to the tradition of the Singhalese, the practice originated in the feudal times, when it is alleged their rice lands would have gone to destruction during the long absences enforced on the people by the duty of personal attendance on the king and the higher chiefs, had not some interested party been left to conduct their tillage. Hence the community of property led at length to the community of wives. Sir J. E. Tennant, in A.D. 1848, was informed to the above effect by an aged chief of the Four Korles, Arunpulle Ratemahatmeya, who had lived under three native kings prior to the conquest of Kandy by the British. In more recent times, the custom has been extenuated on the plea that it prevents the subdivision of estates, the children of these promiscuous marriages being the recognised heirs of all the husbands, however numerous, of their mother. But it existed in Ceylon before the conquest of Wijaio. In Ceylon no disgrace attaches to such unions, and the offspring are regarded as equally legitimate with those born in wedlock. Within a recent period, about A.D. 1860, a law has been introduced to put a stop to this custom. Sir J. E. Tennant tells us that, in Ceylon, in the province adjoining Bintenne, where the owner's sister's sons inherit in preference to the sons of the owner's wives, the custom is explained by a Singhalese legend to have originated from one of their kings being directed by an oracle to sacrifice a male child of the blood-royal, in order to thwart the malice of a demon who nightly destroyed the bund of a tank in process of construction. But his queen refused to surrender one of her children, on which his sister voluntarily devoted her own boy to death. The king, in honour of her patriotism, declared that nephews were ever after to be entitled to succession in preference to sons. Also, in the western extremity of the province of Ceylon, adjoining that of Bintenne, something like the custom of the races of Western India prevails, and nephews by the sister's side succeed to the inheritance, to the exclusion of the possessor's sons. Singhalese kings frequently married their sisters.

Throughout the interior of Ceylon, among the Kandyans, and them only, polyandry is prevalent, and the wife has the possession of all the brothers, of whom so many as eight have been known. The children call the eldest brother father. A man can bring in another, not a relation, to have joint marital rights with himself; indeed, the first husband can so introduce as many as the wife will consent to receive as husbands. In Kandy, in the Beena marriage, the husband goes to reside in the wife's house, and the woman shares the family inheritance with her brothers. The husband in this marriage can be dismissed summarily by the family of the wife. In the Deega, a more respectable marriage, the wife leaves her own house for that of her husband,—forfeits all her claim on the property of her parents, but acquiring some claim on that of her husband, and the wife cannot obtain divorce

unless with the full consent of the husband. Divorces are constantly sought for by women on trivial pretences. A child born within nine months of the divorce must be maintained by the husband.

North of Ceylon, in British India, the polyandry customs of the Reddi race have already been alluded to. Among the Karakat Vellalar of Madura, adultery with a husband's brother or kinsman is condoned; farther north, among the Nuniya and Ahir, the Levirate law prevails; and with the Gujar and the Jat polyandry customs are permissive. Still farther northwards, in Sirmore, one of the sub-Himalayan Hill States, polyandry is almost universal; in Lahoul, a subdivision of the Kangra district of the Panjab, polyandry is the custom of the people, who are Bhutiyas or Tibetans; and the Kanet, who make up the mass of the population, are of mixed Indian and Mongol origin, the latter element predominating. They are Buddhists, numerous monasteries stud the hills, and they bear a good character. In Spiti, a district of the Kangra division, polyandry no longer prevails; but the same object is attained by their primogeniture custom, by which only the eldest son marries, while the younger sons become monks. Crime is rare, but chastity and sobriety are almost unknown. And in the very south of India, among the Namburi Brahmans of Travancore, the eldest son alone marries and inherits, and they allow their girls to remain unmarried to any age, and even to die unmarried.—*Yule, Cathay*, i. p. 189; *Panthier*, p. 157; *Wood*, p. 201; *Burnes' Tr.; Porter's Travels*, i. pp. 143, 144, 340; *Vigne's Kashmir*, i. p. 37, v. p. 13; *Beng. As. Soc. Journ.* ix. p. 834; *Asiatic Researches*, v. p. 13; *Institutes of Menu; Cæsar's Commentaries*, book v. chaps. x.–xiv.; *Westminster Review*, April 1868; *Polybius*, book iv. chap. iii., book xii. ex. xii.; *Sirr's Ceylon; Humboldt's Travels; Dr. Vaughan's Revolutions in English History*, pp. 97, 98; *Cunningham's History of the Sikhs*, p. 18; *Ravenstein's Russians*, p. 391; *Fraser's Himalaya Mountains*, pp. 70, 206, 218, 368; *Moorcroft's Travels*, ii. pp. 321, 322; *Abbe Domenech*, ii. p. 314; *Lubbock, Origin of Civilisation; Tod's Rajasthan*, i. p. 345; *Sir J. E. Tennant's Ceylon; Colonel Marcy, Thirty-seven Years' Army Life of the Border.* See Genesis xi. 29, xiv. 14.

POLYGALACEÆ. *Lindl.* The milk-wort tribe of plants, comprising the genera Polygala, Salomonia, Xanthophyllum, and Securidaca.

POLYGALA SENEGA, snake root. Several species of Polygala were formerly medicinally employed in Nepal and the Himalaya. P. crotalarioides is used as a snake antidote. P. speciosa is grown in gardens as an ornamental plant. All the species have handsome, showy flowers, chiefly pink, scarlet, red, or white. The root of P. tenuifolia, Yuen-chi, CHINESE, is brought from Shen-si and Ho-nan in cortorted quilled pieces. It is used in cynanche, cough, carbuncle, and its leaves in spermatorrhœa.—*Smith's Chin. Mat. Med.* p. 175; *Riddell; O'Sh.*

POLYGAMY. Although polygamy is sanctioned by the laws of the Muhammadan religionists, by the customs of the Chinese, the Cochin-Chinese, the Siamese, and, in particular circumstances, amongst the Hindus, the people generally are in practice monogamic. Throughout the Hebrew Scriptures (Genesis xii. 15, xxi.; Esther ii. 3) there are notices of a plurality of wives from the most ancient times, but the Jews were a truly monogamic race, and it was only with Saul and David, followed by Solomon, that numerous wives became usual. Amongst the Muhammadans, the practice from Mahomed's time till now has been to restrict to four wives, and to the haram or war captives, or purchased or household slaves; and in British India the followers of this faith do not deviate from their religious rules, though in general they are monogamic. Opinions greatly differ as to the advantages and disadvantages of polygamy. Though the Christian peoples of Europe are monogamic by law, in practice polygamy, with many resulting crimes and evils, is not unknown. With the Muhammadans and ruling Hindu races who permit and practise polygamy, it is a fertile source of intrigue and disquiet in homes. Colonel Tod, writing of the ruling Rajputs, says polygamy is the fertile source of evil, moral as well as physical, in the east. The desire of each wife that her offspring should wear a crown, is natural; but they do not always wait the course of nature for the attainment of their wishes, and the love of power too often furnishes instruments for any deed, however base. The number of queens is determined only by state necessity and the fancy of the prince. To have them equal in number to the days of the week is not universal; while the number of handmaids in unlimited. It will be conceded that the prince who can govern such a household, and maintain equal rights, when claims to pre-eminence must be perpetually asserted, possesses no little tact. The government of the kingdom is but an amusement compared with such a task, for it is within the Rawula that intrigue is enthroned. Captain Burton, who saw the great polygamic system in the Salt Lake City, observes that the nations of Europe have monogamic laws, have forbidden a plurality of wives, and the consequences are that adulteries and unlawful connections prevail to a most fearful extent; and among some of these nations, sinks of wickedness, wretchedness, and misery are licensed by law. Though polygamy is met with among nearly all the nations of Southern and Eastern Asia, neither amongst the Muhammadans or Hindus is it deemed a respectable practice. A Muhammadan by law can marry four wives, and all his captives in war can form his haram; but no Muhammadan, however rich, no ruling sovereign even, can obtain a second wife from a family of equal social position to his own; and amongst Indian Muhammadans only one wife is married with all the rejoicings and ceremonial display which in most countries are observed when a virgin bride becomes a wife and mistress of a home. In the profligacy of towns, or in the enforced idleness to which so many Muhammadans in India are now constrained, there are in some houses to be found the legitimate number of wives, along with Hindu converts to Muhammadanism, who are styled the Harm; and occasionally, amongst the poorer men who have been great travellers, and have married in distant places, more than one wife is in a house. But monogamy is the general rule, and marriage is made with the wife for whom the greater rejoicings are made. In Muhammadan law, all children born in marriage have equal rights. In

India, therefore, where women are married either simply by the Nikkah ceremonial or by the additional display in the Shadi or rejoicings, the Muhammadan law does not recognise any distinction in the rights of the children from Nikkah or Shadi wives. But in the social customs of the Muhammadans of Southern India, a great distinction is made between the offspring in the two marriages. A Nikkah wife never receives the same amount of respect from her household and from relatives, and never receives from her husband an equal monthly allowance to that of a Shadi wife. The Nikkah and Shadi children in their father's households receive equal courtesy from relatives, because they are then alike looked upon as the children of the master of the house. But a father never grants to Nikkah children allowances equal to those which he apportions to those of the Shadi descent. When parents are seeking for suitable marriages for their children, Nikkah offspring are regarded as greatly inferior in social rank to Shadi offspring, and the taint of the Nikkah marriage is remembered by all from generation to generation; and one of the great social injuries from polygamy is that it renders brotherly affection impossible. Among the Mehman sect of Muhammadans, their Pir, or holy men, are of the family called Rashid Shahi (descended from one Muhammad Rashid Shah), or the Rohri-wara Sayyids, remarkable for nothing but excessive polygamy. Rashid, the founder of the house, took unto himself thirty-two wives (instead of four), and justified the practice by the usual sophistical arguments of the Safi order to which he belonged. The Sindi divines pronounced his tenets to be heretical and his conduct damnable. The Mehman sect, however, did not object to it, and still reverence his descendants.

Among Hindus in general it is rare to hear of two wives in one house, but the concubinage of cities is facilitated by the temples possessing Devadasa women devoted to the gods. In Hindu law, a man ought not to take an additional wife save under certain justifying circumstances. These are —his wife's exhibiting want of chastity; habitual disobedience or disrespect towards him; bad temper; bad health; barrenness; or should she for a period of ten years produce only daughters. The consent of the Hindu wife, without any disqualifying causes on her side, also of itself warrants re-marriage. The absence of these justifying causes will not, however, invalidate a second marriage. A wife who has been superseded by a second marriage, whether justifiably or not, should continue to reside with her husband. If he oblige her to leave him, she should reside with his relatives or her own. In either case the husband is bound to maintain her.

It will thus be seen that, by the law, a Hindu may marry as many wives, and by custom keep as many concubines, as he may choose. Sivaji, the last maharaja of Tanjore, married eighteen wives on one day, but this was caused by a mere accident. The raja had sent to his native place for some young women, intending to marry one and give the others in marriage to his nobles; but on their arrival, and becoming aware of his intention, they declared that as they came to marry him, they would do so or not marry at all, but all would at once destroy themselves. In mythological history, it is stated that the ancient king Dasaratha, the father of Rama, had 60,000 wives.

Notices of polygamy are more frequently met with in the stories of the Hindu gods than seen among the modern Hindus. The majority of the heroes in the writings of Kalidasa are described as polygamists. At present, generally speaking, a Hindu marries only one wife, and after her death another, if he can afford it. In Madras, a city of 400,000 people, there were (in 1860) only three instances in the higher classes of Hindus living with three wives, and these they had married successively on account of the want of children. Concubinage among the higher ranks of Hindu society in Madras is not uncommon, and is generally selections from among the dancing girls of pagodas. In the interior, the petty rajas and zamindars marry two wives, and sometimes keep concubines at the same time. Also the marriage laws of the Hindus who follow the rules of Marumakatayam and Aliya Santana, and the customs of some of the Coorg, Reddi, Canarese, Gujar, and Jat races, lead to polygamy and concubinage; but the Teling, Mahratta, Kurmi, Kunbi, Bengali, and Rajput are monogamic. In Bengal, however, a Brahman race, the Kulin, are regarded by other Brahmans as of the highest social rank, and they eagerly give their daughters to the Kulins, amongst whom are men with many wives. About 1860, the pandit Iswara Chandra Vidyasagar published a pamphlet in Bengali denouncing polygamy, and gave the names of twelve Kulin Brahmans with forty to eighty wives.

Polygamy is practised both on the mainland and in Torres Straits, and Mr. M'Gillivray had heard of a man with four wives. According to the will of the father, and without regard to disparity of age, the future husband may be, and often is, an old man with several wives. When the man thinks proper, he takes his wife to live with him without any further ceremony; but before this she has probably associated with the young men,—such, if conducted with a moderate degree of secrecy, not being considered as an offence, although if continued after marriage it would be visited by the husband (if powerful enough) upon both the offending parties with the severest punishment.

The Abbe Em. Domenech tells us that polygamy prevails amongst the Indians of North America.

In the large towns of China and Japan, concubinage seems to prevail to a greater extent than it is met with in the western countries of Southern Asia. In Japan, the practice, so soon as a woman is married, of staining her teeth black, and thus destroying one of woman's greatest ornaments, can only have the effect of making the wife less attractive to the husband, and forcing his affections elsewhere. And in the concubinage of China there is not found among the young women whom they select, any of the deformed feet which the richer classes of the people create for the girls who are to be the wives of their households.

Mr. T. T. Meadows writes strongly on the injurious effects on Chinese women which the right to have many wives occasions. In China the extent to which wives are, by law and custom, in the power of their husbands, would produce deplorable effects, but for the almost unlimited power which law and opinion give mothers over their sons of every rank and age. So also the

institution of polygamy is largely counterbalanced by the desire of all the men to marry early, in order to secure a progeny of sons as soon as possible. The condition of the Chinese woman is most pitiable: suffering, privation, contempt, all kinds of misery and degradation, seize on her in the cradle, and accompany her pitilessly to the tomb. Her very birth is commonly regarded as a humiliation and a disgrace to the family, an evident sign of the malediction of heaven. If she be not immediately suffocated, she is regarded and treated as a creature radically despicable, and scarcely belonging to the human race. Panhoui-pan, celebrated among Chinese writers, though a woman, endeavours in her works to humiliate her own sex, by reminding them continually of the inferior rank they occupy in the creation. 'When a son is born,' she says, 'he sleeps upon a bed; he is clothed with robes, and plays with pearls; every one obeys his princely cries. But when a girl is born, she sleeps upon the ground, is merely wrapped up in a cloth, plays with a tile, and is incapable of acting virtuously or viciously. She has nothing to think of but preparing food, making wine, and not vexing her parents.' In ancient times, in China, instead of rejoicing when a child was born, if it happened to be a girl they left it for three whole days on a heap of rags on the ground, and the family did not manifest the slightest interest in so insignificant an event. This public and private servitude of women—a servitude that opinion, legislation, and manners have sealed with their triple seal—has become in some measure the corner-stone of Chinese society. The young girl lives shut up in the house where she was born, occupied exclusively with the cares of housekeeping, treated by everybody, and especially by her brothers, as a menial, from whom they have a right to demand the lowest and most painful services. The amusements and pleasures of her age are quite unknown to her; her whole education consists in knowing how to use her needle; she neither learns to read nor to write; there exists for her neither school nor house of education; she is condemned to vegetate in the most complete and absolute ignorance, and no one ever thinks of or troubles himself about her till the time arrives when she is to be married. Nay, the idea of her nullity is carried so far, that even in this, the most important and decisive event in the life of a woman, she passes for nothing; the consulting her in any way, or informing her of so much as of the name of her husband, would be considered as most superfluous and absurd. In China a woman counts for nothing. The law ignores her existence, or notices her merely to load her with fetters, to complete her servitude, and confirm her legal incapacity. Her husband, or rather her lord and master, can strike her with impunity, starve her, sell her, or, what is worse, let her out for a longer or shorter period, as is a common practice in the province of Che-kiang. Polygamy aggravates the sufferings of the Chinese wife. When she is no longer young, when she has no children or none of the male sex, her husband takes a second wife, of whom she becomes in some measure the servant. The household is then the seat of continual war, full of jealousies, animosities, quarrels, and not unfrequently of battles. When they are alone they have at least the liberty of weeping in secret over the cureless sorrows of their destiny. The little Chinese girl born in a Christian family is not murdered, as is often the case among the pagans. Religion is there to watch over her at her birth, to take her lovingly in its arms and say, Here is a child created in the image of God, and predestined, like you, to immortality. The Chinese bride is seldom seen by the husband until she leaves the sedan chair in which she is conveyed, with her belongings, to his house. Mandarin ducks are introduced at marriages as patterns of connubial felicity. In the little feet of the Chinese women the four small toes appear grown into the foot, the great toe left in its natural position. The fore part of the foot is so tightly bound with strong, broad ligatures, that all the growth is forced into height instead of length and breadth, and forms a thick lump at the ankle; the under part measures scarcely 4 inches long and 1½ inches wide. The foot is constantly bound up in white linen or silk, and strong, broad ribbons, and stuck in a very high-heeled shoe. The crippled fair ones trip about with tolerable quickness; to be sure, they waddle like geese, but they manage to get up and down stairs without the help of a stick. Infanticide, of which the husbands are the only perpetrators, is not uncommon; but female children only are murdered, and those immediately after their birth. This horrible crime meets with no punishment from the laws of the country; a father being the sovereign lord of his children, he may extinguish life whenever he perceives, or pretends, that a prolongation of it would only aggravate the sufferings of his offspring.

The one-wife system is confined principally to a few small nations inhabiting Europe, and to those who are of European descent inhabiting America. It is estimated by the most able historians of our day, that about four-fifths of the population of the globe believe and practise, according to their respective laws, the doctrine of a plurality of wives.

Amongst most of the pagan tribes on the north and east of British India, and with several of the hill tribes within the British boundaries, field labour is looked upon by the men as derogatory. It is left to the women; the number of wives, therefore, as of slaves, indicates the extent of their worldly means, and polygamy results. With the Jat and Gujar, the Bhil, Mina, and Mhair, the practice of a brother taking to wife the widow of a deceased brother also occasions the presence in a household of more than one wife. With Hindus, polygamy results from their religion. According to the usual Hindu belief, the future beatitude of a man solely depends upon the funeral obsequies performed and oblations offered to the manes by his putra or son. The primary object of marriage among the Hindus is to obtain a male issue; and it is chiefly in case of failure of a putra or son that the Hindu law sanctions polygamy.

The Muslim husband provides separate apartments and a distinct establishment for each of his wives, unless, as sometimes happens, the one be an old woman and the other a child.

International marriages were very frequent among the different tribes that compose the great family of the Selishes in N. America. After the union, the man generally joined the band to which his wife's family belonged. The custom

arose from the women being the purveyors of the family; they were better able to maintain their household in a locality known to them, and where they could find the nutritive roots on which the tribes chiefly lived. The Indian women's cabins, containing provisions, were completely under their control, and husbands could never touch anything in these without the permission of the mistress of the house. Among the Natchez, the incontinence of the young girls was for them a title of honour, for they made marriage portions for themselves by means of the most unrestrained intercourse, the importance of their matches depending on their greater or less licentiousness. But when once married, they led a most exemplary life, and became models of conjugal fidelity. The reason of this change being that having solemnly given themselves up to their husbands, they had no right to dispose of themselves to any one else. The marriage at length was a purchase, however, the young man saying, 'Here are thy presents with which I buy thee of thy parents.' Polygamy was restricted among the Indian nations of N. America by their poverty, the system of purchase precluding many being bought, but among the rich several wives were married. The Navajos had a regular haram, the last married wife being the mistress of the house; but an Indian generally chose sisters, to have peace.

Colonel Marcy of the United States army mentions that though the custom is now very much abandoned, it was formerly regarded by the Comanche Indians of N. America as an essential part of genuine hospitality, that their guests should have wives assigned to them during their stay in camp. Polygamy was prevalent amongst them, every man having as many wives as he could support. On one occasion, in 1849, when escorting emigrants across to New Mexico, two young girls were brought and offered to him before all the party, but, to the great surprise of the chief Is-sa-kip, they were declined. Among the Moqui Indians of N. America, the young woman selected the young man who suited her fancy, and then her father proposed the match to the youth's father; this proposal was never refused. Polygamy was unknown amongst them.

Throughout the South and East of Asia, women, even as first wives, do not take a favourable position in their households until they become mothers, and the presence of sons of their own, or adopted, is longed for by the childless wife, who often urges her husband to take another spouse.

Polygamy, in China, is encouraged by the law which compels gentlemen and tradesmen to give their slaves in marriage, and by the custom which compels a husband to live apart from his wife during her pregnancy, and while nursing. Wealthy Chinese are generally very careful to follow this custom. It prevails throughout Central Asia, amongst the Muhammadans of Bokhara, Samarcand, and other khanates, and in British India many Muhammadans re-marry when their first wife becomes beyond the child-bearing age. Of all the women in Southern and Eastern Asia, the wives of the races who have adopted Islam hold the highest social position. A Muhammadan woman can legally hold property, is the owner of her own dower, and each wife has a separate establishment and a separate allowance for herself, and separate visit days. This, indeed, is also a Hindu custom, and is carefully engaged for in the Hindu marriage agreements.—*Sinnett's Lady's Voyage*, p. 50; *Bowring's Siam*, i. p. 105; *Macgillivray's Voyage*, i. p. 8; *P. Vencatroylu Naidu at the Hindu Debating Society; Cunningham's Ladakh*, pp. 54, 306; *Rev. H. Moegling's Coorg Memoirs*, p. 29; *Sir W. Jones*, xiii. p. 213; *Lubbock's Orig. of Civil.* p. 100; *Tod's Rajasthan*, i. p. 307; *Burton's City of Saints*, p. 457; *Burton's Mecca*, iii. p. 51; *Strange's Hindu Law; Huc's Chinese Empire*, i. p. 248; *Meadows' Chin.* p. 538; *Ben. As. Soc. Jour.*, 1877; *Imp. Gaz.*

POLYGAR, properly Palegara, is derived from the Tamil Paliam, a fort, and Karan, a defender, plural Karar. In Southern India, in the time of Orme, it was a term applied to the semi-independent chiefs in mountainous and woodland districts of the Tamil region. Of these were 'Aryalore, Bangar Yatcham, Bomraj, Coilor-pettah, Elerempenah, Ettapuram, Madura, where their districts lie along the foot of the mountains to the west. Others, in Tinnevelly, in that neighbourhood were styled the Tondiman raja, the greater and lesser Maravar; Nattam Nelli Cotah, and Nellitangaville, the last styled Pullitaver. North of Madras were the Polygars of Bangar Yatcham, Damerha, and Bomraj, against whom, in 1756, Muhammad Ali and Colonel Kilpatrick marched. A Polygar possessed the fort of Savanore, one settled at Oodiagherry, and another near Verdachelum, when, in July 1751, Mr. Pigot and Clive drove off another at Warrior-polliam. The most northern Polygar chief was the Dessaee of Sawuntwari. Those of Jooneer and Punala were reduced by Sivaji —*Orme.*

POLYGONACEÆ. *Lindl.* The buckwheat tribe of plants, comprising the genera Konigia, Rumex, Oxyria, Rheum, Coccoloba, Ceratogon, Ampelygonum, Polygonum, and Fagopyrum. Polygonum linifolium, as also P. aviculare and affinis, grow about Lahore, where they are well known, but little used. P. macrophyllum and P. molle grow among the Kashmir mountains, where the roots are officinal. P. Chinense and P. barbatum yield a blue dye like indigo, in China and Japan. Wight gives P. ambiguum, aviculare, barbatum, Chinense, Donii, glabrum, horridum, Indicum, molle, Nepalense, pedunculare, strictum, Wallichii; a variety of P. orientale is the Pani marich of Bengal. P. tomentosum is eaten by cattle.

Polygonum, *sp.*

Bijband, Kuwar, HIND. | Kamin, Hunraz, HIND.

Used in N.W. India for spitting of blood and rheumatism. A substitute for rhubarb in double doses.

Polygonum amphibium, *Smith*, smart-wood.

T'ien-liau, Liu, . CHIN. | Guree, ... KASH.

The acrid seeds of this Chinese plant are emetic and stimulant, and are applied to scald head and wounds. The root has been recommended as a substitute for sarsaparilla, which its root-like stems resemble. It vegetates in Kashmir, and is considered as a veterinary medicine; whence its name, guree (horse).

Polygonum aviculare, *Linn.*, knot-grass.

Wei-jui, ... CHIN. | Machuti, Nisomali, HIND.

A plant of China; its dried root is used as a pectoral. Considered medicinal in Behar and Kashmir. Its numerous seeds supply abundant food for small birds; they are said to be emetic

and cathartic. Thunberg says that in Japan a blue dye is prepared from this plant.

Polygonum barbatum, *Linn.*

Miau-liau, . . . CHIN. | Atalari, Aatalari, . TAM.
Velutta modela muku, MALEAL. | Konda mallier, . . TEL.

This plant grows in moist places in Bengal and Peninsular India, and is given in infusion by the native doctors in India in cases of colic. Cattle eat it greedily. The seeds are used in China also in colic and choleraic affections; its leaves and stalks as a wash for callous ulcers.

Polygonum bistortum, —?

Maslun, . . . HIND. | Anjabar, . . PANJAB.

A plant of the north-west of India. Root very astringent; useful in sore-throat and relaxed gums and ulcers.

Polygonum cymosum, *Wall.*, a wild buckwheat, called pullopbi, abundant at Choongtam in Sikkim, forms an excellent spinach; it is a common Himalayan plant, and is also found in the Khassya mountains.

Polygonum fagopyrum, *Willde., Smith.*

Fagopyrum esculentum. | Ugla kaspat, . . HIND.

Seeds nutritive, contain much oil, said to be very fattening. P. tataricum is hardier, and ripens more rapidly than P. fagopyrum.

Polygonum hydropiper, *Riddell*, P'en-chuh, CHIN., a Chinese plant. Juice used as a wash in itching skin affections; as a diuretic, carminative, and anthelmintic. The plant is used as a flux in operating on metals.

Polygonum polystachyum, *Wall.*

Amldandi, Chuchi, HIND. | Tror, ... RAVI.

This and P. polymorphum are tall plants with fine flowers; one at least of them exhaling a strong honey smell at times. Both appear to be common locally in the Panjab Himalaya, from 6000 to 12,000 feet. The young leaves are used by the natives as a pot-herb, and a very good imitation of rhubarb is got by stewing the stalks, which also, after peeling, are eaten raw by the natives in some places.

Polygonum tortuosum, *Don*, Niala and Nialo, PANJAB. This grows to 15,000 feet in the Himalaya, is said to yield a yellow dye in Lahoul. In Ladakh it is browsed by goats and yaks.—*Eng. Cyc.; Honigb.; Hooker's Him. Jour.* ii. p. 31; *O'Sh.; Powell; Riddell; Roxb.; Smith, M. M.; J. L. Stewart; Wight's Ic.; Williams' Mid. Kingd.*

POLYNEMUS, a genus of fishes, placed by Cuvier in his third division of the Percidæ, the general form of the body somewhat resembling that of the perch. They are called paradise fish. The Polynemi yield isinglass, and many of them are valuable for food, and known in India as the sele, king-fish, roe-ball, tapasi matchi. See Isinglass.

POLYNESIA. By modern geographers, Polynesia, in its widest extension, has been understood to include the numerous islands which lie in the Pacific to the east of the Philippines, Moluccas, and Australia, and stretch away to within a few degrees of the west coast of America. So defined, this oceanic region has been ethnographically distributed into Melanesia, Micronesia, and Polynesia proper; but authors differ greatly in their classifications of its races, and the views of Mr. A. R. Wallace and of Mr. Keane will be found under India. Melanesia, or the area of the black or Papuan, *i.e.* frizzly-haired, population, includes Papua or New Guinea, and all that continuous insular reach south of the equator, from New Ireland to New Caledonia. Micronesia comprises the Pelew Islands, the Carolines, the Marianne or Ladrone, and the Tarawa or Kingsmill groups. Polynesia proper, extending eastward from Tarawa to Waiho or Easter Isle inclusive, and from Hawaii north to New Zealand south of the equator, comprehends the whole of the intermediate island-world, with the exception perhaps of the Fiji group. Micronesia, or the Pelew-Tarawa region, is covered by the brown race; and Melanesia is the area of the black race; and there is the intermediate and ambiguous Fiji Islands. Among the inhabitants of Polynesia proper of the ethnographical writers, a similarity of race, language, religion, customs, and government sufficiently attest identity of origin. Some ethnologists, indeed, regard it as established, that the Polynesians proper are sprung from the Malay family. This bold and enterprising people, issuing from Sumatra, their primitive settlement, founded Singhapura, A.D. 1160, and, about a century afterwards, Malacca. The first arrival of Hindus in the Indian Archipelago, if we may trust Javanese annals, occurred about A.D. 1278. The Malay exodus from the same insular region to Polynesia is conjectured to have taken place after the Hindu influence began to prevail there, and before the arrival of the Muhammadan traders and settlers from Arabia. The presence of the black or Papuan element in the various islands of Polynesia is explicable on the hypothesis that the Indian Archipelago and Malay Peninsula were primitively inhabited by a dark race, exterminated or absorbed by a brown race of Indians, connected perhaps with the woolly-haired tribes still known to exist in the mountain range which traverses the eastern side of the Indo-Chinese Peninsula. In support of this, or a not dissimilar hypothesis, Professor Latham refers us to a proximately black variety among the existing populations of Protonesia, the Malayan Peninsula, and Indian Archipelago, from whose inferior social position and restriction to the interior and more impracticable parts of the island, he concludes that the Protonesian blacks are the descendants of the older occupants. The population of all the islands of the Pacific continental group is presumed to date from Oceanian migration, which has been laid down in the following order,—Malayan, Protonesian, Papuan, Polynesian. When Cook explored the Society Islands, they possessed 1700 war canoes, manned by 68,000 men; but now the total population of the group is said to be only 9000! Yet Mr. Wallace is of opinion that 'Polynesians may be civilised without being exterminated, if they be protected from the rude competition, the vices, and the diseases which free intercourse with the ordinary class of Europeans invariably brings upon them.' Tahiti has not enjoyed that protection, and the result is that the population is fast dwindling. Misguided missionary zeal is charged by Mr. Wallace with having contributed to this result, by forbidding the idyllic festivities of former ages. The consequence is that the fermented juice of the orange has taken the place of the indigenous dances of the past. As Tahiti is French, so the Sandwich Islands are Americanized. According to Mr. Wallace, the effects of the new civilisation have

been dubious in both. He charges part of the result on the missionaries of the Congregational denomination of the United States, for having represented Christianity as 'a severe legal Jewish religion, deprived of its dignity, beauty, tenderness, and amiability.'—*A. R. Wallace*, ii. p. 227; *Crawfurd's Dict.*; *Westminster Review*, April 1862; *Peschel*; *Earl*; *Captain Elphinstone*; *Erskine's Western Pacific.*

POLYPE or Polyp, a class of the animal kingdom. The name is from the Greek πολυπους, meaning many-footed, and usually comprises the animals of all zoophytes. Some species, like the hydra, float about in the water separately, or are, like the anemone, on rocks; but others secrete a habitation or basis, to which the term polypidom has been applied. These live in masses, formed by an aggregation of individuals. The polypary is the stem or central axis, and it is covered with a skin or membrane, partly gelatinous, partly calcareous. It is the coral of commerce. The more prominent genera are actinia, astrea, caryophyllea, corallium, hydra, isis, madrepora, meandrina, oculium, pocillopora, porita, sertularia, tubipora, and others. The polypes that make corals are chiefly Anthipathes glaberrima, Madrepora corymbosa, M. pocillifera, Gorgonia tuberculata, two species of Astrea, Leiopathes glaberrima, and L. Lamarckii. The Corallium nobilis, dredged in the Mediterranean, yields the red coral which, after pearls, is for ornamental jewellery the most precious product of the sea. Sicilian coral has fetched £10, 10s. the ounce. Tubipora musica has bright red calcareous tubes. It is used for ornament. The brain coral is called Meandrina. The walls formed by polypi are always perpendicular. The madrepora abound near the islands of the Indian and Pacific Oceans, and cover the banks and reefs near the shores, particularly M. muricata, *Linn.* When still alive in the sea, the rough surface is seen dotted with red spots, which are the polype or coral insects, and a minute examination detects thousands of them, each inhabiting permanently a little cell of its own. Many of the polype or coral insects have a little parasol-shaped cover for the head; the arms are furnished with eight claws, are long compared with the body, and are generally seen extended as if reaching for food. Some of the kinds of coral resemble gigantic plants with flowers and leaves. Some grow like a tree with leafless branches, and others spread out fan-like into broad flat surfaces. Those which build the coral reefs are not tidal animals, and require to be constantly submerged or washed by the breakers. Exposure to the sun's rays for a very short time invariably causes their destruction.—*Darwin.*

POLYPODIUM, a genus of ferns of the order Polypodiaceæ. The prominent species are:—

P. excavatum, *Roxb.*, Moluccas.
P. giganteum, Tenasserim.
P. glabrum, *Roxb.*, Bengal.
P. Horsfieldii, *R. Br.*, Penang.
P. lucidum, *Roxb.*, Nepal.
P. mucronatum, *Roxb.*, Sylhet.
P. pertusum, *Roxb.*, Sunderbuns, Tenasserim.
P. phyllitidis, *Linn.*, Chittagong.
P. proliferum, *Roxb.*, Nepal, Bengal.
P. quercifolium, *L.*, Bengal, Moluccas.
P. semisagittatum, *Roxb.*, Sunderbuns.
P. sophoroides, *Roxb.*, Moluccas.
P. tenerum, *Roxb.*, Sylhet.
P. tridactylum, *Wall.*, Khassya.
P. Wallichii, *R. Br.*, —?

A large terrestrial reed fern, with hollow stems like a reed, is often used by the natives of Tenasserim instead of quills for pens. In Calcutta, the Hindus boil the young tops of a polypodium with their shrimp curries. Hindu and Muhammadan medical men use several of the ferns in their practice.—*Hooker*, i. p. 50; *Mason.*

POLYPORUS, a genus of fungi causing dry rot. Some grow to a very large size, P. fomentarius, on poplars near Iskardo, exceeding in dimensions anything which this species exhibits in Europe.

P. anthelminticus.

Thau-mo, Wa-mo, . BURM. | Chu-tan, . . . CHIN.

Grows in China on bamboo. It is about the size of a pullet's egg; it is used as an anthelmintic.

P. igniarius, Chi, Ling-chi-ts'au, CHIN. Many sorts of fungi having some degree of luminosity in the dark, occur in China.—*Smith*, p. 175.

POLYRACHIS, a curious genus of ants in the eastern forests, armed with hooks, spines, points, and bristles. See Ants.

POLYSPORA AXILLARIS is very highly prized by the Chinese. It grows in the same situations with the Enkianthus reticulatus, flowers in February and March, about the time of their new year, and they bring the branches down from the hills in great quantities for the decoration of their houses.—*Fortune.*

POMACENTRUS, one of the gaudiest fish among the coral reefs; others are the Chetodon, the Balistinæ, and Glyphosodon. A Pomacentrus is of the richest azure blue; the Glyphosodon and Theropon are striped and banded.—*Colld.*

POMALI, in Timor Island, a form of the taboo.

POMEGRANATE, Punica granatum.

Rana ruman, . . ARAB.	Rumaas, ... PORT.
Ngan-shih-liu, . . CHIN.	Delunghidie, . . SINGH.
Rimnon, ... HEB.	Granadas, ... SP.
Anaar, Darim, . . HIND.	Madalum, . . . TAM.
Gangsalan, . . . JAV.	Dadima, ... TEL.
Dalima, . . . MALAY.	Nar, ... TURK.
Anaar, ... PERS.	

This shrub is common in the warmer parts of the temperate zone. Pomegranates when ripe are about the size of an orange, are covered with a hard, light-brown rind, and contain a reddish, seedy, juicy pulp. Dried pomegranates are said to be used for dyeing yellow; the rind is also a tanning substance. The pomegranate is grown throughout Southern Asia. In Kandahar, the fruit grows of large size, beautiful red colour, and of great lusciousness. There are six or seven sorts; those of Jalalabad are famous, the husk of the fruit is very acrid, and is used in dyeing, and in medicine an astringent; the root-bark has similar properties. Pomegranate peel, Shih-lui-pi, CHIN., is used in China as an astringent. Pomegranate seeds, Anardana, HIND., used in India medicinally. The root is an excellent vermifuge. The bark has been used in dyeing, and it is this which gives the colour to yellow morocco leather.

POMFRET, Stromateus argenteus.

Hulva mahi, . . . DUKH. | Vowal meen, . . TAM.

The pomfret fish is much valued by Europeans in India. S. argenteus, *Bloch*, the Madras white pomfret, is in abundance, and in excellence it vies with S. Sinensis. S. niger, the black pomfret, is taken abundantly along the coasts of India, and is largely dried for export to the interior. S.

Sinensis is par excellence the white pomfret of the Straits Settlements and Madras, and 'pample blanche' of Pondicherry. It is justly renowned for its flavour, but it requires to be used when freshly taken. In the Straits and on the Coromandel coast it is abundant at all seasons. At the Sandheads in the Bay of Bengal (lat. 21° N.) it occurs, but less numerously. Dr. Russell considered it very inferior to the black or S. niger, *Bloch.* It is very abundant on the Tavoy coast, and in a smooth sea may be seen deep in the water in great numbers, but they are very shy of the hook.—*Russell*, p. 34; *Mason*; *Ains. Mat. Med.*

POMFRET, BULL'S EYE, Holocentrus ruber, is eaten in Ceylon.

POMPONIUS MELA, who wrote De Situ Orbis, states that in the farthest east of Asia are the Indians, Seres, and Scythians. The Indians and Scythians occupy the two extremities, the Seres are in the middle.—*Yule, Cathay*, ii. p. 153.

PON. TAM. Gold, also a sum of money; and it is used in the sense of a pagoda. It may be the source of the term Hun.

PONAM. MALEAL. High land overrun with underwood.

PONANY, a river in Coimbatore, lat. 10° 19′ N.W., long. 77° 6′ W., flows into the Indian Ocean; length, 128 miles. Navigable for canoes as far as Palghat, 63 miles from the sea.

PONDICHERRY, on the Coromandel coast, the chief town of the French possessions in India, and residence of the Governor-General, is in lat. 11° 55′ 57″ N., long. 79° 52′ 33″ E.; population, 156,094. Pondicherry was founded by Martin in 1674, and afterwards became the seat of the French Government in India. It was taken by the Dutch in 1693, but it was restored at the peace of Ryswick. In 1748 the British besieged, and on 14th January 1760 Colonel Coote took it, to be restored in 1763. The British took it again, and restored it in 1783; again captured it in 1778, to be restored 1785; recaptured 1793, and restored 1816. It is surrounded by the Cuddalore taluk of South Arcot district, Madras. Pondicherry consists of three districts; that of Pondicherry is composed of the town and eleven villages, that of Villanur having forty-five villages, and that of Bahur thirty-six. The most important streams that run through the territory of Pondicherry are Ginji, which is fed by the Arincoupom and the Chonnambar rivers, and the other is the Ponnear.

PONDIGUL SLATE, a black monumental marble, procurable in any quantity at Pondigul.

PONERIDÆ. *Smith.* A family of ants of the order Hymenoptera, comprising the genera—

odontomachus, *Latr.*	pseudomyrma, *Gure.*
typhlopode, *Westw.*	atta, *St. Farg.*
myrmica, *Latr.*	pheidole, *Westw.*
ponera, *Latr.*	meranoplus, *Smith.*
crematogaster, *Land.*	cataulacus, *Smith.*

In the genus Ponera the neuters and females are armed with a sting. Dr. Jerdon mentions P. affinis, processionalis, pumila, rufipes, sculpta, stenochellos.

P. processionalis lives in the ground in very numerous societies; frequent in jungly districts. Occasionally a vast column of them, three or four deep, may be seen crossing a road, and the column can be traced for 40 and 50 yards. It stings very severely.

P. sculpta is the commonest ant in Malabar, from the level of the sea up to the top of the Neilgherries. It lives in the ground in small societies, often making its nest in a flower-pot, occasionally under a large stone. It does not work in concert, being generally seen solitary. It lives on animal substances, but apparently will also take vegetable matter, and fight for a ripe seed of the Lantana.

PONG, a once powerful dynasty of the Tai race, finally overthrown by Alompra in the middle of the 18th century. See Tai.

PONGAMIA, a genus of plants, mostly trees, of the order Leguminosæ, section Dalbergiæ. The following East Indian species are known:—

P. glabra, *Vent.*, British India, Burma.
P. marginata, *Grah.*, Khassya.
P. uliginosa, *D.C.*, Pen. India, Pen. Malacca, Bengal.
P. sericea, *Vent.*, Java.
P. heterocarpa, *Wall.*, Burma.
P. atropurpurea, *Wall.*, Burma.
P. ovalifolia, *W. and A.*, Peninsula of India.
P. elliptica, *Wight's Ic.*

PONGAMIA ATROPURPUREA. *Wall.* This is a very large tree, very common about Moulmein, abundant in the Tenasserim provinces, and though vastly inferior to a multitude of others, Wallich thought it of sufficient beauty to give it a place among his splendid engravings of rare Indian plants. Flower a beautiful purple. — *Mason*; *Malcolm's Tr.*

PONGAMIA GLABRA. *Vent.*

Galedupa Indica, *Roxb.*

Tha-wen, . . . BURM.	Sook-chain, . . . PANJ.
Kanuga, Kongay, . CAN.	Mogul karanda, . SINGH.
Karanj, ... HIND.	Pongam, ... TAM.
Papree, Paphri, KAMAON.	Kanuga, ... TEL.
Rara, ... KANGRA.	

This graceful tree grows all over India, attaining a height of 40 to 50 feet, and has beautifully varnished green leaves all the year round. It is excellent for avenues. The boughs and leaves are extensively used as a strong manure, for sugarcane especially. The wood is light, tough, and fibrous, coarse and even grained, of light yellowish-brown colour, not easily worked, nor giving a smooth surface; it is improved in strength and colour by being seasoned in water; a cubic foot unseasoned weighs 48 to 55 lbs., and 40 lbs. when seasoned; sp. gr. ·640. It is used for a variety of purposes, and the solid wheels of the Waddars' carts are often made of it. The bitter oil from the seeds is much used on the Bombay side in the manufacture of native felt, and has great curative powers in itch and mange. It solidifies at 55°, is of a pale brownish colour, has a slight smell, which becomes more evident in the darker coloured samples. It is used for burning in native lamps, and in large quantities for boiling with dammer to soften it for the seams and bottoms of ships. A maund of seeds costs 1½ rupees, and the extraction of the oil by heat costs 8 annas. The oil produced amounts to 6¾ seers per maund.—*Wight; Voigt; Gibson; Cleghorn; Beddome*, p. 23; *M. E. J. R.; Mr. Thomson; Powell; Gamble.*

PONGOL, the first day of the Tamil year, a Tamil festival, about the 11th January, when the sun enters Capricorn, and is the greatest of the unsectarian festivals of the Hindus. The Pongol is nothing else but the pagan feast for the birth of Mithras. The last presents the allegory of the regeneration of the sun, and that of Pongol is for the return of this planet. The renewal of the

solar year has been always celebrated with great solemnity among all nations. It is the Sankranti or Maha Sankranti of other Hindus. The festivity lasts three days, during which the Hindus employ themselves somewhat in the same manner as the Europeans do on the first day of the year. To the Hindus the feast of the Pongol is a season of rejoicing, for two special reasons. The first is, that the month of Magha, *i.e.* December—January, every day in which is unlucky, is now over; and the other, that it is succeeded by a month, each day of which is lucky. For the purpose of averting the evil effect of the baleful month of Magha, about four o'clock in the morning the Sanyasi ascetics go from door to door of every house, beating on a plate of iron or copper, which produces a piercing sound. All who sleep, being thus roused, are counselled to take wise precautions, and to guard against the evil presages of the month, by expiatory offerings and sacrifices to Siva, who presides over it. With this view, early morning, the women scour a space of about 2 feet square before the door of the house, upon which they draw several white lines with flowers, and upon these they place several little balls of cow-dung, sticking in each a citron blossom. These little balls are probably designed to represent Vighneswara, the remover of obstacles, whom they desire to propitiate with the flowers. Each day these little lumps of cow-dung, with their flowers, are picked up and preserved in a private place, till the last day of the month Magha, and then that comes, the women, who are alone charged with this ceremony, put the whole in a basket, and march from the house, with musical instruments before them, clapping their hands, till they reach some waste place, where they dispose of the relics. Then, with the first day of the new month begins the festival, the first day of which is called the Bhogi Pongol, *i.e.* Indra's Pongol, and it is kept by inviting the near relations to an entertainment, which passes off with hilarity and mirth. The second day is called Surya Pongol, *i.e.* Pongol of the sun, because it is set apart in honour of the sun. Married women, after purifying themselves by bathing, which they perform by plunging into the water without taking off their clothes, and coming out all wet, set about boiling rice with milk in the open air, and when it begins to simmer, they make a loud cry, all at once repeating the words Pongol! Pongol! it boils! it boils! The vessel is then lifted off the fire, and set before the idol Vighneswara, which is placed close by, and, after having been offered to the image, part of the rice is given to the cow, and the remainder distributed among the people. This is the great day of visits among the Hindus. The salutation begins with the question, 'Has the milk boiled?' to which the answer is, 'It has boiled;' and from this the festival takes its name Pongol, *i.e.* boiling. The third day is called the Madu Pongol of cows. On it they mix, in a great vessel filled with water, some saffron, cotton seeds, and leaves of the margosa tree; and then, going several times round all the cows and oxen belonging to the house, they sprinkle them with the water, as they turn to the four cardinal points; and make the Hasht-anga, or prostration of the eight members, before them four times. This ceremony is performed by the men only. Next, the cows are all dressed out, their horns being painted with various colours, and garlands of flowers and foliage put round their necks and over their backs. They likewise add strings of cocoanuts and other fruits, which are soon shaken off by the brisk motion of the animals which these trappings occasion, and are picked up by children and others, who follow the cattle on purpose, and eagerly eat what they gather, as something sacred. The cattle then, being driven in herds through the villages, and made to scamper about from side to side by the jarring noise of many sounding instruments, are during the remainder of the day allowed to feed at large without a keeper, and whatever trespass they commit is suffered to pass without notice or restraint. At the conclusion of the festival, they take the idols from the temples, and carry them in pomp to the place where the cattle have been collected. The Deva-dasa singing girls of the temple are also present. On the eve of the celebration of the festival, houses are cleaned, broken roofs are repaired, the rude external decorations of the walls are painted afresh, and the sacred signs of the Vaishnava are carefully picked out above the threshold. The potter plies his wheel incessantly, for every Hindu house must be furnished with new utensils. The rice-man is busy with cadjan and style, buying up new grain from needy cultivators, for in every house new rice only may be used. Parents who during the past year have given a daughter in marriage, and seen her settled in her new house, send her large quantities of grain, fruits, and household stuffs, that the Pongol may be kept without touching the small capital of the young couple.—*Garrett.* See Pola.

PONNI-AMMAN, a local goddess, worshipped at Madras for protection against cholera. In Tamil the name means golden mother.

PONTEDERACEÆ, a natural order of plants, natives exclusively of North and South America, the East Indies, and tropical Africa. Some of the species of Pontedera are employed by Indian practitioners in liver complaints and diseases of the stomach. Rubbed down in butter and drank, they are said to remove redness of the eyes; powdered and mixed with sugar, to relieve asthma; and when chewed, to remove toothache; brayed with milk, some are administered in fever and some eaten as pot herbs. Roxburgh describes P. dilatata, hastata, plantaginea, sagittata, and vaginalis.—*Roxb.*

POOAH or Poee is the Kienki fibre of the Lepchi, and the Yenki of the Limboo. It is the Urtica frutescens, *Thunberg;* grows in Nepal to the height of 6 or 8 feet. Its fibre, when properly dressed, is quite equal to the best flax of Europe, being used for fishing-nets, game-bags, twine, and ropes; is considered well adapted for making cloth and canvas, has great strength, and endures wet well. It is cultivated, but grows wild and abundantly in the valleys throughout the mountains of Eastern Nepal and Sikkim, at the foot of the hills striking the Terai, to the elevation of 1000 to 1200 feet, and within the mountains up to 3000 feet. It does not grow in the forest, but is chiefly found in open clear places, and in some situations overruns the abandoned fields of the hill people, within the elevations which suit it. It sheds its leaves in the winter, throws them out in April and May, and flowers and seeds in August and

September, the exact period altering of necessity with the elevation. D. Don described from Nepal, Boehmeria frondosa, macrophylla, platyphylla, and ternifolia; also B. salicifolia, from the Himalaya and Moluccas. B. interrupta, *Willde.*, is the lal bichuti of Bengal; and B. Hamiltoniana, Malabarica, nivea, rugulosa, and Travancorica occur.—*Voigt; Royle*, p. 368. See Boehmeria; Fibrous Plants.

POOD or Poot, a Russian weight = 35¾ lbs.

POOEY or Pway. BURM. A theatrical performance. It has a full orchestra, the patshaing or drum harmonicon, a circular tub-like frame about 30 inches high and 4½ feet in diameter, and with 18 or 20 drums fastened around it. The Burmese amusements are boat and horse races, the pooey drama, music, cock-fighting, gambling, boxing, football.

POON, Puhn, or Peon, a commercial term, derived from the Malay language, but applied by natives of India and Europeans to the timber of several distinct trees used for masts and spars. Dr. Roxburgh says, Calophyllum angustifolium, a native of Penang and of countries eastward of the Bay of Bengal, yields the straight spars commonly called Poon, which in those countries are used for the masts of ships, and Drs. Gibson and Cleghorn were also of this opinion. It occurs in Penang, Coorg, Mysore, Canara, and along the ghats northwards to Sawuntwari, but rarely of any great size beyond the line of the Nilcoond ghat. It is a magnificent tree when growing in the ravines of the southern ghats of Canara. In habit and appearance, Dr. Gibson says, it is totally distinct from C. inophyllum. At the Madras Exhibition of 1855, Dr. Cleghorn in the Jury Reports, noticing Sterculia fœtida as a large tree in Mysore and the western coast of the Peninsula, adds that it is one of the trees believed to furnish the smaller poon spars, and Major Drury, in Useful Plants, repeats this. Calophyllum inophyllum grows in the western parts of Ceylon, where it is employed for the masts and cross sticks of Yettra dhonies and fishing-boats and poles of bullock carts. A cubic foot of it, there, weighs 40 lbs. In the alpine forests it attains a great size, and furnishes the poon spars so valuable for shipping. The weight of a cubic foot of the following poon trees is stated as under:—

Calophyllum inophyllum, 26–45 lbs.	C. tomentosum, 32–38 lbs.
C. polyanthum, 38–44 ,,	C. Wightianum, . 45 ,,
C. spectabile, . 38–39 ,,	Dillenia pentagyna, 45–70,,
	Sterculia fœtida, . 28 ,,

The impossibility at present of tracing the particular trees noticed by Edye under his description of the poon of commerce, reduces the value of his observations.

POONA, a town and military cantonment in the Dekhan, which gives its name to a revenue district, lying between lat. 17° 54′ and 19° 23′ N., and between long. 73° 24′ and 75° 13′ E., with an area of 5348 square miles; population in 1881 was 900,621. It is above the ghats, and about 119 miles south-east from Bombay. The provinces of Aurangabad and Bijapur are arranged into two divisions, termed the Poona and the Southern districts, the latter with its headquarters at Belgaum. From July to November, Poona city is the seat of the Government of Bombay. It is in lat. 18° 30′ 23″ N., long. 73° 55′ 33″ E., and is about 1840 feet above the sea. The annual fall of rain is 25 inches, the mean temperature is from 55° to 96°, and the rock is greenstone and greenstone amygdaloid. One of the finest views of the city and the surrounding country is to be obtained from the fort of Parbattiah, once a Mahratta stronghold, now famed for its Hindu temple. The approach leads through a shady avenue of tamarind, mango, and cocoanut trees, to a small lake with an island, clothed with fruit trees to the very margin of the calm and glassy water, in which are reflected the broad leaves of the plantain and palm, festooned with a woodbine-like creeper. This place, until the year 1817, was the city in which the Peshwa rulers of the Mahrattas resided. A battle was fought there between the British and the Peshwa on the 16th November 1817, and the city was taken on the 19th November. The population of the city in 1872 was 90,437. The cultivators are chiefly Kunbi and Mali; the Brahmans are numerous, the Muhammadans in the district about 40,000, Parsees 1263, and Jews 281. The predatory tribes are the Ramusi, Bhil, and Koli, and the menials are the Dher, Mhair, and Mhang.

POONAC. TAM. A name for the cake left after expressing the oil from the cocoanut pulp. It is used as manure and for feeding stock.

POONAMALLEE, a military station 13 miles due west of Madras. An old fort stands about 400 yards east of the barracks, and the pettah is on the S.E.

POOREE, a town and district of the province of Orissa. The town is in lat. 19° 48′ 17″ N., long. 85° 51′ 39″ E. It is 250 miles S.W. from Calcutta, and 595 miles N. of Madras. Pooree town is celebrated for its famed temple of Jaganath. It stands on a low, sandy, hilly ridge. It has a population of 22,695. The great pagoda at the S. of the town is 180 feet high.

POPE, Pape, Papst, Papa, FR., GER., IT., SW., is the title of the religious sovereign of the Romish sect of Christians. The whole number of Popes from St. Peter to Pius IX. is 257. Of these, 82 are venerated as saints, 33 having been martyred; 104 have been Romans, and 103 natives of other parts of Italy; 15 Frenchmen, 9 Greeks, 7 Germans, 5 Asiatics, 3 Africans, 3 Spaniards, 2 Dalmatians, 1 Hebrew, 1 Thracian, 1 Dutchman, 1 Portuguese, 1 Candiot, and 1 Englishman. The name most commonly borne has been John; the 23d was a Neapolitan, raised to the chair in 1410. Nine pontiffs have reigned less than 1 month, thirty less than 1 year, and eleven more than 20 years. Only five have occupied the pontifical chair over 23 years. These are, St. Peter, who was Supreme Pastor 25 years 2 months 7 days; Silvester I., 23 years 10 months 27 days; Hadrian I., 23 years 10 months 17 days; Pius VI., 24 years 8 months 14 days; Pius IX., who celebrated his 25th year in the pontifical chair, June 16th, 1871. Alexander VI., Pope of Rome, on the 4th May 1493, arranged the world into two hemispheres, and decreed that all lands discovered in the eastern half should belong to the Portuguese, all in the western half to the Spaniards. In a treaty between Spain and Portugal, dated 7th June 1494, the demarcation line was drawn 370 leagues west of the Cape de Verde Islands.

POPHAM, SIR HOME. A naval officer of the British service, employed in 1802 as ambassador to the States of Arabia.

POPLAR.

Poppeltræ,	Dan.	Populus,	Lat.
Popelier,	Dut.	Choupo, Alemo,	Port.
Peuplier,	Fr.	Asina,	Rus.
Pappel, Pappelhaum,	Ger.	Alamo,	Sp.
Pioppa,	It.	Poppeltrad,	Sw.

Trees of the Populus genus of plants grow in Europe and in the colder parts of S. Asia. The aspen, P. tremula, is found in the valley of the Yang-tze and other parts of China. The Euphrates poplar, P. Euphratica, grows in the Panjab, as also does P. alba, the white poplar; the balsam poplar, or P. balsamifera; the Himalayan poplar, P. ciliata; the Italian poplar, P. nigra. See Pŏpulus.

POPPY, Papaver somniferum.

Khas-khas,	Arab.	Chasa chasa,	Sansk.
Pasto,	Beng.	Apayanam,	,,
Yang-tsze-suh,	Chin.		

The poppy is cultivated in Europe, Egypt, Central Africa, Asia Minor, Persia, in British India, and in China, for its products, viz. the opium or concrete juice, its capsules or poppy heads, the seed, and poppy seed oil; but of these opium is by far the most important, bringing to British India an annual revenue of six or seven millions sterling. The plant on its growth is liable to be attacked by several insects.

Opium is obtained from the poppy in Asia Minor, Egypt, Persia, S.E. of Asia, and in China. It is used as a narcotic and soporific, and morphia and other drugs are prepared from it. In medicine the capsules are employed in fomentations for inflamed surfaces, and a syrup is prepared from them to allay cough, etc. In Upper India an intoxicating liquor is prepared by heating the capsules of the poppy with jagari and water.

The seeds yield by expression about 50 per cent. of a bland and very valuable oil, of a pale golden colour, fluid to within 10° of the freezing point of water. It dries easily, is inodorous, of agreeable flavour, and partially soluble in alcohol. By exposure to the rays of the sun in shallow vessels, the oil is rendered perfectly colourless. It is expressed in India by the common stone mill. Poppy seed is eaten by the natives made into sweetmeats, provided the opium has been extracted from the seed-vessel, otherwise it is bitter and narcotic, and under these circumstances the oil extracted is also bitter. The oil is used for cooking and burning. Poppy seed is being largely exported from India, chiefly to France and Great Britain.

	Cwt.	Rs.		Cwt.	Rs.
1874-75,	402,296	22,12,589	1878-79,	249,072	16,60,749
1875-76,	253,326	13,54,194	1879-80,	530,382	37,51,347
1876-77,	351,133	18,43,647	1880-81,	579,544	39,76,254
1877-78,	449,394	26,45,257	1881-82,	603,289	39,04,065

See Chandoo; Opium; Papaver.

POPULATION OF THE EARTH. The estimates must be little better than guesses for Africa. For this continent Dr. Rohlfs maintains that an estimate of 100 millions is quite enough, while Behm and Wagner retain the old figure of 200 millions with considerable hesitation. For China, the most varied estimates have been given, from 200 to 500 millions; and Behm and Wagner have come to the conclusion that hitherto there have been over-estimations of the population of this vast empire; so that, instead of a population of 434½ millions (including Corea), they reduce it to 379½ millions.

According to the latest data, the following are the areas and populations of the various continents, with the number of inhabitants per square kilometre:—

	Sq. Kilo.	Population.	No. per sq. Kilo.
Europe,	9,730,576	327,743,400	34
Asia,	44,580,850	795,591,000	18
Africa,	29,823,253	205,823,200	7
America,	38,473,138	100,415,400	2·6
Australia & Polynesia,	8,952,855	4,232,000	0·5
Polar Regions,	4,478,200	82,500	—
Total,	136,033,872	1,433,887,500	10·5

Europe, its area and populations.—Germany, 1880, 540,496 sq. kil., 45,234,061 inhabitants; Austria, 1880, 299,984 sq. kil., 22,144,244 inhabitants; Hungary, 1880, 322,628 sq. kil., 13,695,184 inhabitants; Holland, 1880, 32,999 sq. kil., 4,060,580 inhabitants (estimate); Luxemburg, 1880, 2587 sq. kil., 209,570 inhabitants; Belgium, 1879 (estimate), 5,536,654 inhabitants; Great Britain and Ireland, 1881, 314,951 sq. kil., 35,246,562 inhabitants; Switzerland, 1880, 413,390 sq. kil., 2,846,102 inhabitants; France, 1881, 528,571 sq. kil., 37,321,186 inhabitants; Spain, 1877, 508,093 sq. kil., 16,625,860 inhabitants; Portugal, 1878 (including Azores and Madeira), 92,828 sq. kil., 4,550,699 inhabitants; Italy, 1881, 288,539 sq. kil., 28,452,639 inhabitants; Greece, 1882 (estimate), 64,688 sq. kil., 1,979,423 inhabitants; Roumania, 1881, 129,947 sq. kil. (estimate), 5,376,000 inhabitants (official); Servia, 1881 (estimate), 48,582 sq. kil., 1880 (estimate), 1,700,211 inhabitants; Montenegro, 1882 (estimate) 9030 sq. kil., 236,000 inhabitants (official estimate). Turkey—I. Immediate Possessions, 1882 (estimate), 165,438 sq. kil., 4,490,000 inhabitants; East Roumelia, 1880, 35,901 sq. kil., 815,513 inhabitants; Bulgaria, 1881, 63,865 sq. kil., 1,998,983 inhabitants; Bosnia, Herzegovina, and Novi Bazar, 1879, 61,065 sq. kil., 1,326,453 inhabitants. Including the tributary island of Samos, the area of the Turkish possessions in Asia is 1,899,069 sq. kil. and the population 16,357,000. Thus the total area of Turkey in Europe and Asia is 2,225,445 sq. kil. and population 24,987,000. Denmark, 1880, 38,440 sq. kil., 1,969,039 inhabitants (Faroes, 1333 and 11,220, Iceland, 104,785 and 72,438, Greenland, 88,100 and 10,000, Danish Antilles, 358 and 33,763),—total Danish kingdom, 233,000 sq. kil., 2,096,400 inhabitants; Sweden, 1880, 450,574 sq. kil., 4,565,668 inhabitants; Norway, 1880, 325,422 sq. kil., 1,913,500 inhabitants; Russia, 1879, 5,427,124 sq. kil., 83,626,590 inhabitants, whereof European Russia has 4,888,713 sq. kil. and 74,493,809 inhabitants, Poland 127,310 and 7,104,760, Finland 373,603 and 2,028,021, Sea of Azof 37,496 sq. kil. Russia in Asia has had changes of boundary between Russia and China in Kuldja and in the Black Irtysh; the formal annexation of the Tekke-Turkoman region; the adjustment of the boundary between Russia and Persia in the Trans-Caspian region. The general result for Russia in Asia is as follows:—The Caucasus, 472,666 sq. kil., 5,546,554 inhabitants; Trans-Caspian territory, 327,068 sq. kil., 203,000 inhabitants; Siberia, 12,495,109 sq. kil., 3,911,200 inhabitants; Central Asia, 3,017,760 sq. kil., 5,036,000 inhabitants. Asiatic Russia has thus an area of 16,312,604 square kilometres and a population of 14,696,750; adding to this the figures for Russia in Europe, we have the total area of the Russian Empire as 21,739,728 square

kilometres, and the population 98,323,000. For the independent Turkoman region, Behm and Wagner give an area of 206,500 sq. kil. and a population of 450,000; for Khiva, 57,800 sq. kil. and 700,000 inhabitants (the estimate of 1873); and Bokhara (including Shignan, Roshan, Karategin, etc.), 239,000 sq. kil. and 2,130,000 inhabitants.

Arabia, 3,156,600 sq. kil. (including Sinai and the Syrian Desert) and 5,000,000 inhabitants; of this, an area of 2,507,390, with a population of 3,700,000, is independent of Turkey.

Persia.—Area is given as 1,647,070 sq. kil.; the population on an estimate by General Schindler in 1881, is given as 7,653,000.

Afghanistan.—Area, 721,664 sq. kil., and a population of 4,000,000 (including Wakhan, Badakhshan, Kunduz, Chalum, Balkh, Maemana, and Herat).

Kafiristan has an area of 51,687 sq. kil., and Behm and Wagner accept Major Raverty's estimate of 100,000 families, or 500,000 inhabitants.

The figures, then, are — for China proper, 4,024,690 sq. kil. and 350 million inhabitants; and for the tributaries of Manchuria, Mongolia, Tibet, Zangaria, and East Turkestan, 7,531,074 sq. kil. and 21,180,000 inhabitants,—in all, for the Chinese Empire, 11,555,764 sq. kil. and 371,200,000 inhabitants. With regard to Corea, the area is stated as 236,784 sq. kil. As to its population, the most varied estimates have been given—from 7½ millions to 15 millions; Messrs. Behm and Wagner estimate 8½ millions.

The area of Japan, 1881, and its dependencies (the Kuriles, Loo-Choo, and Benin Islands) 382,447 sq. kil., and the population 36,357,212.

The total area ruled by Britain in India, including Tributary States and Further India, is 1,457,244 square miles (3,774,193 sq. kil.), and the population 252,541,210.

Nepal, Bhutan, etc., States.—The area of 234,000 sq. kil. is given, and a population of 3,300,000; French possessions, 508 sq. kil., population (1879) 276,649; Portuguese possessions, 3355 sq. kil., population (1877) 444,987; Ceylon, 24,702 sq. miles (63,976 sq. kil.), and the population (1878) 2,606,930.

In Further India — British Burma, 229,351 sq. kil., 3,707,646 inhabitants; Manipur, 19,675 and 126,000; people east and south of Assam, 65,500 and 200,000; Burma, 457,000 and 4,000,000; Siam, 726,850 and 5,750,000; Annam, 140,500 and 21,000,000; French Cochin-China, 59,456 and 1,597,013; Cambodia, 83,861 and 890,000; Independent Malacca, 81,500 and 300,000; Straits Settlements, 3742 and 390,000.

Islands.—Andamans, 6497 sq. kil. and 14,500 inhabitants; Nicobars, 1772 sq. kil. and 5500 inhabitants; Sunda Islands and Moluccas, 1,693,757 sq. kil. and 28,867,000 inhabitants; Philippines, 296,182 sq. kil. and 6,300,000 inhabitants. Dutch possessions (including New Guinea and the Papuan Islands), 1,462,400 sq. kil., 27,962,000 inhabitants. For the British territory of North Borneo an area of 57,000 sq. kil. is given, and a population of 150,000.

For Australasia the census figures of 1881 are as follows for population:—New South Wales, 751,468; Victoria, 62,346; Queensland, 213,525; South Australia, 279,865; West Australia, 31,000. Total — Australia, 2,138,200, or, with 55,000 natives, 2,193,200; Tasmania, 115,705; New Zealand, 489,933.

To New Guinea an area of 785,362 sq. kil. is assigned (or, with the neighbouring islands, 807,956), and a population of 500,000. Of Oceanic Islands, the Society Islands (Tahiti, Moorea, etc.), the Tuamotu and Gambier groups, and other Pacific islands, have been annexed by France, and Rotumah has been taken over by Britain. For Fiji, the population at the end of 1880 is given—121,884. Melanesia, 145,855 sq. kil., 617,400 inhabitants; Polynesia, 9791 and 121,500; Sandwich Islands, 17,008 and 57,985; Micronesia, 3530 and 91,600. Total—Oceania, 176,184 sq. kil. and 888,500 inhabitants.

Morocco is given 812,332 sq. kil. and 6,140,000 inhabitants. Recent changes in the administrative divisions are noticed, and the total area given is 667,065 sq. kil., with 2,867,626 inhabitants (1877). For 1880, the area of the Civil Territory stands at 73,835 sq. kil., and its population 1,882,124. Tunis, under French protection, has an area of 116,348 sq. kil. and population 2,100,000. Tripoli, Fezzan, and Barka have an area of 1,033,349 sq. kil., and a population of 1,010,000. The Sahara, outside the Mediterranean and Soudan States, is credited with an area of 6,180,426 sq. kil., and a population of 2½ millions.

Egypt proper has now an area of 935,275 sq. kil., and a population of 5,583,774; adding to this the Libyan Oases and the Egyptian Soudan, the whole of the territory under the Khedive covers an area of 2,986,900 sq. kil., with a population of 16,400,000. For the States of Central Soudan (Wadai, Baghirmi, Bornu, Kanem, Socota, etc.), there is the total area 1,714,984 sq. kil., with a population of 31,500,000. For the French possessions in Senegambia, the population is given as 192,924 for 1879; but this does not include the extensive territory in the Upper Niger brought under French protection in 1881. For Sierra Leone the population of the census of 1881 is given — 60,546; Lagos (1881), 75,270; Gold Coast (1872), 408,070. Liberia is given an area of 37,200 sq. kil., and a population of 1,050,000, of whom, however, only 18,000 can certainly be regarded as civilised. For Abyssinia 333,280 sq. kil. and 3,000,000 inhabitants are given; while Galla and Somali Lands have an area of 1,897,000 sq. kil., and a population of 15½ millions. All the countries in the region of the Great Lakes are classed together as the Equatorial Regions; those north of the equator having an area of 2,254,980 sq. kil. and a population of 27,000,000, and those south of the equator 1,717,900 sq. kil. and 20,000,000 inhabitants.

In S. Africa, the Portuguese possessions on the west coast are given as 809,400 sq. kil. and the population 9,000,000, and on the east coast 991,150 sq. kil. and only 1,000,000 inhabitants. The independent States in South Africa are Muata Janvo's kingdom, Kasongo's, Marute Mabunda, Matabele Land, Swasi Land, Orampo Land, etc., the total area being stated as 6,255,082 and the population 16,296,350.

The figures for British South Africa are:—Cape Colony, 199,950 square miles, 780,757 inhabitants (1880); Basutoland, 9720 and 128,176 (1875); West Griqualand, 17,491 and 45,277 (1875); Transkei, 15,573 and 409,944; Natal, 18,750 and 364,338 (1880);—total, 261,484 square miles, 1,728,492 inhabitants.

Transvaal is estimated at 285,363 sq. kil. and

the population (1881) 816,960, of whom 40,000 are white. The calculated area of the Orange Free State is 107,439 sq. kil.; the population of 1880 was 133,518, of whom 61,022 were white.

The African islands area in the Atlantic is 15,801 sq. kil. and the population 572,600; in the Indian Ocean, 610,141 sq. kil. and 4,330,000 inhabitants.

America.—Its areas and populations of 1881 are—Ontario, 107,780 sq. miles and 1,923,228 inhabitants; Quebec, 193,355 and 1,359,027; New Brunswick, 27,322 and 321,233; Nova Scotia and Cape Breton, 21,731 and 440,572; Manitoba, 150,000 and 65,954; Prince Edward Island, 2173 and 108,891; British Columbia, 355,999 and 49,459; Territories, 2,346,983 and 56,446;—total, 3,205,343 sq. miles and 4,324,810 inhabitants. Newfoundland has an area of 42,734 sq. miles, and population in 1881, 181,753. The French possessions in North America (St. Pierre, Ile-aux-Chiens, and Miguelon) have an area of 235 sq. kil. and a population (1879) of 5224. The total area is stated at 3,602,990 sq. miles, and the total population 50,442,066.

For Mexico the area is 1,945,471 sq. kil.; the population is stated to be 9,577,279.

For the Central American States the figures are —Guatemala, 121,140 sq. kil., 1,252,497 inhabitants (1881); Honduras, 120,480 and 350,000; British Honduras, 19,585 and 24,710; Salvador, 18,720 and 554,785 (1878); Nicaragua, 133,800 and 300,000 (1877); Costa Rica, 51,760 and 185,000 (1874); Panama State, 81,[illegible] and 224,600 (1870);—total, 54[illegible]7,308 sq. kil. and 2,891,600 inhabitants.

[illegible] total area of the West India Islands is 244,478 sq. kil., and the population (mostly that of 1879–81) 4,617,450. The British possessions have an area of 34,500 sq. kil. and a population of 1,206,522. Guiana is divided as follows:—French, 121,413 sq. kil. and 36,000 inhabitants (1879); Dutch, 119,321 and 63,525 (1879); British, 221,243 and 248,110 (1879). Against other South American States are the following figures:—Venezuela, 1,137,615 sq. kil., 2,675,245 inhabitants (1881); Colombia, 830,670 and 3,000,000; Ecuador, 643,295 and 946,033, besides 200,000 wild Indians; Peru, 1,119,941 and (1876) 3,050,000; Bolivia (without considering probable results of recent war), 1,297,255 and 2,325,000; Chili (including results of recent division of Patagonia and Tierra del Fuego between Chili and the Argentine Republic), 537,187 and 2,420,500; Argentine Republic, 2,835,969 and 2,540,000 (1880); Uruguay (1880), 186,920 and 438,245; Paraguay, 238,290 and 293,844; Brazil, 8,337,218 and 11,108,291.—*Times.*

POPULUS ALBA. *Linn.* White poplar.

Rikkan, CHEN., KANGRA.	Chita bagnu, . JHELUM.
Prasti, Sannan, ,,	Fras, Jangli frast, KANGRA.
Chanuni, . . . ,,	Mal, . SUTLEJ, KANAWAR.
Safeda, Baid, . HIND.	Spelda, Sperda, TR.-INDUS.

The white poplar is found in the Sutlej valley between Rampur and Sungnam. It grows to a considerable size in parts of the basins of the Jhelum and Chenab, and is occasional on the Sutlej, ranging from 4000 to 8500 feet, reaching 9000 in Tibet. Trees of 6 and even 8 feet in girth and 50 or occasionally 70 in height are seen, but they are mostly considerably smaller than these sizes. The tree is also common, planted, in parts at least of Afghanistan (Thomson); is not uncommon, planted, at Peshawur, and grows at Lahore. The tree grows to a large size in Pangi, and is used for roofing in Ladakh and Lahul. It is propagated by cuttings. The timber is white and soft, but not strong or durable, and is not valued. In Afghanistan it (with perhaps that of P. fastigiata) is used for manufacturing the round boxes in which grapes are exported to India.

POPULUS BALSAMIFERA. *Linn.*

Yarpa, ... CHENAB.	Berfa, Makal, . LADAKH.
Balsam poplar, . . ENG.	Maal, Changma, . PANGI.

On the Chenab river, both Populus balsamifera, 'yarpa,' and P. nigra are planted near villages, but in much smaller numbers than the willow. Dr. Stewart says P. balsamifera is common, planted in Lahul at 9000 to 10,000 feet, and in Ladakh up to 14,000 feet, in Spiti to 12,500 feet. Aitchison mentions that in Lahul it is never cut, as it is supposed to be the abode of the dewa (deity), and festivals are held under some of the finer specimens, which reach 50 feet in height. In Ladakh they reach 60 or 70 feet, and Dr. Stewart had there noted a plank of the wood 2½ feet broad, and seen one tree of 9 feet girth.

POPULUS CILIATA. *Wall.*

Chalonwa, BEAS, SUTLEJ.	Bagnu, Phalja, . JHELUM.
Rikkan, Ban-frastu, CHEN.	Sulali, Dudfras, KANGRA.
Flassu, Chanun, Pabe, ,,	Palach, Falah, . PANJAB.
Pahari pipal, . HIND.	Phalja, . . . ,,
Safeda, ... ,,	Chalon, Tallon, Falsh, RAVI.
Shawa, . . JHELUM.	Kramali, . . . SUTLEJ.

This grows in the Sutlej valley between Rampur and Sungnam at an elevation of 6000 feet. It is common wild in the Panjab Himalaya up to the Indus at from 4000 to 10,000 feet; occasionally reaching 10 feet in girth, and, from its leaves resembling those of the pipal, Ficus religiosa, is frequently called by that name by men from the plains. The wood is soft and not valued, but is used for water-troughs, and in Hazara occasionally for gun-stocks. In some places the leaves are given as fodder. There is a plentiful floss round the seeds, the coma of which has at times been recommended for paper-making, etc.

POPULUS EUPHRATICA. *Oliv.*

Hodung, Hotung, LADAKH.	Bahan, PUSH., SUT.-T.-IND.
Bhan, Labhan, . PUSHTU.	Safeda, Sperawan, ,,

The tree of the banks of Euphrates, has been found by Griffith, Stocks, and others on the banks of the Chenab and Indus, in Sind and Multan, also at intervals along the valley of the Indus, within the mountains, but it appears to be far from common there, and to confine itself to hot, sandy places. In several parts of Nubra it is common enough, but only, so far as Dr. Thomson observed, on the south side of the Shayuk. It is thus remarkable for its extended distribution. This is also remarkable for the very changeable shape of its leaves, which vary from broadly deltoid and coarsely toothed to narrow linear and quite entire. The leaves of the full-grown tree are generally broad and much toothed, while young plants have very narrow leaves; the shoots of pollard plants, which are common, the tree being much used for fuel, are also narrow. The wood being white (and so not flesh-coloured) is preferred for constructive purposes by Hindus, and for the same reason the twigs are used by this them as tooth-sticks. They are exported for that

purpose. In Sind and Hyderabad lacquered work-boxes are made of it, and it is used in turnery. The wood is rarely used for boats in Sind, but is said to be largely so employed on the Euphrates. It is also employed for fuel in the south (in part even for steamers, although from its lightness it is not very suitable); and in parts of Tibet, where it grows up to 10,500 feet, it furnishes much firewood. In Sind the bark is given as a vermifuge, and the liber is employed as a gun-match. It is common in clumps on the Sutlej bank, but does not grow large, and is generally crooked. It flowers in February, and throws up root-shoots with great rapidity. The wood is objected to for steam fuel, owing to the great emission of sparks, which endanger the awnings.

POPULUS NIGRA. *Linn.*

Var. P. pyramidalis.

Frast, Prast, Farsh, CHEN.	Changma, . . LADAKH.
Mokhal, Paskhu, . ,,	Yarpa, Yulatt, . ,,
Italian poplar, . . ENG.	Kabool, Kaool, . ,,
Safeda, . . . HIND.	Kramali Biuns, . SUTLEJ.

This tree is commonly planted in Kashmir, on the Chenab, at from 3000 to 11,500 feet, and on the Sutlej and in Ladakh to 13,300 feet. It is common in Afghanistan, grows luxuriantly in Kash[illegible]ir, where trees with 6 to 12 feet of girth, and [illegible]m 90 to 100 feet high, are to be seen; a spirit is distilled from the bark.

POPULUS SPINOSA. *Smith.* Yan-yang-hoh, CHIN. A plant of China, leaves medicinal.

POPULUS TREMULA. *Smith.* Fu'i, CHIN.; Aspen, ENG. Grows in the valley of the Yang-tze. A tree like P. tremula, the aspen, has been received from Lahul.—*Stewart's Panjab Plants; Powell's Panjab; Cleghorn's Panjab Report; Thomson's Trav. W. Himalaya*, pp. 189, 207; *Gamble; Smith's Mat. Med.*

PORACCHI, in his Isolario, published at Padua in 1570, gives an account of the inhabitants of Batech, which Sir J. E. Tennant surmises to be Batticaloa. He describes them as being constantly at war with their neighbours, eating the flesh of their prisoners, and selling their scalps at high prices.—*Tennant's Ceylon.*

PORAMBOK. TAM. Uncultivable land; in the Madras Presidency are 23,964,160 acres. Ayacut, arable land; of this in Madras Presidency 14,183,329 acres are not occupied or not cultivated, and 27,516,511 are under crops.

PORBANDAR, the chief town of a Native State of same name in the Political Agency of Kattyawar, Bombay. Area, 535 square miles, with 103 villages; population (1872), 72,077. Porbandar is built on a creek of the sea, on the S.W. coast of Gujerat. The inhabitants carry on a brisk trade with Bombay, Sind, and Malabar.—*Imp. Gaz.; Pottinger's Tr.* p. 8.

PORCELAIN.

Tse-ki, ... CHIN.	Cheni-kam, GUJ., HIND.
Porcelaine, . . . FR.	Porcellana, . . . IT.
Porzelan, ... GER.	Porcelana, . . . SP.

Very fine earthenware, white, semi-transparent, and sometimes beautifully coloured and gilt. Chinese porcelain of an exceedingly fine texture has long been renowned; but British porcelain, although unable to boast of such fine specimens of costly workmanship, has risen to be a matter of great importance. Dresden has long been famous for the beauty of its porcelain productions; but the finest and most magnificent work of European ware has been produced at Sevres in France. The name was given by the Portuguese to the semi-transparent cups they saw on their arrival in China, from their resemblance to the lustrous nacre of sea-shells or porcellana, for they supposed it to be a composition of egg-shells, fish-glue, and scales. In China, kao-lin, quartz, and soapstone are ingredients used in the manufacture.

Kao-lin or Kau-ling, *i.e.* high ridge, the name of a hill near Jau-chau-fu, is obtained from the disintegrated granite in that region, and is nearly pure felspar; by slow decomposition the alkali and part of the silex is removed and water imbibed. An analysis of the clay used in Europe shows the constituents to be—Silica, 43; alumine, 36; water, 19; and a trace of magnesia and carbonate of lime.

The Pe-tun-tse or Peh-tun-tsz of China is nearly pure quartz, and the best of the Chinese is brought from Hwui-chau in Ngan-hwui, but is procurable elsewhere; it is reduced to an impalpable powder by toilsome processes, and formed into cakes to sell to the manufacturers.

Steatite or soapstone, called Hawh-shih, is also employed, and some forms of carbonate and sulphate of lime, which are mixed in to produce an inferior article, though still among the best now manufactured; the soapstone ware is more brittle than the other, but fine, white, and very light. The proportions of the ingredients vary according to the desired fineness of the ware.

Coloured Ware of China.—After the paste or biscuit is formed into the required shape, the dishes are painted by workmen, each of whom takes a single colour and a single part of the picture. The whole surface of the dish is sometimes covered with gay figures, but the most common decorations consist of heroes, statesmen, etc., in different attitudes and costumes, and sentences beautifully written referring to them and their times. Most of the inscriptions and figures seen upon mantelpiece ornaments, teacups, and jars are of this nature, explaining some event in the life, or a panegyric upon the personage there represented; this affords an opportunity for persons to show their scholarship in explaining the quotation. The colours used on the fine porcelain have long been admired; and Des Guignes, who made many endeavours to procure samples of them and ascertain the mode of mixing them, has given the composition of some of the principal colours; but at present there is probably little to learn from them in this branch. After the workmen have finished the painting, the pieces are covered with a liquid mixture of alkali, obtained from burning ferns with the quartzose Pe-tun-tse, after which they are baked. The best articles are surrounded with a case lined with sand, in order to protect them from the flame; and as the furnaces are only about six or eight feet square, the closest attention can be paid to the condition of the ware, and the exact time ascertained for reducing the heat and opening the kiln. Some of the pieces brought from the interior are perfectly white, and the patterns are afterwards painted and fixed on them according to the fancy of the customer. The finest specimens are from the kilns of King-teh-chin in Kiang-si.

Black China-ware, the Ow-mi-ew, ornamented with gold, is very much prized in China. To make this ware they mix three ounces of azure and

seven of the oil of stones; this is laid on the ware, and when perfectly dry it is baked, after which the gold is laid on, and the vessel is re-baked.

Cracked porcelain.—The To-wi-kie China-ware is highly prized under the cognomen of cracked porcelain. It is prepared simply by varnishing the vessels with a whitish ash-coloured varnish, made from calcined transparent white pebbles. This has the property of marbling and veining the ware, and giving it an appearance as if it had been fractured into many pieces, which had been carefully reunited.

Chinese red colour, used in the porcelain painting, is made from Taow-fau, or copperas. Their mode of perparation is by putting a pound of copperas into a crucible, over which another crucible is luted, having a small hole in it, which is lightly covered over; around these they pile charcoal, and enclose the whole within bricks, when they fire the charcoal, and as soon as the fumes issuing from the aperture in the crucible become of a light colour, a small quantity of the copperas is taken therefrom, laid upon fir-wood, and moistened with water; if the colour then prove to be a bright red, they remove the fire, if not, they allow the copperas to remain subjected to the heat until it assumes that colour, and then remove the fire. When the crucibles are cool, a cake is found in the lower one, but the finest colour is encrusted on its sides and on the bottom of the upper crucible, which is kept separate from the cake; the pound of copperas produces about four ounces of colour.

Chinese white colour, also used in painting porcelain, is made from calcined transparent flint, to an ounce of the powder of which they add an equal quantity of white lead.

Chinese green, a beautiful colour, is prepared with one part of powdered calcined flint, two parts of white lead, and six parts of the scales of well-hammered copper.

Chinese violet is produced by adding an additional quantity of the prepared white to the green.

Chinese yellow is made by combining equal portions of prepared white and red.

All these various colours are used by the China-ware painters, having been previously dissolved in gum-water, to which they occasionally add saltpetre, copperas, or white lead. The colours are laid on after the first baking and varnishing of the China-ware, but the beauty and depth of the colouring is imperceptible until after the second baking.—*Williams' Middle Kingdom*, ii. p. 116.

See Ceramic Manufactures; Earthenware; Pottery.

PORCUPINE.

Saru, ...	BENG.	Porco spinaso, . .	IT.
Porc-épic, ...	FR.	Salendra, . . .	MAHR.
Stachelschwein, .	GER.	Puerco espin, . .	SP.
Sagri, ...	GUJ.	Yeddu pindi, . .	TEL.
Sarsel, ...	HIND.		

Porcupine, in Europe, Asia, and Africa, is a name of several species of the genera Hystrix and Atherura, and, in America, of genera of the group Cercolabinæ or Philodendreæ more or less arboreal. In British India, the species are known as the Indian porcupine, the Bengal porcupine, the crestless porcupine, and the Malay porcupine; the crested porcupine belongs to Europe, and the African porcupine is the H. Africæ-Australis, *Peters*. Of Ceylon porcupines, Dr. Kelaart is quite certain of Hystrix leucura, *Sykes* (H. Kirautirostris). Mr. Blyth compared it with Waterhouse's description, and it quite corresponds; so that H. Zeylonensis makes a second species of the genus in Ceylon. He terms it H. etava. In Ceylon the porcupine is destructive to the young cocoanut palms, to which it is a pernicious and persevering, but withal so crafty, a visitor, that it is with difficulty any trap can be so disguised, or any bait made so alluring, as to lead to its capture. The usual expedient in Ceylon is to place some of its favourite food at the extremity of a trench, so narrow as to prevent the porcupine turning, whilst the direction of his quills effectually bars his retreat backwards. On a newly-planted cocoanut tope at Hang-welle, within a few miles of Colombo, Sir J. E. Tennant had heard of as many as twenty-seven being thus captured in a single night; but such success is rare. The more ordinary expedient is to smoke them out by burning straw at the apertures of their burrows. At Ootacamund, spring-guns have been used with great success, placing them so as to sweep the runs of the porcupines. A planter on the Neilgherries recommends that a single-barrel pistol be procured and an iron rat-trap; the pistol must be placed so that on being discharged the shot will sweep the gap or entrance. In this position it must be firmly fastened. The trap is then to be set, the compressed spring let in between the trigger and trigger guard of the piece, and tied to a peg; then a string blackened with ink attached to the plate of the trap is stretched loosely along the gun and across the gap, and fastened,—so that nothing can pass in without touching it. As the cord is loose, the animal in entering gets well opposite the gun before it tightens and springs the trap, the piece having been placed on full-cock is of course fired by the rising of the trap-spring. A pistol is much better than a gun, because the latter has to be set horizontally, in which case it is very liable to miss or only wound the animal it is set for; a pistol can be placed vertically, in which case it cannot but hit anything passing through the gap under it. The flesh is esteemed a delicacy in Ceylon, and in consistency, colour, and flavour it very much resembles young pork.

Atherura fasciculata, the Malay porcupine, is found on the Tiperah Hills, and thence southwards to the Malay Peninsula. It has a much larger tail than the true porcupines, ending in a tuft of long bristles. The spines of the back are less elongated.

Hystrix Bengalensis, Blyth, Bengal porcupine, is the H. Malabarica, *Sclater*, and is found in Travancore, Cochin, S. Malabar, Bengal, Assam, and Arakan. Length, head and body 28 inches, tail 8 inches. In Malabar its flesh is more esteemed than that of the common variety.

Hystrix leucura, Sykes, Indian porcupine.

H. hirsuti-rostris, *Brandt.*	H. cristata Indica, *Gray, Hard.*
H. Zeylanensis, *Blyth.*	
Sajru, ... BENG.	Sarsel, ... HIND.
Yed, ... CAN.	Salendra, . . . MAHR.
Hoigu, ... GOND.	Dumsi, . . . NEPAL.
Say, Sahi, Sayal, HIND.	Yeddu pandi, . . TEL.

Found over all India from the Himalaya to Cape Cormorin, except in Bengal. It is 32 inches long, and its tail is seven inches. They charge

backwards on their foes, and dogs often get seriously injured. The flesh is good eating.

Hystrix longicauda, *Mars.*, Crestless porcupine.

H. alophus, *Hodgson.*	Acanthion Javanicum, *Cuv.*
H. Hodgsonii, *Gray.*	
Sathung, . . . Lepcha.	Achotia dumsi, . Nepal.
O'e, ... Limbu.	

This inhabits Nepal and Sikkim and southwards into Burma, Malayana, and the Archipelago. They are mischievous, rooting up the tuberous roots sown in the gardens; they breed in confinement; their flesh is good. They measure 22 to 24 inches from snout to vent, and stand about 8 inches high.—*Tennant's Ceylon*, p. 45; *Jerdon's Mammals; Beng. As. Soc. Journ.*, August 1847.

PORCUPINE ANT-EATER of Australia, the Echidna hystrix, called also the native porcupine or hedgehog. It is nocturnal, generally sleeping during the day, and burrowing actively at night.

PORPHYRY, a crystalline rock containing crystals of minerals. Porphyry quarries were known to the ancients as existing in Egypt. At the mountain called Jabl Dekhan, the Mons-Porphyritis, their colours are green, purple, and red. Porphyries of various kinds occur in many parts of British India, but are not utilized. Felspar of a granular texture, without crystals imbedded is claystone; with imbedded crystals of felspar it is porphyry. Hornblende mixed with uncrystallized felspar makes some greenstones; with imbedded crystals of felspar this becomes greenstone-porphyry. Hence by this mode of designation we have pitchstone-porphyry, greenstone-porphyry, basaltic-porphyry, felspar-porphyry. Among volcanic rocks, porphyritic trachytes are common. Greenstone porphyry occurs near Secunderabad; porphyritic granite from the upheaved range of isolated rocks at Burmonee, 8 miles N. of Sasseram, and 10 miles from the nearest hills of the Rohtas range.

PORPOISES. This class of mammals of the family Delphinidæ belongs to the Cetacea order.

Order, Cetacea, The whale tribe.

Cetæ, *Auctorum.*	Mutalata, *Owen.*

Fam. Delphinidæ, Porpoises.

Delphinus perniger, *Ell.*, *Blyth*, Bay of Bengal.
D. plumbeus, *Dussumier*, Malabar coast.
D. eurynome, *Gray*; Bengal Bay.
D. godama, Bengal Bay.
D. sandama, *Owen*, Bengal Bay.
D. lentiginosus, *Owen*, Bengal Bay.
D. maculiventer, *Owen*, Bengal Bay.
D. fusiformis, *Owen*, Bengal Bay.
D. pomeegra, *Owen*, Bengal Bay.
Steno frontatus, *Cuvier*, Bengal Bay.
S. attenuatus, *Gray*, Bengal Bay.
Neomeris phocœnoides, *Duss.*, Bengal Bay.
Platanista Gangetica, *Jerd.* This is Delphinus rostratus, *Shaw*, *Hardw.*

Susu, Sishuk, . Beng.	Susa, Sons, . . Hind.
Gangetic porpoise, . Eng.	Sisumar, . . . Sansk.

Ganges, Jumna, Gogra, Brahmaputra.
Platanista Indi, *Blyth*, porpoise of River Indus.
Globiocephalus Indicus, *Blyth*, Indian Ca'ing whale, Bay of Bengal.
Catodon macrocephalus, *Blyth*, Bay of Bengal, near Ceylon.

Fam. Balenidæ or Whales.

Balænoptera Indica, *Blyth*, Indian fin whale, of Bay of Bengal, Indian Ocean.
Balæna mysticetus, Greenland whale, Northern Seas.
B. Japonica, Japan whale, of Japan and Northern Seas.
B. Australis of the South Seas.
B. antarctica of the South Seas.
Physeter simus, *Owen*, Euphysetes simus, Bay of Bengal.
Phocæna brevirostris, Bengal Bay.

Sub-Order, *Sirenia, Herbivorous Cetacea.*

Halicore dugong, *Jerd.*, Dugong; Duyang trichechus, *Erxl.*, *Bly.*, *F. Cuv.*

H. cetacea, *Illiger.*	H. Indica, *Desmarest.*
Talla Maha, . . .	Singh.

Ceylon, Andamans, Malayana, Singapore, Marine lagoons of Malabar.
Halicore tabernaculi, *Ruppell*, Red Sea.
H. Australis, Australia.

See Cetacea.—*Jerdon, Mammals*, p. 15.

PORTAX PICTUS. *Jerdon.* The Nil-Gai.

Antilope picta, *Pallas.*	Tragelaphus hippelaphus, *Ogilby.*
A. tragocamelus, *Pall.*	
Damalis risia, *Sm.*, *Elliot.*	
Maravi, ... Can.	Rojh, Nil, Lil, Hin., Mahr.
Gurayi, Guriya, Gond.	Manu-potu, . . . Tel.
Ru-i, Roz, Hind., Mahr.	

The Nil-Gai belongs to the sub-family Antilopinæ and family Bovidæ. It is found throughout India from near the foot of the Himalaya to the extreme south of Mysore, but is most abundant in Central India and in the country between the Jumna and the Ganges. It does not occur in Ceylon or Assam, or in the countries east of Bengal. The male is 6½ to 7 feet long; at the shoulder, 4¼ to 4½ feet high; horns, 8 to 10 inches; and tail, 18 to 21 inches long. The male is of an iron-grey colour, lower parts white, head and limbs tinged with sepia brown. It frequents forests and low jungles, and associates in small herds of 7 to 20. It can be tamed, but is apt to be vicious at times. It was probably the Hippelaphus of Aristotle. It is comparatively rare, and is becoming more so every day. The country people are apt to confound it with the Sambur; but the localities frequented by the two animals are totally different. The Sambur is impatient of heat, and requires shade and deep cover; the Nil-Gai is indifferent to the sun at noon, and in the open plains it requires a good horse and a long run to come up with it. The Nil-Gai drops on its knees to feed, and attacks and defends itself by butting with the head. The Sambur, on the other hand, never kneels, and when irritated rises on its hind legs, and strikes with the forefeet. In Gujerat the Nil-Gai is found in the open, grassy plains; the herd marches in a line, the bull leading with 8 or 10 cows following. —*Jerdon's Mammals*, p. 273.

PORT BLAIR, the chief settlement in Ross Island, one of the Andamans.

PORT CANNING, a harbour 28 miles from Calcutta, at the Mutlah creek. About a million sterling was expended up to 1868, and a railway was formed, but it was not successful. The object was to avoid the perilous navigation of the Hoogly.

PORTER, Sir ROBERT KER, author of Travels in Georgia, Persia, Armenia, Ancient Babylonia, etc., in 1817–20, London 1821.

PORTO NOVO, a seaport town on the Coromandel coast in the South Arcot district, on the north side of the Vellaur river, in lat. 11° 29′ 25″ N.; and long. 79° 48′ 13″ E. It is famed in the history of South India for the complete victory Colonel Coote won near it at Metapolliam, on the 1st July 1781. Coote, repulsed by Hyder Ali in an attempt on Chellumbrum, was falling back on Cuddalore via Porto Novo, when his force of 7878 men was intercepted by Hyder's army, 60,000 strong. Porto Novo has never recovered the devastating effects of Hyder Ali's

invasion of the Carnatic in 1780. The Danes and the Dutch had each a factory here. In the early part of the nineteenth century large iron-works were established here, but did not prove remunerative.

PORTS. The following are the more important of those on the southern shores of British India:—Aden, Akyab, Alepi, Balasor, Bassein, Beypur, Bimlipatam, Bombay, Calcutta, Calicut, Cambay, Cannanore, Chittagong, Cocanada, Cochin, Coompta, Coringa, Dholera, Diamond Harbour, Gogo, Honawar, Kalingapatam, Kalyan, Karachi, Karwar, Madras, Mangalore, Masulipatam, Moulmein, Negapatam, Panwell, Ponani, Porbandar, Port Blair, Port Canning, Porto Novo, Quilon, Rangoon, Ratnagiri, Sadashighar, Sonmiani, Surat, Trombay, Tuticorin, Vingorlu, Viziadrug.

PORT SAID owes its origin in Egypt to the Suez Canal. It lies at the western extremity of an island, which belongs to the narrow strip of land separating Lake Menzaleh from the Mediterranean. The port occupies an area of 570 acres, and has been excavated to a depth of 26 feet by dredging. It is protected by two massive piers, the eastern running for a mile out into the sea, and the western for 1½ miles. The harbour is exposed to the risk of being choked up with the Nile mud, which is swept along the coast by a current flowing from the west. Both piers are constructed of blocks of artificial stone, each block weighing 20 tons. Population, about 9000, the French element preponderating. The inner harbour consists of three sheltered basins. The lighthouse, 164 feet in height, is one of the largest in the world.

PORTUGAL, a kingdom in Europe, with possessions in South-East Asia. It occupies the south-western portion of the Spanish Peninsula, and is situated between lat. 36° 55′ and 42° 6′, and between the 7th and 10th degrees of W. long. Greatest breadth, about 150 English miles, and greatest length about 355. The population in 1878 was 4,550,692, besides 2 millions in the colonies, and with a public revenue of about 4 millions; its army 32,000, and a navy of 45 ships. Since the end of the 15th century, it has held possessions along the E. and W. coasts of Africa and in the south of Asia from the Cape of Good Hope to Japan, and from A.D. 1500 to 1610 they controlled the whole commerce of all these eastern seas. Putting out of sight their great possessions in South America, they would appear at different times to have held the following places in the Indian Ocean:—

On the *east coast of Africa*, Melinda, Quiloa, Querimba, Sofala, Mozambique, and Mombas (expelled A.D. 1615).

In *Arabia*, Aden and Muscat (expelled by the Arabs A.D. 1648).

In *Persia*, Bussora and Ormuz.

In *India*, Diul or Dewal and Tatta on the Indus, Bandel, Diu, Daman, Assarem, Danu, St. Genes, Agaciam, Chaoul, Dabul, Bassein, Salsette, Mahim, Bombay, Tanna, Caranja, Goa, Onoro (Honore), Barcelore, Mangalore, Calicut, Cranganore, Cochin, Quilon; on the east coast of India, Negapatam, Maliapur, St. Thomé, Masulipatam, and several other places on the Coromandel coast and Bengal.

In *Ceylon*, Manaar, Point de Galle, Colombo, Jafnapatam, and other places.

In *Further India*, Malacca, with factories at Pegu, Martaban, Junkseylon, and other places.

In the *Chinese Seas* and *Pacific*, Macao and the island of Formosa.

At the present day the Portuguese retain the coast of Eastern Africa between Delagoa Bay and Cape Dalgado. In India, Goa, Daman, and Diu, with a population under half a million souls, and in the far east, Macao in the China Sea, is their sole remaining possession. They settled there in 1557, and until 1848 paid for it a rent of 500 taels. The Portuguese mode of government and that of the Spaniards has been throughout based on the policy of establishing their religion and social views along with their political power. In Goa, conversions are now infrequent, the large body of European and Native clergy being more employed in parochial than in missionary work. But in India they surrounded themselves with partisans and converts, and made themselves a nation, and in the south of India they had at one time attained to great success. Their converts took the surnames of their leading rulers, and the names of many of the sixteen Portuguese captains-general have been handed down amongst the Roman Catholics of the Peninsula, where the names of de Souza, Pereira, Menezes, Albuquerque, Almeida, de Mello, Mascarenhas, de Castro, are everywhere met with. To the Portuguese is due the honour of discovering practically the sea route to India by the Cape of Good Hope. Prince Henry the navigator (1394–1460), son of King John the Great of Portugal, had devoted his life to maritime and astronomical studies, and continued till his death to believe in the possibility of sailing eastwards.

Pedro de Covilham and Alfonso de Payva were ordered by King John II. of Portugal to travel overland to India, in order to obtain information regarding the commerce of the eastern seas. They set out from Portugal in 1487, and proceeded by Naples, Rhodes, Alexandria, and Cairo to Tor, on the Red Sea. There they heard of the great trade with Aden and Calicut. From Aden, Payva went into Abyssinia; but Covilham sailed in an Arab vessel to Cannanore, and thence to Calicut and Goa. He was the first Portuguese who reached India. He returned by Sofala to Egypt, where he met the Rabbi Abraham of Beja and Joseph of Lemago, two messengers who had been sent by King John II. to inquire after his progress, and from them he learned the death of Payva. He sent a message to the king by them, to the effect that a ship coasting Guinea southwards would certainly round to the Eastern Ocean. Covilham then returned to Aden, and on to Ormuz and Abyssinia, where he was detained a prisoner until A.D. 1526. His information was acted on.

In 1444, the Portuguese had obtained from the Pope an ordinance bestowing on them the sovereignty over all the lands which had till then been discovered by them, and all that should be discovered as far as the Indies. And immediately after the discovery of America by Columbus, the Pope, by an edict of 4th May 1493, while confirming the king of Spain in the sovereignty of America, and strictly prohibiting all others from touching at any port 100 (afterwards 250) leagues westward of the Azores, declared that the Portuguese were to possess all eastwards of that line. Accordingly, on the 8th of July 1497,

an expedition, commanded by Vasco da Gama, sailed from the Tagus for India. The expedition was not in favour with the people, but King Emanuel, who in 1495 had succeeded John II., was determined to prosecute the project of Prince Henry. Prince Henry had been the Grand Master of the Order of Christ, and his hopes had been as much for the conversion of the heathen as for the extension of the commerce and dominion of his nation. It was in this spirit that the future acts of the Portuguese were, and continue to be, regulated; while the British, who at the present day hold sway over many places once dominated by the Portuguese, have followed the system of non-interference in religious and social matters. For when Cabral, in March 1500, left the Tagus in command of the second expedition, the sum of his instructions was to begin with preaching, and if that failed to proceed to the sharp determination of the sword. In the 16th century, they carried on a piratical crusade against every Muhammadan ship they could find, but their final ruin was brought about by Philip II. of Spain forbidding the Portuguese to continue commercial intercourse with the Dutch. Vasco da Gama rounded the Cape of Good Hope, and saw the east coast of Africa, on the 22d November 1497, and reached Calicut on the 20th May 1498.

A second expedition, consisting of thirteen ships and twelve hundred soldiers, under the command of Cabral, was despatched in 1500. On his outward voyage, Cabral was driven by stress of weather to the coast of Brazil. Ultimately he reached Calicut.

In 1502, Vasco da Gama sailed a second time to the east, with a fleet numbering twenty vessels. He formed an alliance with the rajas of Cochin and Cannanore against the Zamorin of Calicut, and bombarded the latter in his palace.

In A.D. 1504, nine ships sailed from Lisbon in three equal squadrons, under the respective commands of Alfonso de Albuquerque, of Francisco Albuquerque, and of Antonio Saldanho; the last was to cruise in the mouth of the Red Sea, the others were to proceed directly to India. Francisco Albuquerque arrived first, and made a considerable addition to his squadron in consequence of having fallen in with some of the ships belonging to Vincent Sodre. For some reason not explained, the two Albuquerques set sail for Europe, leaving only Duarte Pacheco, with 110 men, for the defence of Cochin. Pacheco was superseded in command by the arrival of Lopez Soarez, with a fleet of 13 ships of larger dimensions than had ever before been built in Portugal, and Soarez, after destroying Calicut and Cranganore and the Zamorin's fleet of 17 large vessels, provided with cannon, and carrying 4000 men, leaving four ships at the fort of Cochin, set sail for Europe with the remainder.

The next Indian armament sent from Portugal consisted of 22 ships, carrying in addition to the crew 1500 fighting men, under the command of Don Francisco Almeyda, who bore for the first time the proud title of the Viceroy of India. His arrival in India took place in 1507.

His son fell in a battle fought A.D. 1507 against the combined fleets of Cambaya (Gujerat), the Egyptian fleet (of 12 ships), and those of the Zamorin, off or at Choul, 23 miles south of Bombay,—the Portuguese loss being, according to their own account, 81 men, while according to Ferishta no fewer than 3000 or 4000 Portuguese infidels were sent to the infernal regions.

Successive armaments on a great scale quitted Lisbon for the east. One of these, under Tristan da Cunha, consisted of 13 vessels and 1300 fighting men, cir. A.D. 1508. Another of 12 vessels, under Alfonso Albuquerque, after performing several exploits on the African coast, and effectually crippling the trade between India and the Red Sea, continued along the coast of Arabia, and, after capturing Muscat and several other places of minor importance, entered the Persian Gulf. He proceeded to attack Ormuz, but after a partial success was obliged to depart and proceed to Socotra. Returning thence, he was about to resume the siege of Ormuz, when he received intelligence that he had been appointed viceroy, and thereon proceeded to India. But, on arriving there, Almeyda refused to resign to him the insignia of office, and Albuquerque had to proceed under his command in the fleet that after destroying Dabul defeated the Turkish and Gujerat fleets. Returning thereafter to Cochin, he persisted in retaining the viceroyship, and sent Albuquerque as a prisoner to the fort of Cannanore, but eventually, A.D. 1510, resigned. Albuquerque, now (3d January 1510) fully installed, proceeded to attack Calicut, the greater part of which was laid in ruins. Proceeding to Goa, the city was at first voluntarily surrendered, but on an army sent by Eusuf Adil Shah appearing before it some four months subsequently, Albuquerque had to evacuate the place. He returned in the course of the year, and took Goa by storm, and shortly after declared his intention to make it the capital of Portuguese India.

On the 2d May 1511, he set sail from Cochin for Malacca, of which he took triumphant possession.

On the 18th February 1513, he appeared with a fleet of 20 sail before Aden. Failing to capture it, he proceeded into the Red Sea, and after remaining for some time at the island of Kameran, again passed through the Straits of Bab-ul-Mandab, and returned to India.

In March 1514, he made a third attempt on Ormuz, and succeeded in completely establishing the Portuguese supremacy there. In the two following years the Portuguese power was more firmly seated than before or since.

But on receiving intelligence that he was no longer viceroy, summarily dismissed to make way for his mortal enemy, Lopez Soarez, grief killed him on the 16th December 1515. He was buried at Goa, but in 1566 his remains were transported to Lisbon.

Soarez reduced Aden, took and burned Zeila, but failed in attack on Jeddah. In 1517 he made the king of Colombo tributary, and burned Berberah on the Somali coast.

In 1524, Vasco da Gama came out to the east for the third time, and he too died at Cochin in 1527.

In 1529, the towns of Bassein and Tanna were subjected. During 1530 to 1532, Surat, Gogo, Pati, Mangarole, and most of the other towns on the coast of Gujerat, were destroyed by the Portuguese. In 1532, Aden again became tributary. In 1534, Bassein was ceded to them. In 1538, St. Francis Xavier was sent to Goa to convert

the nations, and from there to Japan his success was unparalleled. From that time the Portuguese power in India rapidly decayed.

In Further India and China their progress was similarly brilliant, but temporary. At Malacca, 200 soldiers of Portugal utterly routed 15,000 natives, with artillery. In 1578, Malacca was again besieged by the king of Acheen, but the small Portuguese garrison destroyed 10,000 of his men, and all his cannon and junks. Twice again, in 1615, and for the last time in 1628, it was besieged, and on each occasion the Achinese were repulsed.

In China they made no progress, although they visited it twice during the reign of Ching-tih (1506–1522). In 1514, Raphael Perestralo, and a few years later, 1517, Don Fernand Perez d'Andrade, landed at Canton. Both these officers were well received by the mandarins at Canton, and d'Andrade was allowed to go to Pekin, where he remained as ambassador of Portugal, until a buccaneering fleet, commanded by his countrymen, committed such depradations on the coast that he was held to have been vicariously guilty of piracy, and, after having suffered imprisonment at the hands of Ching-tih, he was executed by order of the succeeding emperor, Kia-tsing.

The Dutch nation first came to the Eastern Archipelago as the servants of the Portuguese.

Ceylon was occupied by the Portuguese in 1596. Portuguese finally quitted Ceylon on the 24th June 1658, and were carried prisoners by the Dutch to Batavia. Portuguese and Mahrattas were at war in the early part of the 18th century. The war originated in the contest between members of the family of the Angria of Colaba, A.D. 1737. It ended in the loss of the Portuguese possessions of Salsette, Bassein, and the neighbouring parts of the Konkan, A.D. 1739. The Mahrattas admitted that they lost 5000 killed and wounded at the siege of Bassein.

The successes of the Portuguese along a coast line of 12,000 miles, from the Cape of Good Hope to the islands of the Archipelago, were to a large extent owing to the towns which they took having never before been attacked from the sea. But the names of the handful of brave and great men who for a short time were supreme on the seaboard, will be found under their respective letters.

Pedro de Covilham and Alfonso de Payva, 1487.
Bartholomew Diaz.
Vasco da Gama, 1497–1527.
Alvarez Cabral, 1500.
Alfonso de Albuquerque, 1504–16th December 1515.
Francisco Albuquerque and Antonio Saldanho.
Duarte Pacheco.
Don Francisco d'Almeyda, 1505–1508.
Sequiera, 1509.
D'Abreu, 1511.
Lopez Soarez de Albergaria, 1517.
Raphael Perestralo, 1506–1522.
Don Ferdinand Perez d'Andrade, 1507.
Diego Diaz.

—*Sir G. Birdwood; Beveridge, India; Bikmore's Tr.* p. 22; *Elphinstone; Findlay; Sir George Campbell; Hunter, Imp. Gaz.*

PORTUGUESE MAN-OF-WAR. Sea nettle, ENG.; Galere, FR. The Portuguese man-of-war, one of the Acalephæ, is the Holothuria physalis, *Linn.*, the Physalia pelagica, *Lam.*, also Ph. careivella, and Ph. utriculus. It has an inflated vesicle or bladder, glowing in delicate crimson tints, which rises over and floats upon the waves, whilst the long tentaculæ, of a deep purple colour, extend beneath as snares for capturing its prey. The bladder is generally supposed to collapse in tempestuous weather, but Dr. Bennett says it always remains inflated. The tentaculæ sting.—*Bennett*, p. 5.

PORTULACA OLERACEA. *Linn.* Purslane.

Baklat-ul-hakima,	ARAB.	Kari chira, . .	MALEAL.
Buro, Lunia, . .	BENG.	Turuk, Khurfah,	PERS.
Mya-byeet, . .	BURM.	Lonika, Lunia, .	SANSK.
Dooda-gorai, . .	CAN.	Genda-kola, . .	SINGH.
Ma-ch'i-hien, . .	CHIN.	Paropoo-kiray, .	TAM.
Kulfa, Lunia, . .	HIND.	Karil-kiray, Cori-kiray,	,,
Lunak, Lunyan, .	,,	Pedda pael kura,	TEL.
Kurfa, Khursa, .	,,	Boddu-pavili kura,	,,
Moncha, Kundar,	,,	Ganga pavili kura,	,,

This is a common weed in India, and eaten by the Hindus, but cultivated by the market gardeners; used as a spinach, and in curries; almost tasteless; acts as a refrigerant and alterative in scurvy and liver disease. Seeds said to be vermifuge; in Cochin-China the seed is considered emollient and diuretic; considered by natives cool and dry, also aperient. Useful in disorders of mucous membrane, difficulty of breathing, and fevers.—*Ainslie; Roxb.; O'Sh.; Jaffrey; Powell.*

PORTULACA QUADRIFIDA. *L.*
Portulaca meridiana, *Linn.*
Illecebrum verticulatum, *Burm., Rheed.*

Baklat-ul-mobarik,	ARAB.	Limak, Kaksha,	PANJAB.
Nuniya, . . .	BENG.	Oopadyki, . .	SANSK.
Chowli, Choli, .	DUKH.	Posserie, Passelie,	TAM.
Choroli, . . .	,,	Sanpel, Batsali, .	TEL.
Creeping purslane,	ENG.	Goddu pavili, .	,,
Nila chira, .	MALEAL.	Pedda pavili, .	,,

A small troublesome weed with fleshy leaves, used as greens; common everywhere. Fresh leaves, bruised, are prescribed as an external application in erysipelas, and an infusion given in dysuria.—*Roxb.; O'Sh.; Jaffrey; Stewart.*

PORTULACARIA AFRA is the Spekboom of the Cape of Good Hope, said to be the favourite food of the elephant. It is one of the numerous forms which confer a peculiar physiognomy on the vegetation of the colony.

PORUS was of the race of the Puru or Paurava kings, to which in the time of Alexander two princely races belonged. They were the first purely Indian race known to Europe. Colonel Tod derives the name from Puar, once the most powerful and conspicuous tribe in India; classically written Pramara, the dynasty which ruled at Ujjain for ages. The Porus who ruled in the direction of Hastinapura offered a determined resistance to Alexander, with 4000 horse and 30,000 foot of the Kshatriya tribe. He was sovereign of the country near the Jhelum, and opposed Alexander's attempt to cross that river. Alexander drew up his troops at a bend of the river, 14 miles west of the modern Chillianwalla, and crossed during a stormy night. The chariots of Porus stuck in the muddy bank of the river, his elephants refused to face the Greeks, and, turning round, trampled down his soldiers. The son of Porus fell early in the battle, and Porus was wounded and fled, but afterwards yielded to Alexander, and aided him. Alexander built Bukephala, near the modern Jalalpur, on the west bank of the Jhelum; and Nikæa, the present Mong, was on the east bank, on the site of his victory over Porus. Bukephala was named after Alexander's charger, which was killed in the battle.

The dominions of Porus were all situated between the Hydaspes (Jhelum) and Ascesines (Chenab), and his immediate neighbours were independent of him, and mostly at war with him. On the north, his territory extended to the woods under the mountains, but it did not include the whole country between the Hydaspes and Ascesines, for besides other tribes there were the Glaucanicæ or Glaussæ, who had 37 large cities, whom Alexander put under Porus. On the east, between the Ascesines and Hydraotes, he had another Porus who was his bitter enemy. To the S.E. of him were the Cathæi and other independent nations, against whom he assisted Alexander. To the south were the Malli, against whom Porus and Abissares had once led their combined forces, with those of many others, and had been defeated. His western boundary was the Hydaspes. Beyond that river, in the centre, was his mortal enemy Taxiles, on the north of whose dominions was Abissares, an independent prince, whom Arrian calls king of the mountain Indians; and on the south, Sopithes, another independent sovereign, in whose territories the Salt Range lay. In the time of Augustus Cæsar, a letter in Greek praying for assistance was received at Rome from a king of this name on the Indus. See Chandragupta; Hindu Kama.

POSA of Assam, black-mail.

POSHKHUR, a holy lake in Malwa. See Palliwal.

POSHM-WANLOO, a wandering Teling tribe of mendicants on the banks of the Bhimah, who move about with a small temple with an idol called Poch-amma, the small-pox goddess.

POST. HIND. Poppy capsules; also a narcotic liquor prepared by boiling the capsules in water with jagari; also the rind of any fruit, the bark of any tree, and the skin of any animal.

POSTANS, CAPTAIN T., Bombay army, was Political Agent in Upper Sind from 1839 to 1842. He was author of an Account of Sind, translated from Persian historians in Bl. As. Trans. vii. p. 297; Account of Jain Temple at Badrasir, and Ruins of Bodra Nagri in Cutch, ibid. p. 431; Account of Girnar, ibid. p. 865; on the Rivers Nile and Indus, Lond. As. Trans. vii. p. 273; Personal Observations in Sind; Route through Cutch, etc., Lond. Geo. Trans., 1844; Memoir on Shikarpur, Bl. As. Trans., 1841; Trade in Cutch, Bhooj, with Africa, Bom. Geo. Trans. i. p. 169; Report on the Munchar Lake, and Aral and Narra Rivers, ibid. iii. p. 122; on the Kamphatir of Dawodhar in Cutch, Lond. As. Trans. v. p. 263; Account of the Temple of Somnauth. Mrs. Postans wrote on Cutch and Western India, London 1839.—*Dr. Buist.*

POSTIN, a body coat, a fur cloak or coat, a sheepskin coat or vest, much worn in Afghanistan. The sheepskin is prepared with the wool on. After being curried, and the wool cleaned with soap and combed, the skin is stretched on boards by means of nails at the corners, with the inner surface uppermost. This is daily, four or five times, smeared over with a thin moist paste, composed of equal parts of fine wheaten and rice flour, with which is mixed a little finely powdered salt. It is then cleared of the paste, again washed and scraped, and laid out in the open air to dry, and again put on the stretcher, and has rubbed on it a tanning mixture of pomegranate rind, alum, and red ochre, or alum alone. It is then allowed to dry for a few days; the tanning mixture is then scraped off, and the skin firmly rubbed with a wooden roller, and it is rendered soft and pliant by crumpling it between the hands, shaking and beating it with thin twigs. It is one of the most important of the industrial occupations of the people of Kandahar, Ghazni, and Kābul, and of late years has been largely increased for export to the Panjab, where the native army of British India had adopted it as a winter dress; also to Peshawur.

Coats are made by the tailor cutting the skin in strips of 24 inches long, and 4 or 5 inches wide, and stitching these together. Three kinds of coats are made,—the postincha, short and without arms, and the postaki, which reaches to the knees, and has long sleeves, for which five or six skins are needed; also the postin, which are very large, loose, cumbrous cloaks, reaching from head to feet, with long, wide sleeves reaching beyond the fingers. They cost from 1 to 50 rupees, and the woolly side is worn next the body, which harbours vermin. Khosai poshto are cloaks made in Kandahar of white felt, worn by the Afghan peasants.—*MacGregor*, p. 48; *Burton's Scinde*, ii. p. 40.

POTADAR. MAHR. A money-changer.

POTAIL. In the village system of the Mahratta countries, the potail is the chief magistrate of the village. There are often two to four potails in a village, not always of the same caste; for instance, the village of Khanpur, zillah of Nandair, has four potails, two Mahratta, a Canarese-speaking Lingaet, and a Kulkarga. There are a few Brahman and Muhammadan and Pariah potails, but a Christian potail is unknown. In the Canarese-speaking country, the village head is called Goura or Gouda.

POTALA, a great Buddhist monastery at Lhassa. See Tibet.

POTAMOGETON CRISPUS. *Linn.* Sawal and Chusbal, LADAKH. Not uncommon in the Panjab, and apparently abundant at 9000 to 11,000 feet in Ladakh. It is probably one of those plants used in refining sugar here as elsewhere. In Ladakh it is used as fodder.—*Stewart's Pan. Pl.* p. 241.

POTAMOGETON TUBEROSUS. *Roxb.* Found immersed in extensive masses in ponds, lakes, and receptacles of fresh water in Bengal during the dry season, chiefly when in flower in February; it rises so near to the surface as to allow the little spikes of flowers to emerge completely. It is much employed in the N.W. Provinces in the process of clarifying sugar.—*Roxb.* i. p. 452.

POTASH, Potashes, Pearl-Ash.

Shih-kien, . . . CHIN.	Carbonate of potash, ENG.
Hwui-kien, ... ,,	Khar, Jowkshar, . HIND.
Potaske, ... DAN.	Manu-uppu, . TAM., TEL.
Jhar ka Namak, . DUKH.	

Potash is a commercial term commonly applied to an impure carbonate of potash, obtained by the incineration of wood, lixiviating the ashes in barrels, first with cold and then with hot water, filtering the ley, and evaporating it to dryness in an iron pot. Potash is of great importance in the arts, being used in the soap and gas manufactures, the rectification of spirit, bleaching, in medicine, and for other purposes. It is procurable in most Indian bazars. No manufacture of potash upon an extensive scale has ever been

attempted in India. The common source of it is the ashes of land plants, and the English market is supplied from Russia and America. A source of pearl-ash, and one very interesting to us, seeing the enormous quantities of saltpetre all over the country, is nitrate of potash and charcoal. The Hindus of the Malabar coast, as well as the Singhalese, who do not use Over Munnoo, or impure carbonate of soda, in bleaching and washing linen, employ for these purposes the ashes of burnt vegetables (chiefly cocoanut leaves), which can only in this way be of service from the potash they contain. Dioscorides describes it as ashes of vine-twigs Cineris lixivium (Pliny xxxviii. c. 51). The Arabs are usually supposed to have been the first to make known this alkali (al-kali). In countries where forests are abundant, as N. America, Russia, Sweden, Poland, wood is piled in heaps and burnt on the surface of the ground, in a place sheltered from the wind. The ashes which are left consist of a soluble and insoluble portion. The soluble part is made up of the carbonate, together with the sulphate, phosphate, and silicate of potash, and the chlorides of potassium and of sodium; and the insoluble portion of carbonate and sub-phosphate of lime, alumina, silica, the oxides of iron and manganese, and a little carbonaceous matter that had escaped incineration. In China, it is prepared by burning composite, polygonaceous, and other inland plants. The ash is made into a thick mass by the addition of some kind of meal, and is sold as an alkali for raising bread, cleaning clothes, etc.

The Bitartrate of Potash, or Cream of Tartar, must have been known ever since wine has been made from the grape, in the juice of which it exists. During the fermentation of wine, sugar disappears, and alcohol is formed, and the salt not being soluble in this, is deposited on the bottom and sides of casks, as a crystalline crust, which, according to the colour of the wine, forms either red or white tartar or argol. It is the Fæx vini of Diosc. v. c. 13. Its nature was determined by Scheele in 1769. It is largely purified both at Montpelier and at Venice. In commerce it is in white crystalline crusts formed of clusters of small crystals aggregated together, which are hard and gritty under the teeth, dissolve but slowly in the mouth, and have an acid and rather pleasant taste.—*Royle; Hindu Med.* p. 97.

POTASH, NITRATE OF. See Saltpetre.

POTATO.

Yang-shu, Tu-yu, .	CHIN.	Batata, ...	PORT.
Ho-lan-shu, ...	,,	Kartofel, ...	RUS.
Aardappel, ...	DUT.	Patata, ...	,,
Pomme-de-terre, . .	FR.	Ruta innala, . .	SINGH.
Kartoffel, . . .	GER.	Patatas manchegas,	SP.
Puttata, Alu, . .	HIND.	Patata, ...	,,
Pomi-di-terra, Patata,	IT.	Potates, Jordparon,	SW.
Ubi, Kantang, .	MALAY.	Wallarai kelangu, .	TAM.
Seb-zamini, Alu, .	PERS.	Ooralay gadda, . .	TEL.

The potato plant, since the early part of the 17th century, has been introduced into Europe, Africa, Asia, and Australia. Sir John Malcolm claims to have introduced it into Persia about the early part of the 19th century. It has been grown by the Burmese since 1862. Potatoes were sent to Kābul by Captain Claude Martin Wade from Ludhiana, and planted by the Amir. Baron Hugel introduced them into Kashmir, and sent them thence into Little Tibet. In British India, the planting has been extending since the early part of the 19th century, but the root is still (1882) only used by Europeans. The Dutch and the Roman Catholic priests introduced it into China, where, also, Europeans are the chief consumers. It is now largely grown in Mysore, and in various parts of the Dekhan, by planting the tubers.

The potato plant belongs to the natural order Solanaceæ, and is closely related to the tobacco plant, belladonna, henbane, nightshade, and other poisonous narcotics. In it, however, the poisonous qualities are confined to the parts above ground, including any of the tubers exposed to the light in growing. It is a native of South America, and is still found wild in the mountainous regions of Chili, Peru, and Buenos Ayres, and has also been found in Mexico and in the Southern States of N. America, but was probably introduced there by the first Spanish settlers. Samples brought from the Carolinas were first grown by Sir Walter Raleigh in the south of Ireland in 1586. In that country, where both soil and climate are favourable to its growth, it rapidly came into favour; but in England, Scotland, and France, a prejudice long existed against it, owing to the poisonous nature of the other plants of the same order, and for a century and a half it was only cultivated in flower gardens. Even in 1725, the few potato plants in the gardens about Edinburgh were left in the same spot from year to year. In 1728, however, Thomas Prentice, a Scotch day-labourer in Stirlingshire, began to cultivate the plant for food, and sold to his neighbours what he did not require for his own use. They bought willingly, and he soon made a small fortune, and lived for sixty-four years a happy witness to the effects of the blessing which he had been instrumental in conferring upon the country. In England, the potato was taken into favour much earlier, and its field culture rapidly extended as its excellent qualities became known. In France it was not until a time of scarcity during the revolution that its culture became general.

In British India, potatoes should be planted in rows about 1 foot apart, and 5 or 6 inches deep; the space between each row not less than a foot. The ground should be light and loamy, and as little infested with white ants as possible. They can be planted at the commencement of the rains in a spot where the water cannot lodge, which may be done by keeping the end of the channel between the ridges open. At this season, plant on the top of the ridges, and do not water them unless necessary, as too much water makes them run to stalk. If the ground have not been well ploughed previous to the rains setting in, and all the weeds destroyed, the chance is the crop will fail; but should the ground be ready, cut the potatoes intended for the seed into pieces, taking care that each slice has at least two eyes in it; as you cut the slices, whilst fresh, dip the cut side of each into wood-ashes, and let them dry well, which takes place in a few hours; this prevents the white ant's attacks. Plant each slice from 9 to 12 inches apart, and place by the side of each a small clove of garlic, which in some measure tends to prevent the attack of a large grub very destructive to the plant. Dr. Riddell thinks this insect's eggs must be in the manure when added to the soil, and he had little doubt but that if the manure was previously worked up with the soil two or three times during the hot season,

and exposed to the heat of the sun, the eggs would be destroyed; or the same purpose might be effected with a little fresh lime. He is sure the caterpillar does not travel to the plant. The finest crops in the Dekhan are sown from the beginning of October to the latter end of December, and this last crop will be found the most productive. Fine crops of potatoes have been grown where hemp has been first sown, and when about 2 feet high ploughed up into the ground. If, when the potatoes are about flowering, any of the stalks wither, carefully open the earth and look for and destroy the grub, which you may be certain is feeding upon it. When these grubs are very numerous, it is necessary to search all the drooping plants daily. A bag with a small quantity of asafœtida can be placed in the watercourse as a remedy when the plants are being irrigated. Another insect deposits its egg on the stalk of the plant. In the rains a small caterpillar eats its way into the stalk above the ground, on which the plant immediately droops; the remedy is to remove the whole. At all seasons keep the stalks well earthed up, and let the potatoes have a moderate supply of water, the season being the guide. One year, Dr. Riddell raised a very fine crop of potatoes during the rains, by sowing them on ridges, and only watered them at first in consequence of want of rain; they were sown in the beginning of July, and a few taken up in the latter end of September. Some of the potatoes weighed from five to seven ounces, and were equal to any seen grown on the hills. In the latter end of August, he tore off shoots from the lower end of the stalks when they were abundant, and planted them in rows, the same distance as for seed; and in November four or five large potatoes were found produced by each stalk, the size of a duck's egg. This plan he strongly recommends when not able to get fresh seed after the rains.

Potato-Starch, or potato-arrowroot, also called potato-flour, forms a white and somewhat glistening powder, which crackles like genuine Maranta arrowroot when pressed between the fingers. It is sometimes called British or English arrowroot, and is prepared by rasping and grinding the well-cleaned tubers of Solanum tuberosum into a pulp.

Sweet Potato (Batatas edulis), is cultivated largely in tropical countries for its root, which contains much farinaceous and saccharine matter. The tubers are usually about the size of potatoes, but several have been seen from Grand Canary weighing 6 to 7½ lbs. each; and one in Madeira is said to have weighed 32 lbs. after having been left in the ground two or three years. Although not known to have been collected in the wild state, it is believed by M. A. de Candolle to be of American origin.

Telinga Potato, Amorphophallus campanulatus, Karna Kalangu of the Tamils, esteemed a very wholesome food. The dark-coloured flowers have a very curious appearance. — *Rid.*; *Canadian Naturalist*; *Vigne's Personal Narrative*, pp. 173, 174; *Lowe's Madeira Flora.*

POT BARLEY, or Scotch barley, the grain of barley deprived of the husk by a mill.

POTE. HIND. Glass beads laden with red dye. Pote-ka-Luch'ch'ha, HIND. A necklace of strings of black glass beads.

POTEE. TAM. Round red cakes of cotton. An inferior kind is impregnated with the red colouring matter of the prickly pear, and a better kind is made by impregnating the cotton with the kaysur flower, the weeping Nycthanthes arbortristris, but the best is from the safflower, Carthamus tinctorius. The Potee forms a ready and durable substitute for red ink.

POTENTILLA, a genus of plants of the order Rosaceæ. P. atrosanguinea, of Europe, is a herbaceous plant, handsome when in flower, and easily raised from seed, or by dividing the roots. P. denticulosa, *Royle*, is common in the plains of Northern India in the cold season, at elevations of 4000 to 5000 feet in the Himalayas; two other species are found in the Neilgherries. P. discolor, *Jacq.*, appears to be frequent in Kanawar, Spiti, and Ladakh, from 11,500 to 15,000 feet. The under surface of the leaves is covered with a fine dust, which, when the plant is shaken, causes violent sneezing.

Potentilla Inglisii, *Royle*; *var.* P. fruticosa, *L.* Spang, Jha, Merino, CHEN. | Pinjung, Penma, LADAKH.

This is not uncommon in the higher parts of the Chenab basin, where its fragrant leaves, etc., are used as a substitute for tea. It also grows in Spiti and Ladakh, occurring in the latter up to over 10,000 feet. It is browsed by sheep.

Potentilla Nepalensis, *Hook.*, Rattanjot, SUTLEJ. This is not uncommon in the Panjab Himalaya at 6000 or 7000 feet. Its reddish root is exported to the plains as one of the roots called rattanjot, but the roots of Vinca rosea, *L.*, and Onosma echioides, *L.*, receive the same name. They are employed in dyeing wool, and are officinal, being considered depurative, and they are used externally in the Yunnani system, the ashes being applied with oil to burns.

Potentilla Salesovii, *Steph.*, Shoar of the Panjab, grows in Lahul, Spiti, and Ladakh at 11,000 to 12,000 feet. It is browsed by sheep.

Potentilla tormentilla, Πεντάφυλλον μέλαν, *Diosc.*, *Theoph.* A native of Europe, and officinal; the root is very rich in tannic acid.—*Drs. Stewart*; *Royle*; *Riddell*; *O'Sh.*

POTHI. MAHR. A book; a Hindi or Sanskrit book.

POTHOS, a genus of Araceæ, or arum tribe of plants.

POT-METAL, an alloy of copper and lead. It is improved by the addition of tin, and the three metals will mix in almost any proportions. Zinc may be added to pot-metal in very small quantity; but when the zinc becomes a considerable amount, the copper takes up the zinc, forming a kind of brass, and leaves the lead at liberty, which in a great measure separates in cooling. Zinc and lead are indisposed to mix alone, though a little arsenic assists their union by 'killing' the lead as in shot-metal; antimony also facilitates the combination of pot-metal,—7 lead, 1 antimony, and 16 copper mix perfectly at the first fusion, and the mixture is harder than 4 lead and 16 copper, and apparently a better metal. — *Holtzapfel's Mechanical Manipulation*; *Rohde's MSS.*

POTSTONE, Balpam, HIND., is found in various parts of India, on the western coast, at Turreya Carey, and Chitore, in the Madras Presidency, and in the ghat country betwixt the Phoonda and Ram Ghats. It was known to the Romans, and is described by Pliny as used in the

manufacture of vessels for cooking purposes,—hence its name. The mineral possesses a glistening pearly lustre and greyish tint; it contains 49 per cent. of silica, 30 of magnesia, and 6 of alumina. The stone is prepared for use by reducing it to something like the form, size, and shape desired, by a cleaver, a paned hammer, or strong knife. When a cavity is meant to be circular, it is bored out by being held against the working spindle of a single-centred native lathe. This enables them to be held on by the chuck, when they are chucked and finished in the lathe in the ordinary way. Potstone speedily hardens and darkens by exposure to the air; it absorbs grease, oil, or fatty matter freely; it is stronger than ordinary earthenware, stands heat better, and is pretty extensively used for culinary purposes. That sold in the Bombay bazar is mostly brought from Goa.—*Cat. Ex.*, 1862.

POTT or Poti, a name of Buddha.

POTTA DELL. SINGH. A soft, coarse, open-grained, light Ceylon wood.

POTTERY.

Poterie, ... FR. | Alfar, ... SP.
Topferarbert, . . GER. |

The art of making vessels of baked earth is also known as ceramic work, from the Greek κεραμος, clay. It has been known to all races from the earliest times, and some of them 4000 years ago attained to great perfection. The art is alluded to in the book of Job. The potters of Samos were celebrated in the time of Homer. Great quantities of pottery have been found in Egyptian tombs, which to all appearance had lain unopened since the time of the Pharaohs; and in the south of Persia, urns containing remains of some very ancient race. In all the cairns of the Peninsula of India, articles of pottery are found, although of the races who used this form of burial there is no record. The fragments of pottery everywhere found among the ancient cities of India, as in those of other parts of the world, afford the best record of the early races of man on the earth.

While metal is liable to corrosion, and wood to decay, pottery remains almost unalterable, and has thus been the means of discovering to later ages many points respecting the history, religion, customs, and manners of the ancients, which must otherwise have remained unknown. There is a general agreement in the nature and uses of ancient pottery, but at the same time a distinctive character belonging to each country and nation. The rude and simple urns of the early inhabitants of Britain; the more carefully fashioned pottery of the Romans; the simple unglazed earthenware of ancient Greece; the more elaborate forms called Etruscan, of which the finest specimens are, however, attributed to the Greek potters of the Isle of Samos, so celebrated for the delicacy and perfection of their workmanship; the red and black potteries of India; the black and white potteries of North America, the latter interspersed with fragments of bivalve shells; the irregularly formed and fanciful pottery of South America,—all these possess a distinct individuality. The word porcelain existed in the French language in the fourteenth century, and consequently anterior to the introduction of Chinese porcelain into Europe. The potter's art is represented in all its stages on the tombs of Thebes. The mixing of the clay was effected by kneading with the feet, after which a mass of convenient size was formed with the hand, and placed on a wheel of very simple construction, and turned with the hand. During its revolution the forms of the vessel were made out with the fingers; the handles were afterwards affixed; the objects were placed on planks to dry, then carefully arranged in trays, and carried to the oven. Ornamental designs were traced with a wooden or metal instrument previous to the baking.

The earliest use of pottery was doubtless that of ordinary drinking vessels, but there was also a religious employment assigned to earthen vessels, which has been the means of preserving them for the inspection of after generations. In vases of baked earth the ashes of the dead were frequently deposited, and even where the practice of burning the dead was not followed, still various earthen vessels have been found placed at the head and feet of the skeleton, and sometimes hanging on pegs along the sides of the tomb.

In China it was not till the 3d or 4th centuries of the Christian era that fine materials were employed, and that some degree of perfection was attained. When the Chinese had acquired a certain amount of skill and perfection, they appear to have rested entirely satisfied with the results, and to have continued producing it without variation for ages. So exclusively were the Chinese the manufacturers of porcelain, that it acquired the name of their land, and became universally known (on its introduction to Europe in 1518) as china.

The Japanese have acted differently from the Chinese, and have produced porcelain-ware of the finest fabric, and in the highest artistic forms. The origin of the art in Japan is referred to the pre-historic era of Oanamuchi-no-mikoto, and the inventor, Oösei-tsumi. But in B.C. 29, when an empress of Japan died, and, according to immemorial custom, a selection from among the slaves of her household was doomed to death, so that she might not descend unattended into the grave, there arose in the province of Idsoumi the worker in stone and pottery whose name was Nomino-Soukoune. He made images of clay, and, taking them to the widowed emperor, persuaded him to bury them with the body of the august lady, and to spare the lives of her favourite servants. Thereafter the cruel custom was discontinued, and Nomino-Soukoune was allowed, as a title of honour, the designation Haji—the artist in clay. It seems probable that for 1500 years or more pottery only, and not porcelain, was made in Japan; but in the time of Henry VIII. of England, about 50 years before porcelain was first made in Europe, an artist who had travelled in China settled at Hizen, and instituted there a manufactory of the finer ware. But the earthenware of Japan is of such a quality that it has sometimes, apparently, been described as porcelain. Raku-ware, which figures in Japan at ceremonial tea-parties, closely resembles china, but is nothing more than lead-glazed earthenware, introduced by Ameya, a Corean, about the year 1500. It is said that Ameya's descendants, in the eleventh generation, still pursue the trade of their ancestor at Kioto,—such is the permanence of Japanese institutions.

From time immemorial, the potter has formed an essential member of the Hindu village com-

ovindah. They are wealthy, have fine horses, d can muster about 14,000 fighting men. They e in reality soldier merchants. Between Kābul d Kattywaz their Kafila or caravan can travel parately; but from Kattywaz to the British ntier they have to travel in one great mass r mutual protection. They move in bodies of 00 to 10,000 strong, heavily armed, under an ected chief with the title of khan, marching e an army, with advanced guard and rear ard and flanking parties, in some parts with ily skirmishes, occasionally pitched battles, and hen halting at night sentries are posted and ickets thrown out. In a region so full of wars, perseverance with which they continue their nterprise merits all praise. Major hé had hardly ever seen a Povindah one or more wounds on his body; of an eye, broken noses, scarred egs, and mutilated arms are almost s freckles in England.

t enemies are the Waziri tribe. The on of the Povindah, to the west and f the Waziri, have 1500 tents. Their winter is very severe. In spring they ilk, ghi or clarified butter, cheese, and dried buttermilk. They are very fair for

The Nasar section are the strongest of indah clans. Their numbers are not known, and the estimates made have t from 1850 to 12,000 families. They tory, dwelling in summer among the Ohtak clans of the Ghilzai tribe, and winter to the Dehrajat. They depend food, clothing, and tents on their flocks s, and trade less than other sections. p and camels are numerous. They are stature, ugly, and black, are rude and their general appearance, and barbarous anners. The Lohani section have three —the Pani, Daulat Khel, and Mian Khel. two and part of the Mian Khel have o agriculture. The remainder of the el are traders. In summer the men visit , Samarcand, and Kābul, a guard being otect the women in their felt tents. In r they move through the Gomal pass to jat, when some of them proceed to Lahore ares, returning in April in order to abagh and Panah.

indah are not the sole travelling merchants of Central Asia. The Parancha are a tribe of merchants, who are said to have come from Baghdad, and settled in various parts of the frontier districts of Kohat and Peshawur. They claim to be descended from Nushirwan. They trade from Bombay and Calcutta to Bokhara, taking tea, indigo, chocolate, and cloths, starting about September. From Bokhara they start afresh for Yarkand, Tashkand, and Orenburg, and go also to the fair at Nijni Novgorod, which they call Makraia, and they bring back unwrought silk, Tilla (6s. 8d.) and Ratiska, or Russian coins.

The Ushtarana Afghans inhabit the outer hills opposite the extreme south of the Dehra Ismail Khan district. They have become largely agricultural; but they still trade, and bring, through the Kui Bahara pass, into British territory, camels, goats, sheep, donkeys, bullocks, wool, honey, and ghi, taking back grain, piece-goods, shoes, blankets, indigo, sugar, sugar-candy, and raw sugar. On the Sikhs rebelling in 1848, 200 infantry of the Ushtarana, under Fattah Khan, accompanied Captain Edwardes to Multan.

The Gandapur tribe inhabit the Daman-i-Koh, in the Dehra Ismail Khan district. They too have largely settled down to agricultural pursuits, but are also traders. Fifty or sixty go every year to Afghanistan, and four times that number to India; but this has had little effect in softening their manners, which are rude.

The Baber of the Dehra Ismail district has many sections. They are brave, but much scattered, and in the Dehra district could collect only 600 or 700 fighting men. They were considered by Captain Edwardes the most superior race of all the Trans-Indus districts. They are the fairest of all the tribes. They had a blood-feud with the powerful Mian Khel, whom they almost rival in commerce.

In Arabia, Persia, Asiatic Turkey, Afghanistan, and Baluchistan, the nomade pastoral races are continually on the move in and to their winter and summer quarters. But from the most ancient times merchants have been traversing those regions. Ezekiel, who lived B.C. 574, in the 27th chapter tells us that the Ashurites made benches of the ivory brought from the Chittim islands; that the men of Tarshish traded with Tyre in silver, iron, tin, and lead; Javan, Tubal, and Meshech brought slaves and brass vessels; horses and mules were brought by the house of Togarmah; the men of Dedan trafficked in ivory, ebony, and precious clothes for chariots; and spices, precious stones, and gold were the merchandise sold in Tyre by the men of Sheba and Raamah. At the present day, Hindu traders and merchants are seen in every village of Central Asia, to the north-west as far as the shores of the Caspian Sea; but such are permanently resident in their respective localities, the products of the several countries being brought to them by the travelling mercantile tribes.

The British Government has granted the Povindah a total remission of the heavy duties which were imposed by the Sikh Government on all merchandise brought from the north-west, Kābul, Khorasan, Persia, etc.

The total number of those who encamp on British territory has been estimated at 25,000 souls, half of whom belong to the Nasar section. The passes from which they generally emerge are the Gomal, Manjhi, Shekh Haidar, and Zarkani. Considering the wild and independent life the Povindahs lead, they are marvellously orderly and well-behaved when dispersed in British territory, travelling from one end of India to another. When thus scattered, and unable to continue the precautions adopted while in the passes, they have suffered losses on the Tank and Kulachee borders, in spite of the numerous posts, and of the civil and police arrangements. — *N.W. Frontier*, pp. 545, 546.

POWAR, of Nimbalkur, in the Mahratta country, claim to be descended from the sacred fire of Mount Abu.

POYAKHARRI, in the Tamil country, heritors of lands which their ancestors in remote times reclaimed, who pay to Government either a warum or grain, or teeriva commutation rent.

POYKAI ALVAR, a native of Kanjipuram, contributed a hundred stanzas to the Nalayira Perapantam.

POYYAMOLI PULAVAR, a Tamil poet, who is said to have lived in the reign of Vanangamudi Pandiyan. He wrote an erotic poem, Tangsaivanamkovai, in illustration of the rules of Narkavirasa Nampis Akapporul.

PRABASHA, a hill near ancient Kausambi, on the Jumna, about thirty miles above Allahabad, in the doab of the Ganges and Jumna.—*Cunningham; Tr. Hind.* i. p. 350.

PRABHAL, in lat. 18° 58′ N., long. 73° 14′ E., in the Konkan, five miles N. of Chock. The fort is 2320 feet above the sea.

PRABHASA, a place of pilgrimage on the coast of Gujerat, near Dwaraka, and also near Somanatha.—*Dowson.*

PRABHAVAL, SANSK., from Prabha, splendour, brightness. The glory figured around the heads of Hindu gods.

PRABHU. SANSK. A lord or master, from which comes the Burmese word Prah or Phra. A term applied to the masters of Hindu sects. Prabhu is the word from which the clerking caste of Bombay have been called Purvoe. Maha-pra'hu, great lord.

PRACHETASA, ten sons of Prachinabarhi, and great-grandsons of Pritu. In Hindu mythology, Vishnu granted them the boon of becoming the progenitors of mankind. They took to wife Marisha, daughter of Kandu, and Daksha was their son.

PRACHYA, the people east of the Ganges, the Prasii of the Greeks.—*Dowson.*

PRADAKSHANA, SANSK., is the Decursio of the Romans, the Deasil of the Scotch, the T'iompodh Desiol of the Irish, from Tompadh, turning, and Deisol, to the right. It is a turning to the right in conformity with the sun's shadow.

The Swastika symbolizes this idea of circumambulation. It is the cross + with the crampons ┼ at the end of its arms. It is a sign of good luck. Turning in the contrary way is called withershins by the Scotch, the German widershins. The Hindus also apply the term to the circumambulation of their temples to be seen daily everywhere, the worshipper keeping the right hand towards the temple. Their six years' pilgrimage from the source to the mouth of the Ganges and back again, is also a Pradakshana; and the term is also applied to going round the aisle or circumambulatory passage surrounding the inner wall of their temples.

In the mode of trampling out grain from the ear, called Daen and Dawan, HINDI, in which bullocks are tied together, and made to circulate from right to left, the words are supposed to be derived from Dahina, the left side.—*H. Elliot.*

PRADHAN. SANSK. Chief, principal, an eminent person under the Mahratta government; the common title of the eight chief civil and military officers. Written and pronounced Purdhan.

PRAD'HAN or Andh, a Gond tribe.

PRAD'HANA, in Buddhism, is nature or concrete matter. The Pradhanika were worshippers of universal nature as the sole First Cause of all things, an atheistical creed, preceding the teaching of Sakya Muni.

PRADHOSHAURATA, a fast observed by the Saiva sect of Hindus.

PRADYUMNA, the incarnate Indian cupid, a son of Krishna and Rukmini, called Kama in N. India and Man-matha in S. India. The Hindu mythology has many fables about him, and one of these is that when six days old he was stolen by the demon Sambara, and thrown into the ocean, there he was swallowed by a fish, which was afterwards caught and carried to Sambara's house, and on being opened by Maya-devi or Maya-vati, she discovered the beautiful child. The Pradyumna Vijaya, a drama by Sankara Dikshita, relates the victory of Pradyumna over Vajra Nabha. See Sri Sampradaya.

PRÆSTI, an ancient people governed by Portikanus, or Oxykanus; their capital Mahort, probably the Oskana of Ptolemy. The name Præsti given by Curtius might, according to Wilson, be applied to a people occupying the thals or oases of the desert. He refers Prastha or Prasthala, as derived from the Sanskrit form of the vernacular Thal, a term generally used to designate Western India.—*Cunningham's India*

PRAGA, the modern Allahabad, race of Puru; hence its name Pu city of the Prasii.

PRAGATHA etymologically signi of song (from the root Ga, sing).

PRAGWAL, a Brahman who conduct monies of the pilgrimage at Allahabad.

PRAHLADA, a devotee of Vishnu, sa the hands of Hiranya by Vishnu in his in as Narasimha. Dowson says Prahlada rada, a son of Hiranyakasipa, and fathe who adopted the worship of Vishnu.—*D*

PRAHU. MALAY. A ship or lug written Prow. The boats of the Malacca, China, Archipelago, are th sampan, lorcha, pukat, and tong-kong king. In the Eastern Archipelago, th name for a boat or vessel, large or small, a word almost naturalized in the languages. It belongs equally to the Javanese languages, and from these has widely spread to others, extending as a to the principal Philippine tongues. T name for a canoe or skiff, both in M Javanese, is sampan. The large vessels w natives of the Archipelago used in war were called by them jung, which is t corrupted junk that Europeans applie large vessels of the Chinese, of which th name is wang-kang. For a square-rigg or ship, the natives have borrowed kapal from the Teling people. Names forms of vessels and the uses to which they are put, and these again differ with nations or tribes so as to be innumerable. The most common pirate vessels made use of among the floating communities from the Straits to the south-eastern groups, are the penjajap and kakap, with paduakan, and Malay boats of various size and construction.

The penjajap is a prahu of light build, straight, and very long, of various dimensions, and carrying usually two masts, with square kajan sails. This boat is entirely open, except that aft is a kind of awning, under which the head-man sits, and where the magazine of arms and ammunition is stowed away. In front it carries two guns of greater or less calibre, of which the muzzles peer through a wooden bulwark, always parallel to the line of the keel. Penjajap of large size generally carry, in addition to these, some swivel pieces, mounted along the timber parapet; while boats

of inferior tonnage are armed only with two lelah, elevated on a beam or upright. From twenty to thirty rowers, sitting on benches well covered with mats, communicate to the vessel with their short oars a steady and rapid motion, the more swift in proportion as the prahu is small. Large ones, therefore, are often left hidden in some creek or little maze of islets, while the light skiffs, flying through the water, proceed on their marauding errand.

The kakap prahu is a small light boat, provided with a rudder oar, but with no other oars or sculls. It carries only one mast, with a single quadrangular sail. Like the penjajap, it is built of very buoyant timber, the planks being held together by wooden pins, and lashed with rattans. The pirate never goes to sea with a kakap alone, and the voyager may be sure, whenever he descries a kakap, that a penjajap is not far behind, moving along perhaps in the shadow of the high [illegible]st, or lurking behind some island, or lying [illegible] the seclusion of some woody creek. Eight [illegible]f the best fighters are usually chosen to [illegible]e light skiffs, which remind us of those [illegible]hus of the Ladrones described by a French [illegible]n a note to Sonnerat. In calm weather, [illegible]es row in these buoyant galleys along the [illegible]r mount the small rivers, confiding in [illegible]lity, and knowing well that if surprised [illegible] fly into the woods, bear their little skiff [illegible]m, and launch it again at some spot [illegible]to their pursuers.

[illegible]uakan are native vessels having a single [illegible]e form of a tripod, and carrying a large [illegible]l of mat. They are from twenty to fifty [illegible]en, and of great beam, with lofty sides, [illegible] hold in the water. They are steered by [illegible]rudders, which are lifted up when the [illegible]noored or passing through a shallow.

[illegible]linary prahus made use of by the Malay [illegible]t the present day are from eight to ten [illegible]den, very well manned, and exceedingly [illegible]sually they are armed in the bows, centre, [illegible]n with swivel pieces.

[illegible]ond-class Illanun pirate prahu of Min[illegible]arries a crew of about 60 men. It has [illegible]r platform suspended to the mast, with [illegible] hooks attached to the end, which is used [illegible]ge for boarding a prize.

[illegible]st-class Illanun pirate prahu of Mindanao [illegible]arries a crew of 100 men or thereabouts. In this description of vessel, the tripod mast, the two after feet of which work on hinges, is used as a bridge in boarding. In May 1843, the English whaler *Sarah Elizabeth*, Captain Bellinghurst, while at Amfuang, with 2 officers and 14 men on shore cutting spars, was attacked by 5 large and several smaller Illanun prahus, the crews of which, after killing, taking, or dispersing the party employed on shore, boarded the ship, the captain and the remainder of the crew, who were taken by surprise, escaping to sea in the whale-boats. The pirates, after plundering the ship, burnt her to the water's edge, in which state she was found by three other whalers that had been met with by Captain Bellinghurst in the offing, and had accompanied him for the purpose of rescuing his ship from the pirates. A full account of this transaction will be found in the Moniteur des Indes for 1847–48, pp. 34, 35, by Jankpeer Comets de Groot, who was during several years Resident of the neighbouring settlement of Rhio, and afterwards secretary-general to the Colonial Department of Holland.—*Kolff's Report*, 1831; *Earl's Voyage of the Dourga*, note 89; *St. John's Archipelago*, ii. p. 182; *Sonnerat, Voyage*, p. 139.

PRAIRIE GRASS of Australia is the Bromus unioloides, *Humboldt.*

PRAJA or Panja. SANSK. Lit. progeny, offspring, subjects, people. The praja of Koch-Bahar are cultivators almost in a state of serfdom. In Cuttack, the barber, washerman, fisherman, weaver, leather-worker, and tari-gatherer are classed as praja, and often sold themselves and families into temporary slavery. Prajapat, a king. Prajapati, progenitors of mankind; in the Veda the term was applied to Indra, Savitri, Soma, Hiranya-garbha, and other deities. In Menu to Brahma; it is also given to Menu-Swayambhuva, and also to the ten rishi or mind-born sons of Brahma, fathers of the human race,—Marichi, Atri, Angirasa, Pulastya, Pulaha, Kritu, Bhrigu, Nareda, Vasishta, Prachetas, or Daksha. Prajapatya, SANSK., the work of a prajapati.—*Wilson; Dowson.*

PRAJAPATI, a Hindu sage who dwelt at Hingula. He is mentioned in several Puranas. He taught that God is invisible, though possessed of form, and that final beatitude consisted in absorption into the Great Spirit.—*Ward*, iv. p. 45.

PRAJNA, in Buddhism, means wisdom, understanding, or foreknowledge. The author of the Ashta Sahariska thus addresses Prajna: 'Thou mighty object of my worship! Thou Prajna art the sum of all good qualities, and Buddha is the guru of the world.' The author of the Puja Kand thus addresses Prajna: I make salutation to Prajna Devi, who is the Prajna Paramita (Transcendental Wisdom), the Prajna Rupa (multiform), the Nir Rupa (formless), and the universal mother.

Prajna Devi is deified Nature or Diva Natura, and the same as Dharma. In the physiological mythology of the Buddhists, the universal mother in the Kameshwari temple at Gowhatty in Assam is represented by the Yoni, which is there a triangular stone, tri-kon-akar-jantra. 'Adi Prai[illegible] or Dharma is the Prajna Devi, the Prajna Paran[illegible] the Prajna Rupa, the Nir Rupa, and the univers[illegible] mother. The wise make no distinction betwe[illegible] thee and Budh. When all was Sangata, Prajna De[illegible] was revealed out of Akas (space) with the letter U. That Yoni from which the world was made manifest is the tri-kon-akar-jantra.' In the midst of the jantra or tri-kon is a binda (point or cypher); from that binda Adi Prajna revealed herself by her own will. From the sides of the triangle, Adi Prajna produced Budh and Dharma and Sangha. Adi Sangha, Amitabha, by virtue of his Samta Jayan, created the Budhi Satwa named Padma Pani, and committed to his hands the lotus, the type of creative power. From Padma Pani's shoulders sprang Brahma's forehead, Mahadeo his two eyes, the sun and moon, from his mouth the air, from his teeth Saraswati, from his belly Varuna, his knees Lakshmi, his feet the earth. From the union of the essences of Apaya (Adi Budha) and of Prajna (Adi Dharma) proceeded the world, which is Sangha, represented by the letter M.

PRAKRIT or Prakrita is a term given to

dialects of the Sanskrit; it is the common, the enchorial, and not the perfect language. In this sense the common dialect of any spoken language is a Prakrit. Prakrita means derived from a model. The ancient Prakrit dialects were those forms of the speech of the Aryans which were commonly used by the masses. The earliest show five groups,—the Maharashtri, spoken round Ujjayani or Avanti in Malwa, perhaps including S. Rajputana and the present northern Mahratta country. Next the Sauraseni, spoken in Sarasena, in modern times the country round Mathura; thirdly, the Magadhi, the vernacular of Behar; fourthly, the Paisachi, whose exact locality is not defined; and fifthly, the Apabhransa or corrupt dialect, perhaps in Sind and Western Rajputana. In the Hindu dramas, kings and Brahmans speak Sanskrit, but those of inferior position speak in different Prakrits. The Prakrits have received careful study. Prakrita-prakasa, a grammar by Vararuchi, was translated by Professor Cowell.—*Dowson.*

PRAKRITI. SANSK. Nature, crude matter, primary creation, matter as opposed to spirit; also the goddess of nature. The sakti or female energy of any Hindu deity. Pradhana is crude matter.

PRAMANIK, in Bengal, one of the village authorities; a headman amongst the Hindu castes, from the Sanskrit Pramanika.

PRAMARA, properly Paramara, one of the four Agnicula Rajput tribes. Of their thirty-five sacæ are—

Mori, of which was Chandragupta and the princes of Chitore prior to the Gehlot.

Soda, Sogdi of Alexander, the princes of Dhat in the Indian desert.

Sankla, chiefs of Poogul, and in Marwar.

Khyr, capital Khyralu.

Oomra and Soomra, anciently in the desert, now Muhammadans.

Vehil or Bihil, princes of Chandravati.

Maipawut, present chief of Bijolli in Mewar.

Bulhar, northern desert.

Kaba, celebrated in Saurashtra in ancient times; a few yet in Sirohi.

Omuta, the princes of Omutwarra, in Malwa, established for twelve generations. Omutarra is the largest tract left to the Pramara. Since the war in 1817, being under British interference, they cannot be called independent.

Rehar, Dhoonda, Soruteah, and Hurair, Grasia petty chiefs in Malwa.

The Pramara, though not, as the name implies, the chief warrior, was the most potent of the Agnicula, and acted an important part in the history of India in the middle ages. They sent forth thirty-five sacæ or branches, several of whom enjoyed extensive sovereignties. The world is the Pramar's, is an ancient saying, denoting their extensive sway; and the No-kot maroost' halli signified the nine divisions into which the country from the Sutlej to the ocean was partitioned amongst them. Maheshwar, Dhar, Mandu, Ujjain, Chandrabhaga, Chitore, Abu, Chandravati, M'how, Maidana, Parmavati, Omrakot, Bekher, Lodurva, and Puttan are the most conspicuous of the capitals they conquered or founded. Not one remnant of independence exists to mark the ancient greatness of the Pramara; ruins are the sole records of their power. Of all their possessions, the prince of Dhat, in the Indian desert, is the last scion of royalty; and the descendant of the prince who protected Humayun, in whose capital, Omrakot, Akbar was born, is in very humble position. Among the thirty-five sacæ the Vehil was eminent, the princes of which line appear to have been lords of Chandravati, at the foot of the Aravalli; but of the dynasties issuing from the Agnicula, many of the princes professed the Buddhist or Jain faith to periods so late as the Muhammadan invasion. Maheshwar was the ancient seat of the Hya dynasty. The Mori race, whose leader Chandragupta, as is supposed, opposed Alexander, was a Takshak, and the ancient inscriptions of the Pramara declare them to be of the race of Tusta and Takshak.—*Colonel Tod's Rajasthan*, i. pp. 92, 93.

PRAMATI. SANSK. From Pra, prep., and Mati, understanding. Pramathesa, lord of the five senses, title of Mrira, traced to Prometheus. *As. Res.* iii. 327, vi. 506, 510.

PRAM LOCHA, a celestial nymph, se
Indra to beguile the sage Kandu from
tions.—*Dowson.*

PRAN, in Hindu belief, a spiritual el
which there are twelve. The Hindu bel
on the clearness and firmness of his spi
last moment, when all is growing dim be
hangs his chance for the world beyond.
ebbs away; the eleven pran, or spiritual
gliding from him, ascend the precipitou
the dark Bhaosagar river. The twelf
the spirit of life—still flutters within
eleven forerunners, as they stand on
brink, survey beneath a vast chaos
shapes and forms. If the twelfth w
have left behind can remain placid and
eleven may have a brief moment's respit
from among the ghastly throng the
which they shall migrate. The choice
angel of death from behind precipitates
the abyss, where, joined by their twel
they enter the chosen tabernacle. A
with a last struggle, the spirit passes
Pioneer.

PRANA. SANSK. Breath of life.
Atharva Veda it is personified, and a
addressed to it.

Pranam, a Hindu form of salutation,
of a slight inclination of the head an
plication of the joined hands to the forehead.

Pranayama, from Prana, life, and Ayama, a coming. The Hindu devotional exercises of pranayama, or breathing through either nostril alternately, and then closing both during the repetition mentally of certain formulæ. It is performed by three modes of suppressing the breathing, called rechaka, puraka, and kumbhaka.—*Dowson; Hind. Theatre*, p. 195.

PRANALIKA is a gutter or spout for draining off the water poured on a lingam.

PRANDHA-BRAHMANA, one of the eight Brahmans of the Sama Veda. It contains 25 sections.

PRANGOS PABULARIA. *Lindley.*

Fitrasuliun, Fitura, PUSH.		Prangos, . . .	PUSHTU.
Petrasoleum, . . .	,,	Komal, . . .	,,

This plant grows south from Iskardo, in Western Ladakh at 10,000 feet, in parts of Kashmir at 5000 to 6000 feet. It is found above Vernag, where Moorcroft also says he saw it, and in Afghanistan,

in the high land round Ghazni, about 7000 or 8000 feet (Bellew), and near Maidan, close to Kābul, at 6000 feet, and towards Hajiguk, perhaps 12,000 feet (Moorcroft, who calls it Romai). Bellew brought at least one other species of Prangos from Afghanistan. This plant constitutes excellent fodder for cattle, fattens quickly, and destroys the 'liver fluke,' Fasciola hepatica, of sheep. Royle considers it one of the plants which yielded the Silphium of Alexander's historians. Moorcroft, in Tibet, found it employed as winter fodder for sheep and goats, and frequently for neat cattle; and, writing from the neighbourhood of Draz, he praises the Prangos hay plant. Attempts to introduce it into Great Britain were unsuccessful; and it is probable it will only succeed and be valuable in a climate similar to that where it is found indigenous. It is highly valued in the cold and arid region of Tibet, where it is indigenous. It is found in Tibet, and also most abundantly on Abatong, a low trap hill in the valley of Kashmir; [illegible]re it was not so vigorous as in its Tibetan [illegible]. Dr. Falconer is of opinion that its im[illegible]ce has been much over-estimated. The [illegible]s will be valuable only in countries [illegible] of good natural pasturage, and of which [illegible]nate is favourable to its growth. In Kash[illegible]t is used in decoction to cure the rot in [illegible] The leaves are used as fodder for sheep; [illegible]re rather heating. The native name, fit[illegible]n, is probably a corruption of the Greek [illegible]f parsley. Lieut. A. Burnes, crossing in the [illegible]n of Alexander's route, found this plant, [illegible]rangos, greedily cropped by sheep. The [illegible]liun seed from this or another species of [illegible]s is used as an aphrodisiac.—*O'Sh.* p. 369; *Royle*, v. p. 179; *Jam. Ed. Journ.* xiii. 873; *As. Royle's Pro. Res.*; *Powell*, i. p. 352; *Stew.*

ANHITA, the name of the united streams Wardha and Wainganga up to their junction he Godavery. On the Pranhita and God[illegible] river, the Mahratta and Teling races meet.

AN-NATH, a Hindu reformer who lived in 7th century in Bundelkhand, and founded ct that bears his name. He was of the riya caste, lived to the beginning of the 18th ry, and was patronized by Ch'hattrasal, raja nna in Bundelkhand. His followers are mes called Dhami, from Dham, a name of preme Spirit, or Paramatma. They have no His treatises, 14 in number, are in Hindi verse. The doctrines are monotheistic, and are taken from the Koran. He composed Mahitariyal, with a view to combine the Muhammadan and Hindu religions. They eat together and admit the gods of each other's religions, but do not make any other departure from the customs of their ancestors.

PRAN-PRALAP. There arose in Nadiya, in Bengal, in the beginning of the 16th century, a Hindu reformer who was destined to wield immense influence on the masses. Chaitanya flourished during the time of Kasinatha, and when Sayyid Husain Sharif of Mecca reigned in Gaur under the title of Sultan Ala-ud-Din Husin Shah, Sharif of Mecca. It was when Luther was thundering against the indulgence and other abuses of the Christian church, that Chaitanya preached a new doctrine. That doctrine was the efficacy of Bhakti or faith as contra-distinguished from works. It was an innovation on the Vedic system, which inculcates specific religious duties and the performance of ceremonies and acts. He taught that all men are capable of participating in the sentiments of faith and devotion, and that the members of all jati or castes became pure by such sentiments. He maintained the pre-eminence of faith over caste. The mercy of God was according to him boundless, and not circumscribed by the restrictions of tribe and family. He declared that Krishna was Parmatma or the Supreme Spirit, prior to all worlds, and both the cause and substance of creation. In his capacity of creator, preserver, and destroyer, he is Brahma, Vishnu, and Siva. Chaitanya became the founder of the largest religious sect in India, mustering nine to ten million souls, and fortified by an elaborate organization. Its disciples are to be found in almost every village in Bengal. They include some of the wealthiest and most influential families, as well as a host of poor and obscure men. Having obtained the sympathy and support of a large class, Chaitanya openly declared it was his mission to go forth and preach the love of Krishna as the one thing needful for salvation. But the Krishna of Chaitanya was not the son of Debaki, the intended victim of his uncle the tyrant Kansa, the sojourner in Brindaban, the companion of cowherds, the lover of Radha, the favourite of milkmaids and flower women, the terror of husbands, and afterwards the conqueror of Kansa and king of Dwarka; but the Creator of the universe, and the God of truth, justice, mercy, and love. His Krishna was the great and original Spirit, the author of creation, and the giver of all good. The age of Kasinatha and his successors was eminently favourable to the reception of the religious tenets Chaitanya offered to it. The country had undergone great political and social changes. The character of the Hindus had been moulded during some time by Muhammadan conquests, Muhammadan intercourse, Muhammadan laws, and Muhammadan literature. Their minds were at this time fermenting with religious longings, to which the doctrine of Bhakti inculcated by Chaitanya answered in many ways. A more practical religion than Vedantism, and a purer religion than Bhavanism, was eagerly looked for. It is therefore not to be wondered at [illegible] the religion of Chaitanya soon took root in Nadi[illegible] which reverberated with the name of Krish[illegible] Young men and old men of that city gathe[illegible] round him; among them was Adaitanand, w[illegible] was to him what the Baptist had been to th[illegible] greatest religious reformer. He addressed them all in a tone of authority and affection, telling them that Krishna was the Saviour, and that they must love him with all their hearts and with all their souls. His preaching was generally heralded by convulsions and fainting fits. This phenomenon was called by his disciples Pran-Pralap, and continued for hours. During its continuance he forgot all mundane affairs, and exclaimed ever and anon Krishna, Krishna. This ecstatic state of Pran-Pralap was attended with mystic sighs and songs of Haribol. It was contagious among his disciples, and became a conspicuous trait of the new sect. Chaitanya was a mystic. Eating but little, and caring nothing for the animal man, he was able to maintain a state of continued excitement. This cerebral and muscular debility contributed in no inconsiderable degree to bring about those

alternations of deep sorrow and intense joy which told so much upon his audience, and by means of which he swayed tens of thousands. Chaitanya thought or rather felt that the first and greatest of all works was faith in Krishna. From this all other works must spring. He announced this as a mighty message of joy, a message that thrilled through the hearts of his hearers. He preached that the Chandala, whose impurity is consumed by the chastening fire of holy faith, is to be reverenced by the wise, and not the unfailing expounder of the Veda. Again, 'the teacher of the four Vedas is not my disciple. The faithful Chandala enjoys my friendship; to him let it be given, and from him be received; let him be reverenced even as I am reverenced.' Religious rites and ceremonies were in his opinion not essentially important, but the appreciation of them by the generality of mankind, and their adaptability to the spread of religious tenets, were fully realized by him. With a view to perpetuate distinctiveness of his sect and society, and establish an indissoluble bond of union, he insisted on his followers submitting to the initiatory rite of the Mantra. It consisted in the guru or spiritual guide whispering in the ears of the Sishya (disciple) the mystic words 'Kling Krishna.' Another observance enforced by Chaitanya among his followers was the eating of the prasada by them together. A common meal has always been understood to cement and ratify relations of friendship. The brotherhood of the Vaishnava sect was symbolized in the prasad. It was a communion where all the followers, without distinction of caste, were admitted on equal terms. There was the learned Naiyaik as well as the illiterate Chasa, the Muhammadan Rais as well as the Muhammadan Mahout, the Kulin Brahman and the Kulin Kayastha, as well as the aboriginal Bagdi and the excommunicated Chandal, all participating in consecrated rice and dal and malpua. It was a manifestation of an intimate fellowship between those who shared in this common meal. It is now manifest that one of the distinguishing features of Chaitanya's theocracy was the universal character of the sect he founded. That sect was recruited from all classes of the Hindu as well [illegible] Muhammadan community. No one who [illegible]ired to enter was refused. To all who knocked [illegible]the door, admittance was granted. Chaitanya [illegible]pt an open house, and his guests represented [illegible]l classes, not only of society but of humanity. Chaitanya was most child-like in disposition and character. He was essentially guileless and simple-minded, but a most large-hearted man; and it was in his preaching that he poured out the wealth of that heart. He became a king of men on the Bedi or pulpit, which constituted his throne. His sermons were to the Hindus of Bengal what those of Savonarola were to the Florentines. Like the Italian reformer, he was fervid and forcible. Chaitanya was fond of travelling, and became an itinerant preacher. In the course of his peregrinations he came to Ramkali, situated in the suburbs of Gaur, the then capital of Bengal. He delivered there a magnificent sermon. Striking the harp and hymning the praise of Krishna, he touched a chord which resounded and vibrated through Bengal. His utterances were aglow with intense fervour. Thousands of people came to hear him, and the sensation he made was so great as to attract the attention of the king Sayyid Husain, who deputed an officer to inquire into the matter. The officer reported that the noise had been made by a Sanyasi, and that it was not worth while taking further notice of the matter. But he continued to preach, and all classes of men from all parts of the great city crowded to Ramkali. Among those who had come to hear him preach were two Muhammadan brothers, Dabir and Khash, holding high employ in the court of Gaur. They were, in fact, ministers of Sayyid Husain, and enjoyed his entire confidence. They were enraptured with the eloquence of Chaitanya, and became converts to the doctrine of Bhakti; they longed to see him in private, to learn at his feet the tenets of the new faith. Accordingly they went to his cottage at midnight, and thus addressed him: 'Purifier of the fallen, low in descent and occupation, we are afraid of speaking our minds to thee. Saviour of Jagai and Madhai, have mercy on us. Of M'hlecha descent, these sinners are incomparably [illegible] odious than those lordly Brahmans of [illegible] Our race has sinned greatly against cow [illegible] Brahmans. We are dwarfs standing on ti[illegible] catch the moon. Stoop in mercy towar[illegible] Chaitanya cordially received them, and [illegible] them of their salvation. 'Krishna will sav[illegible] henceforth you shall be known to the [illegible] under the names of Rupa and Sonatun.' The [illegible] tion of two Muhammadan nobles evinced [illegible] courage of no common order, which, [illegible] showed Chaitanya's deep conviction of the [illegible] and popularity of his faith, afforded con[illegible] evidence of his extraordinary boldness in [illegible] garding the injunctions of caste and race, [illegible] intention to build religion on the fatherh[illegible] God and the brotherhood of man. It m[illegible] remembered that the convert brothers were [illegible] bers of a court which was intolerant of Hin[illegible] and served a king who, claiming as he did [illegible] descent from the prophet, was particularly ag[illegible] ive against its doctrines. This act, ther[illegible] was calculated to enlist against the reform[illegible] only the active antagonism of the king a[illegible] court of Bengal, but the hostility of the H[illegible] who had been accustomed to regard the M[illegible] madans as M'hlechas, association with whom[illegible] Hindu religious point of view, is contami[illegible] He, however, fully expected his disciples [illegible] aside all antiquated prejudices, and above [illegible] beyond all, to have faith, which he rightfully applied as the true test of training in Vaishnavism. He was emphatically what the Germans call an epoch-making man, representing some of the best elements of Hindu thought and Hindu character, and illustrating in himself the strength and weakness of Hindu theology. His object was grandly catholic. It was to rebuild Hindu society from its foundation, to exterminate priestcraft, to eradicate the evils of caste, to introduce religious toleration, to assert the right of equality of man, and to establish the relations of his fellow-beings on the principle of a universal brotherhood. A fanatic and a mystic, Chaitanya never deviated from his appointed course; and the immense influence he had acquired over the hearts of his followers, he applied to the furtherance of no personal objects, but of that religion to which he had consecrated his life and his energies.—*Calcutta Review*, No. 109, p. 100.

PRANT, an ancient Hindu term, signifying a considerable subdivision of a country.—*Jervis's Geographical Memoir*, p. 81.

PRAPUL, the footmark of Arhan, in the island of Sinbal so called.

PRASADA. SANSK. Prasadham. Prasada, in the Vaishnava sect of Hindu religion, is an article of food, consecrated by previous presentation to an idol, after which it is distributed amongst the worshippers on the spot, or sent to persons of consequence at their own homes. It was the prasada or meat offered to idols from which, in Acts xv. 29, the followers of Jesus Christ were told to abstain. Yet 1 Corinthians x. 25 says, 'Whatsoever is sold in the shambles, that eat, asking no question for conscience sake.' In Orissa, the people buy the boiled rice which has been offered to Jaganath, and all the different castes eat of it together, as an act of merit; such conduct in Bengal would make them outcasts. The Buddhists of Burma also throw rice offerings; and at the great Shooay-Dagon pagoda and the Prome temple, Shooay-Sandaw, great heaps of boiled rice are thrown over the rocks. But most Hindus eagerly seek that has been offered to an idol; hence it is common to see flowers which have been thus offered, placed in the hair of a Hindu. Water which has been thus made sacred is preserved in their houses, and with it they rub their bodies, and occasionally sip a drop. The celebrated Ward has remarked that the custom of offering food to the object of divine homage had its origin in the principle of gratitude, the repast being deemed sanctified by presenting the first portion to him who received it, since the devotee was unable to offer aught more acceptable than that whereby he sustained. From the earliest period such offerings have been tendered; and in the burnt-offering (hom) of Abel of the firstling of the flock and the first portion of the repast presented by the Rajput to Ana Deva, the nourisher, the principle is the same. The Mukhia servants of the temple of Kaniya carry the sacred food to wherever the votaries dwell, which produces an adequate return. At the same time are transmitted, from the god, dresses of honour corresponding in material and value with the rank of the recipient, a diadem or fillet of satin and gold, embroidered; a dagla or quilted coat of gold or silk brocade for the cold weather; a scarf of blue and gold; or, if to one who prizes the gift less for its intrinsic worth than as a mark of special favour, a fragment of the garland worn on some festival by the god; or a simple necklace, by which he is inaugurated amongst the elect. Kaniya ki kanti band' hna, 'to bind on the neck the chaplet of Kaniya,' is the initiatory step. At the present day, Christians of no sect make any food-offerings to images. The Hebrew races, however, as also the Muhammadans, only partake of the flesh of such animals as have been made lawful food by being prayed over before being killed. This is called amongst Muhammans Halal karna, to make lawful, and a Muhammadan recites the words Bismillahi, Allaho-Akbar. Otherwise, it is harām, unlawful. In the name of the Lord, to God, the great. In the butcher shops of the towns of Europe where the Hebrew races reside, a mark is put on the animals which have been made lawful for food. When the animal is slaughtered and skinned, an examiner appointed by the synagogue carefully inspects the inside; and meat that has been killed according to the Jewish law, and is lawful to eat, is distinguished by a leaden seal, stamped in Hebrew characters with the name of the examiner, and the word Koshar, meaning lawful. That killed in any other fashion is called 'tryfer.' The Hebrew Scriptures three times command, 'Thou shalt not seethe a kid in his mother's milk' (Exodus xxiii. 19, and xxxiv. 26; and Deuteronomy xiv. 21). The utmost care has been used in carrying out both the letter and the spirit of this injunction, and particular vessels used for dressing flesh and others for milk, and a complete separation required for dishes, plates, knives, forks, and so forth. No vessels of wood or earth may be purchased at second-hand, and those of metal or stone have to be well scoured with hot ashes or scalded in boiling water before it was considered proper to employ them in the preparation of food. The Hindu races are even more stringent than the Hebrew, and many of the Vaishnava sect do not allow a stranger to see the cooking. Numerous others do not permit any one to see them eating.—*Tod's Rajasthan*, i. p. 529.

PRASANNA RAGHAVA, a drama by Jaya Deva in seven acts.—*Dowson.*

PRASE, a quartzose mineral; it is found amongst the pebbles on the shore at Trincomalee in Ceylon, and in the Dekhan trap.

PRASENJIT, son of Susandhi, was 24th of the line of Ikshwaku. In the 6th century B.C., Rajas Prasenajita and Ajata Satra visited Buddha.

PRASHADA. SANSK. A heresy. Some of the popular works of the Hindus allude to 96 prashada or heresies, viz. amongst the

Brahmans,	24	Saura,	18
Sanyasi,	12	Jangama,	18
Viragi,	12	Jogi,	12

PRASII of the Greeks, the Prachi of Hindu writers, the name of the tract in which Magadha is situated. Arrian and Strabo say that the Prasii were the most distinguished of all the Indian nations. Their empire at one time seems to have included most of the tract through which the Ganges flows after it enters the plains of Hindustan.—*Rennell's Memoir*, p. 50. See Prachya.

PRAST'HA. See Pat.

PRATARDANA, called also Vatsa, Satrajit, Ritha-dwaja, and Kuvalayaswa, was son of Divo Dasa, king of Benares. Divo Dasa was driven from Benares in a revolution brought about by the Buddhist and Saiva sects. Divo Dasa dispossessed the Bhadrasena family from a district on the Gumti, but it was recovered by Durdama, and again lost to Pratardan, who avenged the slaughter of his father and family. See Divo Dasa.

PRATCHAN. MALAY. In Borneo, a red condiment made of prawns. It is in the form of a paste, and is sold at 3 dollars per pikul. Dry pratchan sells at 10 or 12 cents per qintang.—*Burbidge*, p. 177.

PRATISAKHYA, four treatises on the phonetic laws of the language of the Vedas.—*Dowson.*

PRAVARA, SANSK., in the Hindu worship, means the invocation of those ancestors whose names are to be coupled with that of Agni when the latter is invited to be present at the consecration of the sacrificial fire.

PRAWN. Palæmon, *sp.*

Jeengha, . . .	HIND.	Langostin, . . .	SP.
Gambero marino, .	IT.	Eeral, ...	TAM.
Oodang, . . .	MALAY.	Roiello, ...	TEL.

Palæmon serratus and other species are abundant along the coasts of the S. and E. of Asia. In China, prawns, shrimps, crabs, crawfish, and other kinds of crustacea, are abundant and palatable. One species of Chinese crawfish, as large as but not taking the place of the lobster, is called lang hai, or dragon crab. It and cuttlefish of three or four kinds, and the large king crab (Polyphemus), are all eaten by the Chinese.—*Ains. Mat. Med.* p. 155.

PRAY. The Manu Manau tribe are called Pray by the Red Karen; they dwell between the Sgau and Red Karen.

PRAYAGA, the modern Allahabad, also called Pratishthana and Triveni. It is described in ancient Hindu writings as at the confluence of the Yamuna and Ganges, on the bank of the latter; it would seem, therefore, so late as the composition of the drama of the Hero and the Nymph, that that ancient city still stood opposite to its present site. The ruins, according to Hamilton, were still to be seen at Jhusi, on the left bank of the Ganges. Prayaga was a holy place, having been the seat of Bharadhwaja's hermitage; but Allahabad never was a city until Akbar made it one. Akbar called his fort Ilahabad, and it was afterwards called by Shah Jahan, Allahabad. The name of Prayaga is recorded by Hiwen Thsang in the 7th century, and is in all probability as old as the reign of Asoka, who set up the stone pillar about B.C. 235, while the fort was not built until the end of the 16th century. Hiwen Thsang makes the district of Prayaga about 5000 li, or 833 miles, in circuit; but as it was closely surrounded on all sides by other districts, General Cunningham reduced it to 500 li, or 83 miles, and limits the district to the small tract in the fork of the doab, immediately above the junction of the Ganges and Jumna. There still is the famous tree called Akshay Bat, or undecaying banyan tree. This tree is now underground, at one side of a pillared court, which would appear to have been open formerly, and which is supposed to be the remains of the temple described by Hiwen Thsang. The temple is situated inside the fort of Allahabad, and due north from the stone pillar of Asoka and Samudra Gupta. According to the common tradition of the people, the name of Prayaga was derived from a Brahman who lived during the reign of Akbar. The story is, that when the emperor was building the fort, the walls on the river-face repeatedly fell down, in spite of all the precaution taken by the architect. The old city of Prayaga has totally disappeared, and we can scarcely expect to find any traces of the various Buddhist monuments which were seen and described by the Chinese Pilgrims in the 7th century. —*Cunningham's Ancient Geo. of Ind.* p. 388; *Tr. Hind.* i. pp. 207, 317; *Hindu Theatre*, i. p. 207; *The Hero and the Nymph; Hamilton's Genealogies of the Hindus.* See Lat.

PRAYER, Salut, Dua, ARAB., Namaz, PERS., is part of the ritual of worship of the Hindus called puja. The Muhammadan prayers are dua, namaz, and salut. The Muhammadan prayer is called 'salla,' and its performance is required five times in each day. The first time of prayer commences a few minutes after sunset, the second at nightfall, the third at daybreak, the fourth a little after noon. Mahomed would not have his followers commence their prayers at sunrise, nor exactly at noon or sunset, because, he said, infidels worshipped the sun at such times.

PRECIOUS STONES.

Pierre precieuse, .	FR.	Gemma, ...	IT.
Edelstein, . . .	GER.	Piedra preciosa, . .	SP.

Precious stones are often termed gems by jewellers, who thus designate all minerals remarkable for their hardness, lustre, and beauty; but transparency, brilliancy, lustre, and freedom fr[om] defects, to be of great value, should also have ass[o]ated with them the exact quantity of colourin[g] furnish the favoured tint. Besides the distin[c]of gems for the most beautiful of the miner[al] jewellers' and lapidaries' work, under th[e] 'inferior gems' they utilize for ornamen[t] poses many quartzose minerals, while n[o] nacre from molluscs are amongst t[he] esteemed of the gems, and coral from th[e] with jet and amber from the vegetable ki[n] are much appreciated by many races.

If the precious stones in use as [gems] noticed chemically, the diamond is a cr[ys] form of carbon; the balas ruby and spi[nel] are compounds of alumina and magnesi[a] chrysoberyl and its variety Alexandrite a[re] binations of alumina and glucina; the [topaz] and ruby, the sesqui-oxide of aluminiu[m] hyacinth and jargoon (zircon), a comp[ound] silica and zirconia; the beryl, emerald, and compound silicates of aluminium and gl[ucina] tourmaline and rubellite, boro-silicate o[f] bases; lapis-lazuli, a combination of sili[cates] sulphate of aluminium; and turquoise, a h[ydrous] phosphate of aluminium; amethyst, sard[onyx] prase, chalcedony, and noble opal are v[arieties] silica or quartz; chrysolite and peridot, [silicates] of magnesia and iron; and garnets have [a] composition, containing two or more of [the] magnesium, iron, manganese, aluminium, chr[omium]

From the most ancient times all race[s] attributed fanciful virtues to them. T[he] mond was considered by the Romans a [charm] against incubus and succabos; the ruby [was] poison; jacinth procured sleep; sapphi[re] cured favour with princes; it was on t[he] sapphire that the ten commandments w[ere] graved, and it was also supposed to pres[erve] sight; the chrysolite assuaged wrath. Each of the twelve apostles was symbolized with a precious stone,—Peter by jasper, John by emerald, and so on. A sardius was placed in the beast-plate of the Hebrew high priest; any precious stone of a red hue was supposed by the Jews to be a preservative against plague, and by the Arabs to be useful in stopping hæmorrhage.

The value of these minerals varies. From their small bulk and consequent portability, gems have always risen in price during wars. In the French revolution from 1789 to 1796, diamonds are stated by Mr. Emanuel to have doubled their usual price. The prices of the larger are also regulated by the demand and by the fancies of purchasers. The prices of gems seem always to have been higher in Asia than in Europe. Since the middle of the 19th century, fresh sources of precious stones have been discovered in Australia and at the Cape of Good Hope, and much alteration has occurred in

the prices. The most valued gems have been selling in India at 25 per cent. higher than in London. Yet India continues largely to export some kinds, and in the five years 1856-57 to 1860-61, the quantities exported ranged in value from £138,224 to £153,748 annually, nearly all being sent from Bombay, chiefly to Aden, Suez, which took about four-fifths, the rest to the United Kingdom, China, and France. Since then the exports amounted to Rs. 1,87,362 in 1882-83, and the imports rose to Rs. 36,82,177 in 1880-81.

Arabia is said to have the topaz, the onyx, and the yemani or akik. The agate is found near Mocha, emeralds in the Hejaz, beryls and carnelian near San'aa and Aden, malachite in the cavern of Beni Salem; also jasper, amethyst, and turquoise in the environs of the village of Safwa, about three days' journey from Medina. The diamond, the sardonyx, and the topaz were obtained through Arabia in ancient times.

Tavernier, writing of his time, p. 144, tells us 'there are but two places in all the east where coloured stones are found, within the kingdom of Pegu and the island of Ceylon. The first is a mountain twelve days' journey or thereabouts from Siren towards the north-east, the name whereof is Capelan. In this mine are found great quantities of rubies and espinels or mothers of rubies, yellow topazes, blue and white sapphires, jacinths, amethysts, and other stones of different colours. Among these stones, which are hard, they find other stones of various colours that are very soft, which they call Bacan in the language of the country, but are of little or no esteem.'

In *Southern India*, the localities which supply the beryl are also supposed to have yielded the emerald, though Tavernier was not able to ascertain that any part of India, in his day, was yielding emeralds. 'As for emeralds,' he says (p. 144), 'it is a vulgar error to say they came originally from the east. And therefore when jewellers and goldsmiths do prefer a deep-coloured emerald inclining to black, tell ye it is an oriental emerald, they speak that which is not true. I confess I could never discover in what part of our continent those stones are found. But sure I am, that the eastern part of the world never produced any of those stones neither in the continent nor in the islands. True it is, that since the discovery of America some of those stones have been often brought rough from Peru to the Philippine Islands, whence they have been transported into Europe; but this is not enough to make them oriental. Besides that, at this time they send them into Spain through the North Sea.'

In the southern part of *Ceylon* is an extensive group of mountains rising to the height of 7000 or 8000 feet, which successive falls diminish till they rest on the alluvial plains of the low country. The S.W. face of this group forms a bold range, crowned at its western extremity by Adam's Peak, called by the people Sri-pada or Holy Foot, and at the eastern end of the range in Kirizalpota, which rises in abrupt precipices to 8000 feet above the plains. Ratnapura, or city of gems, is in part of this range. It is about 60 miles from Colombo, and about 200 feet above the level of the sea. It is the centre of the gem-producing district, which extends about fifty miles along the base of this mountain range, and in this district, comprising Saffragam and the Three Korles, the search for gems is a regular occupation of the people in the beds of streams and in the alluvial plains lying in the valleys upon their banks. The gems found in that locality are the sapphire, the ruby, and the topaz; the cat's eye, amethyst, and beryl; and the spinel ruby is also found, but is more rare. They are found in a layer of gravel fifteen to twenty feet deep, to which they sink a pit, and if they meet with a thin hard crust of ferruginous stones or masses of milk quartz, such are always favourable signs. The ruby, amethyst, topaz, sapphire, and cinnamon-stone are found there in great abundance; also spinel, chrysoberyl, and corundum. Red, purple, blue, yellow corundums and star-stones are met with at Mathura and Saffragam, and rubies and sapphires at Badulla and Saffragam. Corrundum is very plentiful at Battagamana, on the banks of the river Agiri Kandura. The great bulk of the Ceylon gems, however, come from Ratnapura, the city of gems, the river near which is regularly worked. Ceylon affords also all the varieties of quartzose minerals, as rock-crystal, amethyst, rose-quartz, cat's eye, and prase. Rock-crystal occurs in abundance, both massive and crystallized, of various colours, good quality, and in large masses. Amethyst also is pretty abundant; very beautiful specimens of this mineral are found in the alluvion derived from the decomposition of gneiss and granitic rock at Saffragam and the Seven Korles. A large crystal of it was found near Buanwelle, containing apparently two distinct drops of water. The finest cat's eyes in the world, indeed the only kind that bring a high price, have been found in the granitic alluvion of Saffragam and Matura. Prase occurs only amongst the pebbles on the shore of Trincomalee. Belonging to the schorl family are tourmaline and schorl.

Corundum. The pure oxide of aluminium is seen in colourless crystals of corundum. With minute traces of colouring materials, these crystals assume rich hues, and when transparent become gems conspicuous for their extensive colour-suite, that rank next in value, as in lustre and hardness, to the diamond. These are the colourless lux-sapphire, the azure sapphire, the ruby, the oriental topaz, oriental amethyst, oriental emerald, etc.

Star-Stones are in the form of a six-rayed star, and there are star-rubies, star-sapphires, and star-topaz. *Emery* is one of the forms of the opaque, granular, massive states of this mineral.

Oriental Ruby is the most valuable of all gems, when of large size, good colour, and free from flaws. They are found in Siam, the Capelan mountains ten days' journey from Syriam, a city in Burma, also in Ceylon, India, Borneo, Sumatra, on the Elbe, on the Espailly in Auvergne, and Iser in Bohemia. The ruby in colour varies from the lightest rose tint to the deepest carmine, but the most valuable tint is that of 'pigeon's blood,' a pure deep rich red.

Spinel Ruby and *Balas Ruby* belong to the spinel class of minerals, as also are several of the stones sold as Ceylon rubies. Tourmaline, when of a red colour, is called Brazilian ruby, and this term is also applied to the artificially coloured topaz. The ruby brings a higher price

Carat.	£
1	14– 20
1½	25– 35
2	70– 80
3	200–250
4	400–450

than the diamond, ranging as per margin. *Star Rubies* are asteriated corundums. *Tourmaline* is sometimes mistaken for the ruby, and the pink topaz for the balas ruby.

Spinel ruby and balas rubies are found in Ceylon, Burma, Mysore, Baluchistan. The spinel ruby is of a deep hue. They are comparatively of little value, but are often sold for the true ruby, and the true ruby is occasionally parted with as a spinel ruby. With jewellers, however, every bright red mineral takes the name of ruby. The name is even given to garnets. Hindus and Muhammadans in India greatly object to the dark-coloured stones, deeming them unlucky.

Sapphire with the ancients was a generic term for all blue gems. It occurs in British India, in the south of the Peninsula and Ceylon, also in Ladakh and in Siam. Sapphires vary from the deepest blue to black, and are often of varied hues. If held in water with forceps, the coloured and uncoloured stones will be seen. A very good blue sapphire of one carat weight would bring £20.

In Tavernier's time, in India all rubies were sold by weights called rati,—that is, three grains and a half or seven-eighths of a carat; the payments were made in old pagodas; and rubies of the following weights had been sold as under:—

Of 1 rati, . .	Pags. 20	Of 4⅝ rati, . .	Pags. 450
Of 2½ rati, . .	,, 85	Of 5 rati, . .	,, 525
Of 3½ rati, . .	,, 185	Of 6½ rati, . .	,, 920

If a ruby exceeded six rati, and was a perfect stone, there was no value to be set upon it.

Tavernier says (p. 143), 'The other place where rubies are found is a river in the island of Ceylon, which descends from certain high mountains in the middle of the island, which swells very high when the rains fall; but when the waters are low, the people make it their business to search among the sands for rubies, sapphires, and topazes. All the stones that are found in this river are generally fairer and clearer than those of Pegu. I forgot to tell you that there are some rubies, but more balas rubies, and an abundance of bastard rubies, sapphires, and topazes found in the mountains that run along from Pegu to the kingdom of Camboya.'

Oriental Emerald, the green variety of corundum, is the rarest of all gems. The finest occur in a limestone rock at Muzo in New Granada, near Santa Fé de Bogota, lat. 5° 28′; at Odontchelong in Siberia, and, as is said, near Ava. It is associated with spinel. When of a deep rich grass-green colour, clear, and free from flaws, it sells at from £20 to £40 the carat; those of lighter shade, from 5s. to £15 the carat. The emerald pillars in the temple of Hercules at Tyre, the emerald sent from Babylon as a present to a king of Egypt, four cubits in length and three in breadth, and the emerald obelisk described by Herodotus, were all doubtless green jasper. The Aral and Altai mountains have furnished fine emeralds.

The *Prismatic Corundums* found among the Tora Hills near Rajmahal, on the Bunas, in irregular rolled pieces, small, and of a light green colour, are sold as emeralds by the natives, under the name of panna or pana.

Beryl includes the emerald of jewellers, and also their aqua marine. It is an alumino-glucinium silicate, the aluminium being in the emerald apparently displaced to a minute amount by chromium.

Aqua marine includes clear beryls of a sea-green or pale-bluish or bluish-green tint. Hindus and Muhammadans largely use them pierced as pendants and in armlets. They are the seing or seign of the Burmese and the zamarrud of the Persians. At the Madras Exhibition of 1855, a good specimen of aqua marine was contributed from Mysore; other samples of long reed crystals were forwarded by the Nellore Local Committee.

Topaz was so called from the island of Topazion in the Red Sea. There is a gold-coloured and greenish-yellow topaz. Oriental topaz is of little value in commerce. The gem is of a yellow tint, seldom deep, of a light straw colour. Oriental topaz, ruby, and sapphire consist of 90 per cent. of pure alumina, 7 per cent. of silica coloured with oxide of iron.

Zircon consists of zirconic and silicic dioxides. Its pellucid varieties are gems. The dull green is the jargoon; the red-tinted varieties are the hyacinth or jacinth. The yellow and blue tints are rare, but the more pellucid and colourless zircon, from its exceptionally high refractive power, approaches even the diamond in brilliancy. Zircon is found in the Ceylon districts of Matura and Saffragam. Matura diamond is the name applied to its finest varieties by the dealers in gems. Besides the two well-established species, common zircon and hyacinth, there is a third, massive, opaque, and uncrystallized, and of a dark-brown colour. Specimens of it from Saffragam weigh two or three ounces. The yellow varieties are sold by the natives as a peculiar kind of topaz, the green as tourmalines, the hyacinth red as inferior rubies, and the very light grey as imperfect diamonds. All the varieties are found in the beds of rivers or in alluvial ground, which, both in Saffragam and Matura, is of the same kind. Zircon occurs in alluvium in the Ellore district of the Madras Presidency.

Chrysoberyl consists of glucina and alumina (aluminate of glucinum). As a gem it is known as the oriental chrysolite, also as cymophane. It is a beautiful greenish-yellow stone, almost equal in lustre and hardness to the sapphire. Chrysoberyl is sometimes with a yellow or brownish tinge, and occasionally presenting internally an opalescent bluish-white light. When green, transparent, and free from flaws, it is much prized. The less transparent specimens, when cut *en cabochon*, furnish one of the kinds of precious stones to which jewellers give the name of cat's eye. The dark-green variety from the Aral is called Alexandrite.

Diamonds are found in India, Sumatra, Borneo? Australia, the Cape Colony, the Aral mountains, Brazil, and South America. It occurs in India, in the Dekhan, near the river Pennar in the Cuddapah district, and near Banaganapilly, in the lower part of the Kistna, formerly near Ellore, and bed of the Godavery. The diamond sold in 1856? to the emperor Louis Napoleon for £5000, was said to have been obtained in the Pennar or at Banaganapilly. They are also found at Panna in Bundelkhand, and at Sumbulpore on the Mahanadi. Thara and Tora are two diamond-washing tribes who possessed sixteen jaghir villages at Sumbulpore. They are supposed to be of African origin. Another aboriginal tribe called the Jhira are said to have held their villages rent-free on condition of washing the sands of the river for diamonds, which were made over to the raja, while the gold ob-

tained at the same time remained the perquisite of the finders.

Diamonds are found in quartz conglomerates containing oxide of iron, also in alluvium, in loose and embedded crystals, almost always of small size, and most frequent in company with grains of gold and platinum. Diamonds are found crystalline and amorphous, and of all colours, white, yellow, orange, red, pink, brown, green, blue, black, and opalescent. The rocks in which the diamond occurs in Brazil are either a ferruginous quartzose conglomerate, or a laminated granular quartz called itacolumite. The latter rock occurs in the Arals, and diamonds have been found in it; and it is also abundant in Georgia and North Carolina. In India, the rock is a quartzose conglomerate. Mr. Ball tells us that there are diamond mines in various parts of Bundelkhand, but the principal are near Panna, its capital. Other diamond areas are at Badrachellum on the Godavery, near the Kistna river, and near Banaganapilly and Cuddapah. A diamond tract occupies a considerable area between the Mahanadi and Godavery rivers, viz. at Sumbulpore, with the bed of the Mahanadi for many miles above it, and Weiragarh 80 miles to the S.E. of Nagpur. About A.D. 1870, some small diamonds were stated to have been found in a hill stream near Simla.

At *Panna*, diamonds are only known certainly to occur in situ in a conglomerate which is referred geologically to the Rewa group, but there are also numerous workings in alluvial or superficial deposits.

In the *Cuddapah* district, the principal workings have been at Cunnapurti and Ovalumpilly, near Chennur, on opposite banks of the Pennar river, and Lamdur and Pinchetgapu, west of Chennur.

In the *Kurnool* district, the mines are at Banaganapilly, Munimadagu, Ramulkotta, Timapuram, Yemiye, Byanpully, Guramkonda, Gudipad, Bannur, Devanur, Shaitan Kottah, Dewmarruh, Tandrapad, and Baswapur.

In the *Kistna* and *Godavery* districts, diamonds are obtained at Golapilly, Malavilly, Purtial, Ganicoulur or kullur, etc., the pits at Golapilly and Malavilly being sunk in conglomerates and pebble beds of tertiary age.

In the bed of the *Mahanadi*, at Sumbulpore, and about the mouths of the Hebe Khelu and Mand streams, large diamonds have occasionally been found. The place of working is called Heera Khond.

At *Weiragarh*, in lat. 20° 36′ N., and long. 79° 31′ 30″ E., 80 miles S.E. of Nagpur, the diamonds are found in a lateritic grit; and at the sources of the Hebe river, in Gangpur, in the Icha river, a tributary of the Hebe, and also in the Sunk river.

In *Bundelkhand*, the diamond bed proper near Panna is a conglomerate. The rock diggings do not cover a space of more than 20 acres, and the miners excavate great pits, 25 feet broad and often 30 feet deep. At *Kumerea* (or Kahmura), locally called Kakru, to the east of Panna, the diamonds are found in a conglomerate sandstone made up of small pebbles. There are diamond mines also at Udesna, Sakeriva, Mujgaon, Boghin.

An inventory of the precious stones of the crown of France was made in 1832, showing the number to be 64,812, of value £845,000. The value of those of the Brazil sovereign is said to be £5,000,000.

The British crown jewels comprise 1 large ruby, 4 rubies, 1 large sapphire, 16 sapphires, 11 emeralds, 1363 brilliants, 1272 rose diamonds, 147 table diamonds, 4 drop-shaped pearls, 273 pearls.

Precious stones and pearls exported from India.		Precious stones and pearls imported into India, unset.	
1874-75, .	Rs. 5,56,683	1874-75, .	Rs. 15,96,694
1875-76, . .	4,80,859	1875-76, . .	13,93,591
1876-77, . .	6,24,666	1876-77, . .	16,40,391
1877-78, . .	6,75,649	1877-78, . .	19,40,848
1878-79, . .	3,94,563	1878-79, . .	13,15,032
1879-80, . .	2,55,639	1879-80, . .	15,52,799
1880-81, . .	1,60,075	1880-81, . .	36,82,177
1881-82, . .	1,66,197	1881-82, . .	24,23,629
1882-83, . .	1,87,362	1882-83, . . .	17,25,170

Artificial Gems are largely made, and many of the precious stones are well imitated. Doublets are partly true gems above, and partly false, being a portion of a true joined artistically to glass or other gem below. Lapidaries and jewellers even are sometimes deceived by false gems, and of others entertain grave doubts. Birmingham sends many blue cut-glass false gems to Colombo for sale. The glass of bottle bottoms is even sold in Ceylon and other places as emeralds. Emeralds are rarely without defects, called flaws, 'Rag,' HIND., and manufacturers, aware of this, make false emeralds with flaws. Of all precious stones, the emerald is most liable to defects, and their absence should excite suspicion, as they can be very easily imitated. *Strass* is a technical term for the base of the artificial gems.

Precious stones are not exclusively articles of luxury; diamonds are largely used in the glazing and other trades, and rubies and sapphires in the manufacture of watches. They are lavishly used by Indian jewellers, who care less for their purity and commercial value than for the general effect produced by a blaze of splendour. And Sir George Birdwood remarks, nothing can exceed the skill, artistic feeling, and effectiveness with which gems are used in India, whether in jewellery proper, in the jewelled decoration of arms, and by Hindus in the ornamentation of the images in their temples. The quantity of diamonds, emeralds, and rubies in the Srirangam shrine surpasses all imagination, though perhaps few of them are without flaws. It is a marvellous sight.

Adularia or moon-stone is very abundant in some parts of the interior of Ceylon, particularly in the neighbourhood of Kandy, where it is occasionally the predominating ingredient of the rock. It is a variety of felspar, a form of orthoclase, and of little value.

Agate, the ἀχάτης of the Greeks and Akeek of the Arabs, is found in great variety and abundance in many parts of India. Some of the agates and other silicious minerals in the amygdaloid rocks on the banks of the Seena river, between Sholapur and Ahmadnaggur, are of great size and in profusion, but the most beautiful are brought from Rajpipla and Cambay.

Amber is largely obtained in many parts of Europe, and in Independent Burma, from mines at Hukong or Phyendwen, near the sources of the Kyendwen.

Amethyst.

Jaballakum, . .	ARAB.	Martas, ...	MALAY.
Amethyste, . . .	FR.	Sang-i-Sulimani, .	PERS.
ἀμέθυστος, ...	GR.	Ametisto, . .	PORT., SP.
Amatista, ...	IT.	Sugandi kallu, .	TAM.
Amethystus, . . .	LAT.		

The amethyst is mentioned in Exodus xxviii. 19, and xxxix. 12, but under this term two different minerals are known, viz. the common amethyst, a quartzose mineral found in amygdaloid trap rocks in all countries, but in some quantity amongst the volcanic rocks of the

Dekhan. Some beautiful specimens of common amethyst crystals occur in dykes of quartz near Bowenpilly, at Secunderabad. It is rock crystal coloured with iron and manganese. Its colour is of every shade of purple violet; some of these are valued, for it is almost the only stone that can be worn with mournings. When the colour of a specimen has to be equalized, it is placed in a mixture of sand and iron filings, and exposed to a moderate heat. The oriental amethyst of jewellers is also of a purple colour, but is an extremely rare variety of corundum. Its colour can be destroyed by heat, and its purity then resembles that of the diamond.

Beryl. Some beryls are quite colourless, but green, blue, or yellow are prevailing tints. The finest beryls were described by Pliny as those which are of a clear sea-green colour—qui viridatem puri maris; hence crystals of clear tints of sea-green or sky-blue are called aqua marinas or aqua marines. Beryl occurs in considerable abundance at Kangium, in the Tanjore collectorate of S. India, in the Siberian Altai range, also in Khotan, Ilchi, and other Chinese provinces. In the United States very large beryls have been obtained, but seldom transparent crystals. Numbers of the Hindus and Muhammadans of Southern India wear them pierced as armlets and pendants, and call them by names given also to the emerald,—as zamarrud, zabrjad, and panna. The colours most esteemed in Northern India are the zababi, next the saidi (from the town of Saidi in Egypt); raihani, new emeralds; fastiki, old emeralds, which they imagine have completed a growth of 20 years; salki, zangari (colour of verdigris), kirasi, and sabuni. Dr. Irvine says (Gen. Med. Top.) prismatic corundum or chrysoberyl is found among the Tora Hills near Rajmahal, on the Bunas, in irregularly rolled pieces, small, and generally of a light green colour. These stones are considered by the natives as emeralds, and pass under the name of panna; but the natives are aware that they are still softer than the real emerald of India.

Cat's Eye.

Bel occhio, ... IT.	Zmilampis, . . . LAT.
Beli oculus, . . . LAT.	Mata-kuching, . MALAY.
Zmilaces, ... ,,	Chashm-i-maidah, PERS.

Cat's eye is chiefly found in Ceylon, but specimens are also obtained from Quilon and Cochin, and in the neighbourhood of Madras; the site of the last, however, has not been traced. It is brought from Burma. It is a transparent quartz full of minute fibres of asbestos, and is cut in a highly convex form. It is of a yellow hue, slightly tinged with green. The cat's eye is often set in rings, and is much valued in India; those seen in the Moulmein market are not much valued. A small one may be purchased for two rupees, and one of ordinary size for five; while ten rupees is the highest price given for the best. Mr. Edward Streeter (p. 167) distinguishes the true or chrysoberyl cat's eye from the quartz cat's eye. The former is a rare variety of the chrysoberyl.

Chrysolite and *peridot* are silicates of magnesia with iron, and chrysolite is also a yellowish-green corundum. The name is also given to a coloured variety of rock-crystal. Oriental peridot is of a very pleasing, yellowish-green colour, and is a very beautiful gem. It was at one time considered of more value than the diamond. Mr. Streeter says the chrysolite of the ancients is now termed oriental topaz. It is a corundum formed of alumina, coloured golden-yellow by oxide of iron.

Coral is being utilized by the people of India in rapidly increasing quantities. In 1877-78, 65,527 lbs., value Rs. 6,90,875, were imported from the Mediterranean, while in 1883 the quantity was 152,372 lbs., value Rs. 19,59,367. A small part is re-exported. Coral of a pale delicate pink colour is now the most valued in England, a large drop or bead selling at £30 to £40, and smaller pieces at £120 to £150 the ounce. Red is esteemed in India.

Corundum occurs in great abundance in Mysore, in the Coimbatore district of the Madras Presidency; and its crystalline, translucent coloured varieties are the gems known to jewellers as the ruby, emerald, topaz, and sapphire. The emerald is one of the rarest of these varieties. The oriental ruby or red variety of corundum is very rare; when pure in water and colour it is very valuable. The blue variety of corundum is the oriental sapphire, is in greater abundance, but of inferior value, and its colours greatly vary, from the deepest velvet-blue to the palest and almost imperceptible tint, even losing all that and becoming colourless, and in that form is a very beautiful gem, remarkable for its whiteness and the absence of prismatic colours.

The yellow variety of corundum is called the oriental topaz, which is of every shade of yellow, and when pure it is highly valued. But many stones have a milky opalescence, which makes them valueless. The ordinary topaz of commerce, composed of silica and alumina, with hydro-fluoric acid (*hydric-fluoride*), commonly of a pale orange, toning down to a straw colour, is of comparatively little value.

When the red and blue are mixed in the corundum, the stone is called oriental amethyst; half a stone will be red and half blue, or emerald, ruby, topaz, and sapphire in the same stone. The Ceylon ruby has occasionally a blue tint, which can be expelled by heat.

The opalescence occurs in rubies, sapphires, and topaz. When such stones are cut *en cabochon* at a certain angle to the axis, they form the star-stone, showing in a strong light a star of six rays, very pretty as a fancy stone, but of no value as a gem.

Diamonds are occasionally colourless. The most valuable diamonds are those known to merchants as blue-white. There are only in Europe three or four diamonds which can be termed blue. The finest of these is the 'Hope' diamond, valued at £30,000. It is of a beautiful sapphire blue.

A recent newspaper article mentions that a diamond, weighing 602 carats, of a dark slate colour, has been found in the Jagersfontein mine, South Africa. Owing to its peculiar colour, experts could fix no precise value, but it is said to be worth at least £2000. It is about the size of a duck's egg. Diamonds occur of a red colour; one in London, weighing about three grains, is valued at £800; and a diamond of a pure emerald green, the property of a W. Indian merchant, is mentioned by Mr. E. W. Streeter as of value £1000. At Banaganapilly black diamonds occur.

Among famed diamonds may be mentioned the Orloff gem possessed by the emperor of Russia, which is said to have been brought from Srirangam; it weighs 194¼ carats. The Regent or Pitt weighs 136⅝; it is said to have been obtained at Parteal; but Mr. Pitt is also stated to have bought it for £12,500 from Jam Chund, a diamond merchant. The Sanci weighs 53½ carats. The Matan diamond, belonging to a raja of Borneo, is of 367 carats, and valued at £269,379. The nizam of Hyderabad has one of 340 carats. The Rhodes diamond, of 150 carats, was found 12th February 1880 by Mr. Porter Rhodes in the Kimberley mine in South Africa. The last three are still (1883) uncut. The Pigot diamond weighs 82½. It was brought from India by Lord Pigot. In 1801 it was sold in a lottery for 750,000 francs. The Braganza was discovered in 1741 in Brazil. It weighed 1680 carats. If cut, it is supposed it would weigh 500 carats. It is believed to be a white topaz. The Star of the South, found in Brazil, weighs 254. It was found in July 1853 in one of the mines of the Bogagen district, in the Minas-Geraes province. About one-half of its weight was lost in cutting. Another Brazilian diamond, 138½ carats, was found in 1775 by a negro, a few miles N. of the Rio Plata. One was found in 1878 at Du Toit's pan in S. Africa. It weighs 244 carats. The diamond known as the Star of South Africa was found there about 1868; it weighed 83 carats, and fetched £11,200.

Much artistic skill is requisite in diamond cutting, in order to retain the gem of as great bulk as possible.

A diamond known as the Moghul was cut for Shah Jahan by Hortensio Borgio, a Venetian. It weighed 793⅝ carats, and he reduced it to 186 carats, which angered the emperor so that he fined him Rs. 10,000, in fact all his possessions.

The Koh-i-Nur weighed on arriving in London 186$\frac{1}{16}$ carats, and was valued at £140,000. It was cut by Herr Voorsanger, under Messrs. Coster of Amsterdam, in the atelier of the crown jewels in London, and it was reduced to 106$\frac{1}{16}$, and is valued at £100,000. It is the personal property of the Queen-Empress Victoria. Mr. Streeter is of opinion that it is the Moghul diamond.

The Regent diamond, before cutting, weighed 410 carats, and 136⅜ after it was cut.

It is supposed that the Rhodes diamond would, when cut, weigh 100 carats. In July 1853, a diamond was

found in Brazil which weighed 254 carats, but was reduced in cutting to 125.

Mr. Bryce Wright, of 204 Regent Street, is in possession of a diamond of some note, set in a ring which was kept for many years in the treasury of the Moghul emperors of Hindustan. It is one of the very few known diamonds that are cut or engraved, and it is supposed that the work upon it, owing to the extreme hardness of the stone, must have cost years of incessant labour. The engraving is believed to be by a Persian artist; it is a monogram composed of two Arabic words interlocked together, making up the invocation, 'O Ali.' The date of the work is supposed to be A.D. 1200.

All the diamond localities yield stones which mineralogically are true diamonds, but do not possess the high qualities to entitle them to be regarded as precious stones. And this remark is equally applicable to all the varieties of the corundum, felspathic, and other minerals which furnish the gems of the jewellers.

Emeralds are mentioned in Exodus xxviii. 18, also in Tobit, Judith, Ecclesiastes, and Ezekiel. The emerald mines in Jabl Zabarah in Egypt—the Smaragdus mons of the ancients—were worked B.C. 1650, in the time of Sesostris II. These mines (Bunsen's Egypt, ii. 303) were on the Kosseir Road, from Koptos to Aennum (Philoteras).

The *Felspar* group of minerals includes several of value in the arts, such as labradorite, with its beautiful play of colours, moon-stone or orthoclase, valencianite, Amazonite or Amazon stone, and lazulite, called blue felspar and blue spar.

Fos[illegible] wood is in large quantity in Burma, in Sind, [illegible]erdachellum and Ootatoor, west of Pondicherry. [illegible]d for ornaments.

[illegible], from which carbuncles are formed, is in great [illegible]nce in the south of India, chiefly in gneiss rock [illegible] Guntur and Coimbatore districts, also at the [illegible]bad Ghat, and in the Aravalli range. Amongst [illegible]ties are the violet-tinted almandine; the yellow [illegible]cinthine garnets known as cinnamon-stone and [illegible] which contain calcium and aluminium; the [illegible]nd pyrope, or Bohemian garnet varieties, when *cabochon*, are the carbuncle of jewellery; carbuncle (ἀνθραξ) of the ancients included all [illegible] red colour, such as hyacinths, rubies, garnets. [illegible]rieties of garnet are allochroite, topazolite, [illegible]e, colophanite, and grossular garnet.

[illegible] and cyanite or kyanite imitate the sapphire, greater hardness of the sapphire affords an easy [illegible]ts genuineness. Kyanite is a silicate of alumina, [illegible]ccurs in long, thin, blade-like crystals of a clear [illegible]r bluish-white colour.

[illegible]e, which the Chinese so highly value, is brought [illegible]Central Asia, one locality being at Gulbagashen [illegible] valley of Karakash. The Yu or Jade mines of [illegible]dependent Burma are in the Mogoung district, about [illegible] miles S.W. of Maing-Khum. Momien in Yunnan was formerly a chief seat of the manufacture of jade, and still sends out a considerable quantity of small articles. Jade was imported from Burma in 1880–81 to the value of Rs. 2,45,650, and mostly all re-exported to Singapore and China. It is also called nephrite.

Jet is imported into India from Europe, and is only worn by Europeans. Large quantities of lignite are found in the tertiary strata along the sea-coast of India, but none of it takes a good polish.

Lapis-lazuli, or azure-stone, from Central Asia, is not in much request in India. It was the sapphire of Pliny. It is found in High Asia and in China provinces. In ancient times it was used for cameos and intaglios. The Chinese make it into cups, vases, buttons, caskets.

Malachite, an imported mineral, is rarely worn, and only by Europeans. It occurs in the copper mines in Australia, also largely in Russian provinces.

Mother of Pearl is the nacre from the interior of the shells of molluscs, chiefly from that of the Meleagrina margaritifera.

Onyx, a quartzose mineral, is so named because of its substance being in layers of two colours, as on the nail of the human hand. One of the layers is white, the other of a greyish tint. In its natural state it is a sober mineral, but it is stained black by being boiled in honey, oil, or sugared water, and then in sulphuric acid. For red, protosulphate of iron is added; and for blue, yellow prussiate of potash is added to the protosulphate of iron.

Precious Opal has as varieties the Mexican fire opal, the noble opal of Hungary. Precious opal is the most beautiful of all gems. Its price depends on the play of colours displayed. The hydrophane or Mexican opal loses its beauty when exposed to water.

Common Opal, of a dull white without any play of colours, occurs massive in the volcanic tract of the Dekhan. It is used as a charm round horses' necks, and by native dentists for false teeth.

Oriental is a term employed by jewellers to designate precious stones of the highest value. It is now excluded from books of mineralogy, the minerals to which it was formerly applied being now-a-days noticed under their chemical composition.

Pearls occur of all colours. Those of Asia, from the sea pearl oyster, Meleagrina margaritifera, are found on the west coast of Ceylon, in the gulf of Manaar, in the Persian Gulf, in the Sulu Islands, near New Guinea, and in the Red Sea. Off the coast of Ceylon, the fishing season is inaugurated by numerous ceremonies, and the fleet, sometimes of 150 boats, then put to sea. Each boat has a stage at its side, and is manned by ten rowers, ten divers, a steersman, and a shark charmer (pillal karras). The men go down five at a time, each expediting his descent by means of a stone 20 to 25 pounds in weight, and holding their nostrils; they gather about 100 shells in the minute which they remain under water. Each man makes 40 to 50 descents daily. The pearl oysters are thrown on the beach and left to putrefy. In the Persian Gulf, so many as 30,000 persons are said to be employed in the pearl fishery (Job xxviii. 18). According to European taste, a perfect pearl should be round or drop-shaped; of a pure white, slightly transparent; free from specks, spots, or blemish, and possessing the peculiar lustre characteristic of the gem. In India and China, the bright yellow colour is preferred. Cleopatra is fabled to have dissolved in vinegar a pearl of the value of 150,000 aureas or golden crowns, in the presence of Anthony, and to have drunk it off; but it would have required a larger quantity and stronger acid than any one could have taken with impunity, to have done so. Cæsar is said to have paid a sum equal to £50,000 sterling for a single pearl. The fellow-drop to the pendant destroyed by Cleopatra is said to have been sawn in two by command of the emperor Augustus, and used to adorn the statue of Venus. The mother of the last nawab of the Carnatic gave him a necklace of pearls, each of which cost about Rs. 1000.

Quartzose minerals are largely used for personal ornament, for articles of luxury, and in the decorative arts. They have been skilfully adapted in the ornamentation of the beautiful Taj Mahal at Agra. Those better known to jewellers and lapidaries are sometimes designated inferior gems, such as the agate, amethyst, bloodstone or heliotrope, chrysoprase of an apple-green colour, carnelian, jasper and Egyptian jasper, onyx, common opal, plasma, rock-crystal, sard, and sardonyx. The last is rarely seen in India. Jasper, onyx, common opal, bloodstone or heliotrope are found in abundance in many parts of the Dekhan, in the valley of the Godavery, and amongst the Cambay stones. Mocha-stones and moss-stones of great beauty occur among the minerals from Cambay. Cambay enjoys celebrity for its agates, mocha-stones, carnelians, and all the chalcedonic and onyx family. All of them are brought from Rajpipla, but worked up at Cambay into every variety of ornament,—cups, boxes, necklaces, handles of daggers, of knives and forks, seals, etc. They are from the amygdaloid trap rocks drained by the Nerbadda and Tapti. The principal varieties sold in Bombay are crystal, milk quartz, prase, a green variety of moss-stone, mocha-stone, fortification agate, calcedony, carnelian, chrysoprase, heliotrope, onyx, obsidian, and very rarely amethyst. These stones abound in all trap countries, the Brazils exporting them as largely as India into Europe, where the terms Brazilian and Indian agates are used indifferently by the trade.

Rock-crystal is abundant in the south of the Peninsula of India at Vellum. It can be dyed. If made red-hot, and plunged repeatedly into the tincture of cochineal, it becomes a ruby; if into a tincture of red sandal, it takes a deep red tint; into tincture of saffron, a yellow

like the topaz; into a tincture of turnesol, a yellow like the topaz; into juice of nerprum, it takes a deep violet like the amethyst; and into a mixture of tincture of turnesol and saffron, it becomes an imitation of the emerald. Steeping the crystal in oil of turpentine saturated with verdigris or spirits of wine, holding dragons' blood or other coloured resins in solution, depths of tints are produced proportioned to the time of steeping. Crystal can be coloured if heated in a crucible with orpiment and arsenic. Crystal coloured red, as false rubies, are known in France as rubaces.

Quartzose minerals were not commonly known in ancient times, and hence were extravagantly esteemed. The fragments of a murrhine cup, the little Cambay stone cup still made in Cambay, were exhibited in the theatre of Nero, 'as if,' adds Pliny, 'they had been the ashes of no less than Alexander the Great himself!' Seventy thousand sesterces was the price of one of these little Cambay cups in Rome in the days of Pompey. The price in Bombay ranges from Rs. 18 to Rs. 35 and Rs. 75. Nero paid 1,000,000 sesterces for a cup, 'a fact,' slily remarks Pliny, 'well worthy of remembrance that the father of his country should have drunk from a vessel of such a costly price.' Amongst the people of India the inferior gems are held in but little esteem; they value a gem for its intrinsic price, not for the workman's skill expended in shaping it, in which the chief value of all the inferior gems consists.

Ruby with lapidaries and jewellers is a term applied to the beautiful red crystals of any minerals which can be used as gems; but the oriental ruby is the red variety of corundum. The finest stones are found in the sand of rivers in Ceylon, in the sand of certain streams, and in the Capelan mountains near Syriam, a former capital of Pegu (Jour. As. Soc. Beng. ii. p. 75), about 60 to 70 miles from the capital in a N.E. direction, and over an area of about a hundred square miles, and sapphires are found along with them. The ruby is considered by eastern jewellers to approach perfection the more closely it resembles the colour of pigeon's blood. The ruby is generally set in rings and brooches, surrounded with brilliants. When placed in the fire a true ruby becomes invisible, but when immersed in water it appears to glow with heat. It is stated in Prinsep's Oriental Accounts of the Precious Minerals, that not to be deceived in rubies is a work of difficulty, because there are spurious ones of polished crystal which much resemble the true gem; these are called Ayn-ul-rajan. Jewellers in the east apply the term lal to all rubies of a fine red colour, but their lal rumani (scarlet or pomegranate ruby) is probably the true spinel. The bright red spinel ruby, lal rumani, is called by modern jewellers as yaqut naram, or simply, in Hindustani, narmah, also labri. The ruby is imitated by spinel, from which it is easily distinguished by superior hardness. The natives, like European mineralogists, distinguish four principal species of yaqut,—red (oriental ruby), blue (oriental sapphire), yellow, white, or colourless (oriental topaz), and green (oriental emerald). Natives distinguish the oriental ruby from the spinel, or balas ruby. A pure oriental ruby of ten carats is worth from £3800 to £4800, while the spinel ruby and balas ruby would be dear at one-twentieth of the sum. When the red has a decided shade of orange, it usually goes by the name of vermeil or vermeille, when of a yellowish-red it is called rubicelle.

Oriental sapphires are blue transparent varieties of corundum. When perfect, of a clear, bright, prussian-blue colour, and possessed of a high degree of transparency, this stone is valued next to the oriental ruby. It is, however, seldom found in this state, being more frequently pale-blue, passing by degrees into entirely colourless. Pale varieties when exposed to a strong heat entirely lose their colour without undergoing any other alteration, and have often been sold for diamonds.

Sapphire is found in the same earth with the rubies of Burma, but are much more rare, and generally of a larger size. Sapphire occurs crystallized in variously terminated six-sided prisms, and in rolled masses, and is found in the beds of rivers or associated with crystalline rocks. It possesses double refraction, and becomes electric by friction. Is not acted on by acids, and remains unaltered by the fire, red and yellow varieties, if anything, being improved in colour by heating. Sapphire is brought from Ceylon, Siam, Ladakh, and Pegu, but it is also found in Bohemia, in France, in the brook Rioupezzouliou, near Expailly, in Velay, and in New South Wales. In 1881–82, sapphires from Siam were imported into British India valued at Rs. 45,390, and via Simla from Ladakh, on the road to Zanskar, of value Rs. 25,956. Sapphire is imitated with iolite, kyanite, etc.; hardness affords the best test of the genuineness of the stone. The word sapphire is derived from sapheiros, the name of a blue stone amongst the ancients. Most probably the sapheiros of the ancients, however, was not our sapphire, but lapis-lazuli.

Schorl occurs in the granite and syenite districts of the Peninsula of India.

Spinel, besides spinels properly so called, includes Franklinite and chromite (chromic iron). Spinel ruby and balas ruby are beautiful gems. Pleonaste is an opaque variety of spinel. Spinel is found in Saffragam and Matura, in Ceylon, in Mysore and Burma. *Spinel ruby* or balas ruby varies in value according to its cut and colour. Balas ruby is pale-red or rose-red; it varies much in price.

Star-stones are varieties of the corundum class of precious stones,—star-rubies, star-sapphires, and the star-topaz. They have stars of six rays, but are not esteemed by the Singhalese or natives of India.

Topaz occurs in the corundum localities. Oriental topaz is a variety of corundum of a yellow colour, more or less mixed with red. The most esteemed colour is a bright jonquil-yellow, and next a pure lemon-yellow. It is a very beautiful stone, though inferior in value to emerald, ruby, or sapphire. The kind most valued by the jewellers of Europe are brought from the Urulga river. White topaz is a fluo-silicate mixed wit[h] [s]ilicate of aluminium.

Tourmaline occurs abundantly in Siberia, in[dia] in Dindigul, and in Ceylon, in colours black, bro[wn] green, red, white, and colourless, and exhi[bits] dichroism. The tourmalines have many valua[ble] beautiful forms, made use of in the arts. Rub[y] variety of tourmaline, is found in Burma and S[iam].

Turquoise, from Central Asia, is a favourite [stone] Muhammadans of India. Turquoise is the [Persian] Hind., hence Firoza-rang, turquoise blue. It [is found] at Khojend, in Mawar-al-nahr or Trans-Ox[iana] Shebavek, in Kirman, and in a mountain of A[rabia] where the mine was discovered about fifty ye[ars] Ahmad bin Abd ul Aziz composed his Tr[eatise on] Jewels. He describes the mine at Nishapur [as] celebrated from early ages for that particular [kind of] turquoise entitled Abu Ishaki, which, says he, [averts] evil from those who wear it, conciliates the fa[vour of] princes, augments wealth, preserves the sight, e[nsures] victory over an adversary, and banishes all unpl[easant] dreams. He says the ancient sages, when firs[t] beheld a new moon, immediately after fixed the[ir eyes] on the Firozah (Ouseley, Tr. i. p. 211). Turquo[ise is] apt to change colour if brought into contact with aci[ds,] musk, camphor, or other scents. Small clear Persian stones at Nishapur in Khorasan sell at 6d. to 20s. each, whilst a fine ring stone will realize from £10 to £40. A perfect stone of the size of a shilling, and of good depth, was sold for £400. It varies from white to a fine azure blue, but it is only the fine blue stones that are of value.

Zircon occurs in alluvium in the Ellore district. Hyacinth of the lapidary and jargoon are varieties of zircon. Its pellucid varieties are gems.

—*Prinsep's Oriental Accounts of the Precious Minerals; Ouseley's Tr.; C. W. King, Precious Stones; Emmanuel on Gems; Mason's Burmah; Tennant's Ceylon; Dr. Buist in Bombay Times; Tavernier's Travels; Niebuhr, Beschreibung von des Arabien; Davy's Ceylon*, p. 20; *Pliny*, xxxvii., xv., xxiii.; *Forbes' Eleven Years in Ceylon*, ii. p. 97; *Wellsted*, i. pp. 112, 113; *Mr. Streeter; Mr. V. Ball on Diamonds*, etc.

PREDESTINATION, the Takdir, Kaza, Al-Makaddar, Kismat, and Nasib of the Muhammadans, is an essential doctrine of their creed. Its influence over their everyday life is evidenced by such sayings as, There are two days in which a man should not have a fear of death, the one on

which he is not to die, and that on which he is to die. Their resignation to events is supreme. Hindus of the Telingana country attribute every good and every evil act to predestination, and this doctrine is strongly insisted on in the introduction to the ancient Hitopadesa. Most of the eastern Christians, also, entertain a similar belief. Many Muhammadans hold that fate is in some respects absolute and unchangeable, in other respects admitting of alteration. In the former case, it is called al Kaza al Mahkum, meaning the absolute and unchangeable fate, and in the latter, al Kaza al Mubram; and they are guided in their daily life by these views. Nevertheless the doctrines of the Koran and the Hadis or traditions appear to be that the decrees of God, or fate and destiny, are altogether absolute and unchangeable, written in the beginning of the creation on the Preserved Tablet, Allawuh al Mahfuz, in heaven. Again, it is held that God has not predestined the will, ugh He sometimes inclines it to good, and the sometimes inclines it to evil; and the Mu- adan believes that he is to be admitted into n only by the mercy of God on account of ith, and is to be rewarded in proportion to od works.

EDIAL SLAVES of British India have also called a Helot race. The chief of them are hooroo of the Panjab, the Chamar of Hin- , the Mhar of the Mahratta country, Pariahs south. These no doubt represent conquered The Chamar of Hindustan is round-faced, featured, and dark, but without any decided inal feature.

EJEVALSKY, LIEUTENANT-COLONEL N., of Mongolia, the Tangut Country; Three Travel in E. High Asia, Lond. 1876; also, Kulja across the Tian Shan to Lob Nor, h 1879.

EM DEVI. It was a saying of Bhishma, where a son does not exist, the daughter ld occupy the throne. Prem Devi was on throne of Dehli before the Muhammadan sion. In Nepal three females reigned at erent times. Rajendra Lakshmi is described 'woman of extraordinary character and nts.' In Ceylon, several ranis reigned from ne to time. In Rajputana females have governed s regents. Colonel Tod, speaking of the Bundi queen, says her sentiments showed invariably a correct and extensive knowledge, which was equally apparent in her letters, of which he had many. At present (1883) the Begum of Bhopal is reigning.—*Calcutta Review*, pp. 43, 109.

PREMNA, a genus of plants of the natural order Verbenaceæ, and tribe Viticeæ. The following are the principal species of the East Indies :—

P. esculenta, *Roxb.*, Chittagong.
P. barbata, *Wall.*, Bengal, Nepal, Kamaon.
P. latifolia, *Roxb.*, Coromandel.
P. longifolia, *Roxb.*, Bengal, Khassya, Assam.
P. herbacea, *Roxb.*, Bengal, Peninsula.
P. procumbens, *Moon*, Ceylon.
P. spinosa, *Roxb.*, Bengal.
P. interrupta, *Wall.*, Sikkim.
P. scandens, *Roxb.*, Kandalla, Sylhet.
P. grandifolia, *Wall.*
P. cordifolia, *Roxb.*, Kandalla, Penang.
P. lævis, *Wall.*, Doab.
P. coriacea, *Linn.*
P. mucronata, *Roxb.*, Morung, Khassya.
P. tomentosa, *Willde.*, Circars.
P. flavescens, *Buch.*, Goalpara.
P. glaberrima, *W. Ic.*
P. integrifolia, *W. Ic.*
P. serratifolia, *W. Ic.*
P. thyrsoidea, *W. Ic.*
P. Wightiana, *W. Ic.*

PREMNA HERBACEA. *Roxb.*

Bhooi jam, . . . BENG.	Sheeroodek, . . . TAM.
Bhoomi jambooka, SANSK.	Gunta baringa? . TEL.
Siribekku, . . . SINGH.	

A plant of Ceylon and the Peninsula of India. The leaves of P. esculenta are eaten as food; also used medicinally.

PREMNA INTEGRIFOLIA. *Linn.*
Premna hircina, *Buch.*

Chamaree, . . . MAHR.	Ghebu nelli, . . . TEL.
Appel, . . . MALEAL.	Pinna nelli, ... ,,
Munnay maram, . TAM.	

A shrub or small tree, common in India; the timber is only useful for the most common purposes. The leaves have a very unpleasant odour when pressed in the hand, but used by the natives in soups and curries, and a decoction of the leaves is used in colic and flatulence. The root has a somewhat warm and bitterish taste, an agreeable smell, and is prescribed in decoction as a gentle cordial and stomachic in fevers.—*Wight; Jaffrey.*

PREMNA LATIFOLIA. *Roxb.* Nelli chettu, Peddi-nelli, TEL. A small tree of the Coromandel coast; wood white, firm, and used for various economical purposes. Flowers during the hot season; the leaves have a pretty strong though not disagreeable smell, and are much used in curries by the natives.—*Voigt.*

PREMNA MUCRONATA. *Roxb.*

Bankar, . BEAS., RAVI.	Gian, ... RAVI.
Ganhila, . . CHENAB.	

A tree which occurs in the Siwalik tract to 3000 feet up to the Ravi.—*Stewart.*

PREMNA PYRAMIDATA. *Wall.* Kyoon-na-lin, BURM. A small tree of British Burma; wood strong, used for weavers' shuttles. A cubic foot weighs 52 lbs. In a full-grown tree on good soil, the average length of the trunk to the first branch is 30 feet, and average girth measured at 6 feet from the ground is 5 feet.—*Brandis' Cal. Cat. Ex.*, 1862.

PREMNA SERRATIFOLIA. *D. C.*

P. barbata, *Willde.*	Munnæ-keeray, . TAM.

Leaves used similar to those of P. integrifolia. The natives are very fond of them.—*Jaffrey.*

PREMNA TOMENTOSA. *Roxb.*

Kolcuttay teak ma-	Boosairu, . . . SINGH.
ram, . . ANGLO-TAM.	Nagara chettu, . . TEL.
Chambara, . . . MAHR.	Navuroo, Nagool, . ,,

A small tree of Ceylon, Coimbatore, the Bombay ghats, the Godavery, and the Northern Circars. It has a pretty-looking wood, hard and close-grained, of a brownish-yellow colour, well fitted for ornamental purposes; more a fancy wood than a timber, and is rather scarce; the natives use the sap in some of their ceremonies.—*Roxb.; Wight; Rohde.*

PREM SAGUR, a Hindi paraphrase of the Bhagavat Purana.

PRESBYTIS. *Illiger.* A genus of monkeys, the Semnopithecus of Cuvier, the Langur and Hanuman monkeys of the Hindus.

P. entellus, Bengal Langur.
P. schistaceus, Himalayan Langur.
P. priamus, Madras Langur.
P. Johnii, Malabar Langur.
P. jubatus, Neilgherry Langur.

P. pileatus, *Blyth*, Sylhet, Cachar, Chittagong.
P. barbei, *Blyth*, Tiperah Hills.
P. obscurus, *Reid*, Mergui.
P. Phayrei, *Blyth*, Arakan.
P. albocinereus, Malay Peninsula.
P. cephalopterus, *Blyth*, Ceylon.
P. ursinus, *Blyth*, Ceylon.
P. maurus, —, Java.
P. melalophos, —, Sumatra.

Presbytis cephalopterus, *Zimmerman*, *Blyth*, occurs in Ceylon. It is a most gentle creature; has the body black, slightly grizzled; croup, tail, and exterior of thighs albescent, palest on the croup and end of tail; head rufescent-brown, a little tinged with blackish on the sides, and the whiskers and short hair on the chin and lips of a dull white, conspicuously contrasting. Dr. Kelaart designated it as a new species, Pr. cephalopterus, *var. b.* monticolus, and the native name he spells Kallu wanderu.

Presbytis entellus, *Jerdon.*

P. anchises, *Elliot.*

Musya, ... CAN.	Hanuman Langur, HIND.
Bengal Langur, . ENG.	Makur, Wanur, . MAHR.

The Bengal langur occurs in Bengal and Central India, prefers forests and highly wooded districts, groves near villages, and occasionally enters towns and plunders the shops of the grain dealers with impunity, as the Hindus of N. India deem it sacrilege to kill one, and in some temples in the west of India it is regularly fed by the priests.—*Jerdon.*

Presbytis Johnii, *Jerdon.*

Semnopithecus Johnii, *var. Martin.*	S. cucullatus, *Is. Geof.*
S. Dussumierii, *Schinz.*	S. hypoleucus, *Blyth.*

The Malabar langur is found in the forests of S. Canara, Malabar, Cochin, and Travancore, but frequents gardens and cultivated woodland. Like others of the genus, it generally, by a noisy and alarmed chatter, gives notice of the presence of tigers, leopards, and other beasts of prey.

Presbytis jubatus (Semnopithecus Johnii, *Blyth*), the Neilgherry langur, is of a dark glossy-black throughout. It inhabits the Neilgherries, Animallay, Pulney, and Wynad, above 2500 feet. It is shy and wary. The fine glossy fur is much prized.

Presbytis priamus, *Elliot*, *Blyth*, Konde wanderu, SINGH., the Madras langur, is not confined to the low country in the north of Ceylon. They are seen skirting the Kandyan Hills, and occasionally on the hills. Trincomalee is full of them.

Presbytis schistaceus, *Hodgson*, *Horsf.*, *Blyth.*

Kubup, ... BHOT.	Kamba Suhu, . LEPCHA.
Langur, ... HIND.	

The Himalayan langur is found along the whole range of the Himalayas from Nepal to far west of Simla, Naini Tal, Musoorie, the Terai and lower hills of Nepal, and in Kamaon, up to 12,000 feet. They are bold and predatory.

Presbytis thersites, *Blyth*, Elle wanderu, SINGH. It is found in Ceylon, in Bintenne, and in the Wanny district. It was considered identical with Pr. priamus of the Eastern and Western Ghats of the Peninsula, the Ceylon hanuman, but is distinct from that and the several other allied species which have been confounded under Pr. entellus. At Mr. Elliot's suggestion, it has been designated Pr. thersites, *Elliot*. Adult male inferior in size to that of Pr. entellus (verus) of Bengal, Orissa, and Central India, of a uniform dusky-grey colour (devoid of fulvous tinge) on the upper parts; face surrounded with white, narrow over the brows, the whiskers and beard more developed than in the other entelloid Indian species, and very conspicuously white. The strongly contrasting white beard is indeed the most striking feature of this Ceylon species, as compared with its near congeners.

Presbytis ursinus, *Blyth*, usually seen in large numbers jumping on the trees, and when disturbed they make a peculiar short howling noise. One was known to have attacked a coolie on a coffee estate carrying a rice bag. Some of the races of Malabar eat the flesh of this monkey, and consider it very delicious food, and some Europeans who have tasted it are of the same opinion.—*Elliot; Tennent's Ceylon*, p. 62; *Mr. Blyth's Reports.*

PRESENTS, in oriental customs, are invariably offered by inferiors or subordinates on approaching superiors, and they are usually of m[illegible] the superior either simply acknowledges the bestows in return articles of dress, or c[illegible] the right to certain titles or dignities. The tom was adhered to by Jacob, Genesis xxxii. and xxxiii. 10, when about to meet Esau; a Jacob, in sending his sons to Egypt, xliii. propitiate Joseph. There are three articles w in Japan, always form part of an imperial p These are rice, dried fish, and dogs. Som say that charcoal is always included. Why should have been selected, or what they p larly symbolize, is not known.—*American J Jap.* p. 429.

PRESERVED PROVISIONS. The chief a employed for the preservation of organize stances are salt, sugar, oil, charcoal, aceti or pyroligneous acid, and alcohol and salt in the curing of fish of different kinds, bacon etc., in the pickling of pork, and in the cor beef. Salt possesses great affinity for water, it abstracts largely from the substance to wh is applied, and to which affinity its power preservative agent is mainly due. Sugar is p cipally employed for preserving fruits, ei entire or in the state of jam or marmalade. the condition of syrup, it operates partly by barrier which it interposes to the free access the atmosphere to the surface of the fruit, and partly in consequence of its being a non-nitrogenous substance.

Sardines and anchovies are nearly the only articles put up in oil. It appears to operate in the same manner as sugar. The powerful effect of charcoal retarding putrescence in meat, and even in restoring tainted meat to a state of sweetness, is well known. Its action is due to its property of absorbing gases and effecting their oxidation as rapidly as they are developed from the decomposing meat, and which is made to preserve at least the appearance of freshness. The use of dilute acetic acid or vinegar is confined to the preservation of vegetable substances, and is employed principally by pickle-makers.

Pemmican is the muscular fibre of beef or mutton baked on hot iron plates and reduced to a coarse powder, but in India it is fibrous meat cut into long stripes, and dried in the sun. Vegetables and fruits are now largely preserved freed from their fluid constituents. When vegetables thus prepared are immersed in water for some

time, they swell up, become soft and tender, and resume to a very great extent the appearance, colour, and flavour proper to them in the fresh state. In another mode, the article to be preserved is placed sometimes in the raw state, but generally cooked in a tin canister, the lid of which is soldered down, but is perforated with a small aperture or pin-hole. It is then subjected to the action of either steam, boiling water, or a muriate of lime bath, until the contents of the canister, if not previously dressed, have become about two-thirds cooked. The aperture in the cover is then closed, and the canister and its contents are once more submitted for a shorter period—that is until the article is completely dressed—to the operation of heat. As soon as it has become cold, the canister is covered over with a coating of paint; its preparation is then complete.—*Hassell.*

PRESERVES, etc.

Conserve, ...	Fr.	Conserva, ...	It., Sp.
Eingemachte, . . .	Ger. ?	Rèchèl, ...	Turk.

The Chinese candy many things which are not considered fit for such purposes elsewhere, as millet seeds, bamboo shoots, slices of the lily root, etc.; these are hawked about the streets. Ginger root, preserved in sugar, is the most common sweetmeat exported; it is made of the tender roots of the ginger plant (Zingiber officinalis), and when good has a bright appearance, a dark-red colour, and is somewhat translucent. If the roots are old, the conserve will be stringy, tough, and tasteless. Much of this kind of sweetmeat is carried to India for consumption there, and for re-exportation to England and the Continent. The export to the United States is considerable, also to Sydney, South America, etc. Other kinds of conserves, as whampee, guava, and pear, jelly, citron, kumquat, oranges, etc., are also sent abroad. In India, the mango, apple, pear, melon, quince, lemon, amla (Emblica officinalis), halela (Beleric myrobalan), carrot, ber, ginger, are all made into preserves. There are preserves also of lemon, Bokhara plum, limes, tomato, rhubarb, cherry (gila, sara, siya), peach, and water-melon. — *Honourable Mr. Morrison's Compendious Description.*

PRESIDENCY is the term by which, in India, the British designate the respective governments of Bengal, Madras, and Bombay. It has its origin in the circumstance of the administration there being conducted by a council, the governor for the time being holding the office of president.

The Presidency of Bengal (or technically Fort William in Bengal) has become so largely extended, as to require that the local government of parts of the original presidency should be delegated by the Governor-General of the extended presidency to Lieutenant-Governors. The Bengal Civil Servants are disseminated throughout Northern and Eastern India,—in (1) the Lieutenant-Government of Bengal Proper, in (2) the North-Western Provinces (of Bengal) and Oudh, (3) the Panjab, (4) Rajputana and Ajmir, (5) Central India, (6) the Central Provinces, (7) Hyderabad and Berar, (8) Mysore and Coorg, (9) Assam, (10) Munipur, (11) British Burma, (12) the Andaman and Nicobar Islands. All these distinct governments, under Lieutenant-Governors, Commissioners, Superintendents, or Native Princes, with Political Agents as their advisers, are supplied with British officials from the Bengal Civil Service, and are subject to the superior control of the Governor-General in Council. The Presidencies of Madras and Bombay cover the remainder of India, and have their own distinct Civil Services.

Although there are 14 separate governments in India, including Madras and Bombay, the 12 divisions of Bengal Presidency have no correspondence with the Secretary of State except through the Governor-General. Bombay and Madras, as separate presidencies, retain that distinction.

The three presidencies of Bengal, Madras, and Bombay have each an executive and a legislative council, over which the senior member, as Governor, presides; and letters from the Court of Directors of the E. I. Company were addressed to 'our President in Council,' from which the three divisions came to be called the Bengal, Madras, and Bombay Presidencies. These councils are in direct communication with the Secretary of State for India, who is one of the principal ministers of Great Britain.

PRESTER JOHN. Aung Khan of the Keraite Mongols, celebrated in Europe under the name of Prester John, or Presbyter John, was a contemporary of Chengiz Khan, whom, at the instigation of jealous enemies, he attempted, but failed, to destroy. He was of the Christian religion, contemporary with the emperor Alexius Comnenus of Constantinople, to whom he addressed a letter descriptive of his power. So many fables have been related of him, that his very existence has been doubted. But many particulars of this letter are confirmed by Marco Polo, Sir John Mandeville, and others. In that letter he described himself as a Christian, ruling over the three Indies, from the furthermost, where Thomas is bound, to Babylon. These were divided into 72 provinces, some of them Christian, and each with a king. He mentions that he had vowed to visit the sepulchre of our Lord with a great army, and that his army was preceded by 13 crosses of gold and precious stones. Dr. Oppaert, in an essay read before the Ethnological Society, describes Prester John as a title of four Tartar sovereigns or Kaitach, belonging to the Kitai Tartar, and one of the name Yeliutashi, who defeated the Sultan Sanjar, was the founder of the realm of Kara Kitai. After his conquest of Eastern and Western Turkestan, he became known by the title of Gur Khan, and had his capital at Bala Sagun. The last of the princes who took this title of Prester John was named Kushluh, who reigned 1213 to 1218, and was defeated and slain by Chengiz Khan.—*Layard's Nineveh*, i. p. 251; *Elliot*, p. 498; *Dr. Oppaert; Schuyler*, p. 122.

PRETA, a spirit; Preta Srad'ha, the first year's obsequial ceremonies to a deceased Hindu. There are fifteen Preta Srad'ha. The Hindu Shastras or sacred books teach that after death the soul becomes preta, viz. takes a body about the size of a person's thumb, and remains in the custody of Yama, the judge of the dead. At the time of receiving punishment, the body becomes enlarged, and is made capable of enduring sorrow. The Srad'ha, performed by a son, delivers the deceased, at the end of a year, from this state, and translates him to the heaven of the Pitri, where he enjoys the reward of his meritorious actions, and afterwards, in another

body, enters into that state which the nature of his former actions assign to him. If the Srad'ha be not performed, the deceased remains in the preta state, and cannot enter another body. This view of a future state is almost similar to that in the 325th and six following lines of Virgil, in the 6th book of his Æneid, as well as of the 28th ode of the 1st book of Horace.—*Ward*, ii. p. 139.

PRETYA-BHAVA. SANSK. This is often rendered the condition of the soul after death, but means really the state on earth. The present life, according to Indian notions, is Bhava, birth and growth; Pretya, after a previous death. In Hindu books, a life after death is not unfrequently alluded to, but it is more for the goods of this world, for strength, for long life, a large family, food, and cattle, that the favour of the gods is implored.

PRIAPUS. LAT. The Phallus of the Greeks, and Lingam of the Hindus. In the south of France it was worshipped under the title of St. Foutin; of St. Regnaud, in Burgundy; and as St. Cosmo, in the south of Italy.—*Tod.* See Lingam.

PRICE, MAJOR DAVID, an officer of the E. I. Co. in the Bombay army. He was long in political employ. He wrote in four volumes, Memoirs of the Principal Events of Muhammadan History from the Death of the Arabian Legislator to the Establishment of the Moghul Empire in Hindustan, London 1811–21; also History of Arabia antecedent to the Birth of Mahomed, London 1824.

PRICKLY PEAR, Opuntia Dillenii, *Haworth*, Cactus Indicus, *Roxburgh*, C. Dillenii, *Ker*, also called the hedge prickly pear, is a native of America, but is now growing over all India, and is called Nag-phana, or snake-hooded. It has large yellow flowers, and fruits throughout the year, but the fruit is not used in India. From the severe pain its prickles occasion, its vitality, and the rapidity of its growth, it is a very troublesome plant to eradicate. After cutting it, put it into water, and sink it to the bottom with stones. In 24 hours the water will begin to get thick and muddy. In two days it smells sour, on the third a scum rises, and the whole substance of the prickly pear is decomposed. It then makes good manure, and will not grow or vegetate. Another method of destroying it is to cut a number of the shrubby plants that usually accompany it, spread these over the ground to the height of a foot or two, lay the prickly pear on the top, and leave the pile to dry for some days, then set fire to the heap. If too much of the prickly pear be piled up, it will require a second firing. Potass may be prepared from the ashes. If prickly pear be cut and left on the ground, it very soon begins to grow again.

PRIEST and Priestly Caste are terms loosely applied to the Brahmans of India; the name is occasionally given to Buddhists. Every Brahman who professes a knowledge of the formula of his religion may become a priest, and such are distinguished by the appellations, Purushita, Acharya, Sudushya, Brahma, and Hota. The first appears to be the principal ceremonial, the last the sacrificial, priest. According to Mr. Ward, the first-mentioned is the most advantageous order, as the rich, who are unwilling to fast, bathe in cold water, and perform further ablutions and sacrifices, bestow fees upon the Purushita to perform these ceremonies for them. The five artisan castes, and all the non-Aryan races, have priests of their own, and not Brahmans. Hindu priests have no official garments.—*Cole. Myth. Hind.* p. 392.

PRIMATES, a group of the mammalia, comprising the quadrumana and cheiroptera. See Mammalia.

PRINSEP, JAMES, one of a family, several of whom obtained employment or sought a career in India. James was for some time secretary to the Asiatic Society of Bengal, and did more to extend the knowledge of eastern numismatics than any other individual up to his time (1873). The results of his researches have been given to the world in two volumes, entitled Indian Antiquities (Murray, 1858), edited by Mr. Edward Thomas; Useful Tables on Indian Metrology and Chronology. The marvellous ingenuity which he displayed in deciphering the inscriptions of Asoka and other hitherto unread documents, revolutionized the whole character of Indian archæology.

Charles R. Prinsep, a barrister in India, and formerly of the Middle Temple, is the translator of Say's Political Economy. Henry Toby Prinsep is the author of several pamphlets on Indian questions, also of various statistics published in the Asiatic Society's Journal, and of a Narrative of Political and Military Transactions of British India under the Administration of the Marquis of Hastings, 1813 to 1823, London 1820, 1825; Origin of the Sikh Power in the Panjab, and Political Life of Maharaja Ranjit Singh, Calcutta 1834.

PRINSEPIA UTILIS. *Royle.*

Behkul, ... BEAS.	Rari, Jinti, . CHENAB.
Gurinda, CHAM., JHELUM.	Bhekling, . . KANAWAR.
Arund, ... ,,	Bekkli, Karangura, RAVI.
Tatua, Phoolwara, CHENAB.	Bekkar, Bekrul, SUTLEJ.

A common North-west Himalayan plant, and found at 8000 feet in Sikkim, also in Kaghan and the Sutlej valley between Rampur and Sungnam at an elevation of 4000 to 8000 feet. Used for hedges; its seeds yield an edible oil; wood used for walking-sticks.—*Stewart.*

PRINTED CLOTHS. The art of calico-printing is one which was common to the ancient Egyptians and Indians, and is still largely practised by the latter, and with a skill which produces much to be admired, even in the midst of the productions of the world, and after many attempts have been made to improve an art certainly imported from the east. Pliny was acquainted with the art by which cloths, though immersed in a heated dyeing liquor of one uniform colour, came out tinged with different colours, and afterwards could not be discharged by washing. The people of India were found practising the art when first visited by Europeans, and Calicut on the Malabar coast has given its name to calico.

The large cotton chintz counterpanes, called pallampoors (palangposh), which from an early period have been made in the East Indies, are prepared by placing on the cloth a pattern of wax, and dyeing the parts not so protected.

The colours used in calico-printing are derived from all the three kingdoms of nature, but it seldom happens that solutions, infusions, or decoctions of these colours admit of being applied at once to the cloth without some previous preparation, either of the cloth itself, or of the colouring

material. It is often necessary to apply some substance to the cloth which shall act as a bond of union between it and the colouring matter. The substance is usually a metallic salt, which has an affinity for the tissue of the cloth as well as for the colouring matter when in a state of solution, and forms with the latter an insoluble compound. Such a substance is called a mordant (from the Latin Mordere, to bite), a term given by the French dyers, under the idea that it exerted a corrosive action on the fibre, expanding the pores, and allowing the colour to be absorbed. The usual mordants are common alum and several salts of alumina, peroxide of tin, protoxide of tin, and oxide of chrome. These have an affinity for colouring matters, but many of their salts have also a considerable attraction for the tissue of the cloth, which withdraws them to a certain extent from their solutions. Mordants are useful for all those vegetable and animal colouring matters which are soluble in water, but have not a strong affinity for tissues. The action of the mordant is to withdraw them from solution, and to form with them, upon the cloth itself, certain compounds which are insoluble in water. In European cloth-printing, although the methods employed are numerous, and the combinations of colours and shades of colour almost infinite, yet each colour in a pattern must, in the present state of the art, be applied by one of six different styles of work. These are termed—1. the madder style; 2. printing by steam; 3. the paddling style; 4. the resist style; 5. the discharge style; and 6. the China-blue style. By the proper combination of two or more of these styles, any pattern, however complicated, is produced. The processes actually required for finishing a piece of cloth are numerous, as, for example, in producing a red stripe upon a white ground, the bleached cloth is submitted to nineteen operations, as follows:—1. Printing on mordant of red liquor (a preparation of alumina) thickened with flour, and dyeing; 2. ageing for three days; 3. dunging; 4. wincing in cold water; 5. washing at the dash-wheel; 6. wincing in dung-substitute and size; 7. wincing in cold water; 8. dyeing in madder; 9. wincing in cold water; 10. washing at the dash-wheel; 11. wincing in soap-water containing a salt of tin; 12. washing at the dash-wheel; 13. wincing in soap-water; 14. wincing in a solution of bleaching-powder; 15. washing at the dash-wheel; 16. drying by the water extractor; 17. folding; 18. starching; 19. drying by steam.

Indian dyers apply the mordants both by pencils and by engraved blocks. Blocks are used throughout India, but silk handkerchiefs had the parts where the round spots were to be, tied up with thread, so as not to be affected by the dye-liquors, and it was from this process of tying (bandhna) that they received the name of bandana. The cloth-printers at Dacca stamp the figures on cloth which is to be embroidered. The stamps are formed of small blocks of kantul (Artocarpus) wood, with the figures carved in relief. The colouring matter is a red earth imported from Bombay, probably the so-called Indian earth from the Persian Gulf. Though the art is now practised to much perfection in Europe, the Indian patterns still retain their own particular beauties, and command a crowd of admirers. This is no doubt due in a great measure to the knowledge which they have of the effects of colours, and the proportion which they preserve between the ground and the pattern, by which a good effect is procured both at a distance and on a near inspection. Printed cloths are worn occasionally, as in Berar and Bundelkhand, for sarees; and the ends and borders have peculiar local patterns. There is also a class of prints on coarse cloth, used for the skirts or petticoats of women of some of the lower classes in Upper India; but the greatest demand for printed cloths is for palempores, or single quilts. In the costlier garments woven in India, the borders and ends are entirely of gold thread and silk, the former predominating. Printing in gold and in silver is a branch of the art which has been carried to great perfection in India, as well upon thick calico as upon fine muslin. The size which is used is not mentioned, but in the Burmese territory the juice of a plant is used, which no doubt contains caoutchouc in a state of solution.

There is a branch of cotton-printing carried on at Sholapur. The patterns of various kinds are printed upon coarse cloth, and are used for floor-coverings, bed-coverlets, etc. etc., the latter by the poorer classes. The colours are very permanent, and will bear any amount of washing, but are confined to madder reds, and browns, black, dull greens, and yellows. See Dyes.

The object of calico-printing is to apply one or more colours to particular parts of cloth, so as to represent a distinct pattern, and the beauty of a print depends on the elegance of the pattern and the brilliancy and contrast of the colours. The processes employed are applicable to linen, silk, worsted, and mixed fabrics, although they are usually referred to cotton cloth or calico. There are various methods of calico-printing, the simplest of which is block-printing by hand, in which the pattern or a portion thereof is engraved in relief upon the face of a block of sycamore, holly, or pear-tree wood, backed with deal, and furnished with a strong handle of boxwood. A machine, called the perrotine, in honour of its inventor, M. Perrot of Rouen, is in use in France and Belguim as a substitute for hand-block printing. Copperplate printing similar to that used in the production of engravings, has also been applied to calico-printing. The invention of cylinder or roller printing is the greatest achievement that has been made in the art, producing results which are truly extraordinary: a length of calico equal to one mile can by this method be printed off with four different colours in one hour, and more accurately and with better effect than block-printing by hand. By another method of calico-printing, namely, press-printing, several colours can be printed at once. The cloth to be printed is wound upon a roller at one end of the machine, and the design, which is formed in a block of mixed metal about 2½ feet square, is supported with its face downwards in an iron frame, and can be raised or lowered at pleasure. The face of the block is divided into as many stripes, ranging crossways with the table, as there are colours to be printed.—*Royle's Arts of India.*

PRINTING.

Taba, Chapa, AR., HIND.	Imprenta, ... SP.
Impression, . . . FR.	Atche, ... TAM.
Drucken, . . . GER. ?	Basma, ... TURK.
Impressione, . . . IT.	

Sir John Davis is of opinion that the art of printing, the composition of gunpowder, and the magnetic compass, which are justly considered as three of the most important inventions or discoveries, had their first origin in China. Their printing is by a system of stereotype, the types being made from the pear-tree wood, called by them ly-mo. In the beginning of the 10th century their printing was invented, and in A.D. 932 that mode of multiplying copies of books received the imperial sanction, a printed imperial edition of all the sacred works having been then published. The art was not invented in Europe till 500 years after this. Marco Polo speaks much of the stamped paper money of the Chinese; and he must have seen their printed books. Printing with moveable types (made of terra-cotta) was invented in China by a smith named Pishing, before the middle of the 11th century, but the invention does not seem to have been followed up. Their wood-printing was known at least as early as A.D. 581; and about 904 engraving on stone for the press was introduced. Paper in China is made from bamboo, from the bark of mulberry, of a hibiscus (Rosa Sinensis), and of the tree called chu (Broussonetia papyrifera). All bark-paper is strong and tough; it has rays crossing it, so that when torn you would think it was made of silk fibres. This is why it is called Mien-chi, or silk paper.

Printing was known in Europe in A.D. 1428. The art of printing was introduced into India by the Goa Jesuits about the middle of the 16th century, but at first they printed only in the Roman character. Father Estevao (*i.e.* Stephens, an Englishman), about 1600, speaks of the Roman character as exclusively used for writing Konkani, and the system of transcription which he uses in his Konkani grammar (Arte de lingoa Cannarin) and Purana is really worthy of admiration. It is based on the Portuguese pronunciation of the alphabet, but is accurate and complete, and has been used by the numerous Konkani Roman Catholics of the west coast of India up to the present time. In the 17th century the Jesuits appear to have had two presses at Goa,—in their college of St. Paul at Goa, and in their house at Rachol. Few specimens of their work have been preserved, but there is ample evidence that they printed a considerable number of books, and some of large size. About the end of the 17th century, it became the practice at Goa to advance natives to high office in the church, and from that time ruin and degradation began, and the labours of the early Jesuits disappeared. Literature was entirely neglected, and the productions of the early presses were probably used as waste-paper by the monks, or left to certain destruction by remaining unused and uncared for on their book-shelves. There is, however, in the Cochin territory a place quite as famous as Goa in the history of printing in India, often mentioned by travellers in the 17th and 18th centuries, Ambalacatta (*i.e.* Ambalakkadu, or Churchwood). The place still remains as a small village with a scanty population of schismatic Nestorians; it is inland from Cranganore, and a few miles to the north of Angamali. The Jesuits appear to have built here a seminary and church dedicated to St. Thomas soon after 1550, and in consequence of the result of the Synod of Udayompura, presided over by Alexius Manezes, Archbishop of Goa, in 1599 it became a place of great importance to the mission. Sanskrit, Tamil, Malayan, and Syriac were studied by the Portuguese Jesuits residing there with great success, and several important works were printed, of which, however, we have only the names left us, as recorded by F. de Souza and others, and still later by Fr. Paulinus. The last tells us that—'Anno 1679, in oppido Ambalacatta in lignum incisi alli characteræ Tamulici per Ignatium Aichamoni indigenam Malabarensem, iisque in lucem prodiit opus inscriptum: Vocabulario Tamulio com a significaco Portugueza composto pello P. Antem de Proenca da Comp. de Jesu, Miss de Madure.' The first Malabar (Tamil? Malayalam?) types had been cut by a lay brother of the Jesuits, Joannes Gonsalves, at Cochin, in 1577. Ambalacatta was destroyed by order of Tipu, when his army invaded Cochin and Travancore. He spared neither Christians nor Hindus, and to him attaches the infamy of destroying most of the ancient Sanskrit MSS. which time had spared in South India. Brahmans have yet stories current, how in those times their ancestors had to flee to the forests with a few of their most precious books and possessions, leaving the remainder to the flames.—*Trubner's Oriental Record.*

Tamil types seem, however, to have been cut at Amsterdam in 1678, to express the names of some plants in the large work, Horti Indici Malabarici. Ziegenbalg mentions, however, that they were so bad that even the Tamilar themselves could not make them out. It would appear that the next attempt was made at Halle, about 1710, to supply the Tranquebar Mission. Fenger says, 'The people there, though unacquainted with the Tamil language, succeeded in making some Tamil letters, which they hastily tried and sent to Tranquebar, where the first part of the New Testament, as well as other things, was printed with them. This sample, the very first thing ever printed in Tamil characters, was the Apostles' Creed, and the friends at Halle when they despatched it with the printing-press, requested soon to be requited by a copy of the New Testament in Tamil.' The printing of the New Testament was completed in Tranquebar in 1715. The type first cut at Halle is about equal to the size called English. Smaller founts were cut afterwards. A specimen is given of a part of Arndt's True Christianity, printed at Halle in 1751. Founts of type were subsequently cut in India. Printing was carried on both on the Continent and in Ceylon. In 1761 the Madras Government allowed the Vepery missionaries the use of a press taken at Pondicherry. Tamil typography owes its present excellence mainly to Mr. P. R. Hunt, of the American Mission Press. With much labour, he superintended the cutting of the punches of several founts; the smallest size (brevier) he had prepared in America. He produced the smallest vernacular edition of the Scriptures ever yet issued in India. The American press has also raised the standard of printing throughout the Tamil country. The Rev. W. Taylor states that up to 1835 the only Tamil works printed by natives were the Kural and some poetry by Auvaiyar. In that year (15th September) Sir Charles Metcalfe removed the restrictions on printing, and soon afterwards native presses began to be established. In 1863, there were ten native

presses in Madras, printing in Tamil, on a very small scale. According to Hindu custom, related families dwell together, and a wooden printing press was owned in common; some members acting as printers, others attending to sales. This indeed was the early practice in Europe. Hallam says, 'The first printers were always booksellers, and sold their own impressions. These occupations were not divided till the early part of the 16th century.' In 1872, three or four native printers had iron presses, and even claimed to hot-press their sheets. Some books printed by them were of very fair workmanship.

The very first work printed in Bengali was issued from a press at Hoogly in 1778. It was a Bengali grammar by Nathaniel Brassey Halhed, B.C.S.; and the types for it were actually prepared by the hands of Lieut. C. Wilkins, of the Bengal army, afterwards Sir Charles Wilkins, [illegible]lebrated Sanskrit scholar. The first native [illegible]earned type-cutting was a blacksmith of the [illegible] of Panchanan, who was specially instructed [illegible]t art by Lieut. Wilkins himself. This man [illegible]ared the first fount of Bengali types for the [illegible]ist missionaries, at Serampur, at the rate of [illegible]ee 4 annas per letter. In 1875, the second book [illegible]ngali was published by the E. I. Co.'s press. Mr. Foster's Bengali translation of Lord [illegible]allis' Regulation of 1793 was printed at [illegible]e press, a new set of types had been made, [illegible] superior to its predecessor. In 1803, the [illegible]pur missionaries prepared type in Deva [illegible] and on the 28th May 1818, issued the first [illegible]li newspaper, called Samachar Darpan. The [illegible]char Darpan was preceded by a Bengali [illegible]ly magazine, designated the Dig-darshan. [illegible]ly afterwards the Timir Nashak was published [illegible]alcutta by a Bengali, but it died in a short [illegible]. The Samachar Darpan, or The Mirror of [illegible]vs, was a hebdomadal, and was printed and [illegible]ished at Serampur. Its first editor was the well-known John Clark Marshman,—Father [illegible], as he was irreverently dubbed by the [illegible]ish press of that time; and the newspaper, a protracted existence of nearly a quarter of a century, ceased to appear in 1841. The Governor-General, the Marquis of Hastings, according to the Rev. J. Long, on the first issue of the paper, wrote with his own hand to the editor expressing his entire approval of it. And in public his lordship is said to have avowed that it was 'salutary for the supreme authority to look to the control of public scrutiny.'

An Agra newspaper of 1870 says there were then twenty-four mission presses in India, Ceylon, and Burma. These had published in the course of the last ten years no fewer than 3410 separate works, mostly of a Christian and educational character, in 31 languages and dialects. In the year 1870, there were six printing offices in Yezo alone (now called Tokio, *i.e.* Eastern Capital). They turn out elementary school-books to meet the large demands of this progressive people, to be used as the means for acquiring a knowledge of English and other European languages. None but their own people are employed. They publish newspapers in their own characters, but the type is cast on a regular body, to English standard, and in a Japanese type-foundry at Nangasaki. The native characters consist of Chinese, and the Japanese 'Hirakana' and 'Katakana.' The Chinese characters are arranged in cases with very narrow divisions the width of the body of the type; these are placed in the divisions on their feet, with the face upwards.—*Preface to Grammatica Damulica; History of the Tranquebar Mission; Royle's Arts, etc., of India; Pennant's Hindoostan*, i. p. 132; *M'Culloch's Dictionary; Julien in Jour. Asiat.* p. 509; *Chin. Moderne*, p. 626; *Yule, Cathay*, i. p. 219.

PRION DESOLATUS, a petrel of the Kerguelen Land. It is a small bird, and known to seamen as the whale bird, from accompanying the whales. P. pachyptila is also the whale bird of sailors.

PRIONODON GRACILIS, *Horsfield*, a feline form (Felis gracilis, Delundung of the Javanese), placed in a separate section under the name of Prionodontidæ, between Felis and Viverra. (Zoological Researches in Java.) In Blambangan it inhabits the extensive forests which cover that district.

PRIONODON PARDICOLOR. *Hodgson.*

Zik-chum, ... Brot. | Suhya, . . . Lepcha.

Is the tiger civet, a very beautiful animal of the S.E. Himalaya, Nepal, and Sikkim. Jerdon had one which he domesticated, and it became playful.—*Jerdon.*

PRISHADHRA, a son of Manu Vaivaswata, who killed the cow of his religious teacher, and by that menial act became a Sudra.—*Dowson.*

PRISTIDÆ, the saw-fish family of fishes of the genus Pristis. There are—

Pristis Perrotteti, *M. and H.*, E. and W. Indies, Archipelago, Red Sea.
P. pectinatus, *Lath.*, Tropical Seas.
P. zysron, *Blkr.*, East Indies, Archipelago.
P. cuspidatus, *Lath.*, East Indies.

PRISTIOPHORIDÆ, a family of fishes of the Pristiophorus genus, there are—

Pristiophorus cirratus, *Lath.*, Australia.
P. nudipinnis, *Gthr.*
P. Owenii, *Gthr.*, —?
P. Japonicus, *Gthr.*, Japan.

PRISTIPOMA GUORACA. *C. and V.*

Perca grunniens, *Foster.* | Anthias grunniens, *Bloch.*, *Schneider.*
Guoraka, *Russell.*

This fish is one foot long. It inhabits the Isle of Tanna, Batavia, Coromandel, and Mahé (fresh water). Its air-vessel is very thin, from which its isinglass is of little value.

PRISTIS ANTIQUORUM, a huge saw-fish of the eastern coast of Ceylon. Two other species are found in the Ceylon waters, P. cuspidatus and P. pectinatus. Squalus pristis is the saw-snouted shark.—*Tennent's Ceylon*, p. 325.

PRITCHARDIA PACIFICA. This palm, throughout the Polynesian islands, is held to be exclusively the property of the aristocracy, and not allowed to be devoted to common purposes by the lower classes, like the species which it so much resembles.—*Seeman.*

PRITHI or Kunti, daughter of Sura, a Yadava prince, who gave her to his childless cousin Kuntibhoja, who brought her up. In Hindu mythology, a sage named Durvasa, who was living in her father's house, gave her a charm, by which she was to have a child by any god she liked to invoke. She summoned the sun, and her child was born armed with cuirass and lance. Afraid of the anger of her relatives, she exposed her child in the Jumna, where it was found by Adi Ratha,

charioteer of Dhrita Rashtra, and nurtured by his wife Radha, and called therefore Radheya.

PRITHI RAJ, son of Rana Raemul, the troubadour of Mewar. After several gallant adventures, he was poisoned by Pabhu Rao, chief of Sirohi, and Tara Bai immolated herself on the pyre, and their monument is to be seen near the temple of Mama Devi, overlooking the road leading to Marwar.—*Tod's Rajasthan*, i. p. 673.

PRITHI RAJA, also written Prithivi Raja and Pritwi Raja, a Rajput prince of the Chauhan tribe, under whom the Tomara and Chauhan tribes were united. Shortly before the time of Shahab-ud-Din, the four greatest kingdoms in India were—Dehli, then held by the Tomara Rajputs; Ajmir, by the Chauhan; Kanouj, by the Rahtor; and Gujerat, by Baghela, who had supplanted the Chalukya dynasty. But the Tomara chief dying without male issue, his grandson Prithivi, raja of Ajmir, united the Tomara and Chauhan under one head. As the raja of Kanouj was also a grandson of the Tomara chief by another daughter, he was mortally offended at the preference shown to his cousin; and the wars and jealousies to which this rivalship gave rise, contributed greatly to Shahab-ud-Din's success in his designs on India. Prithi Raja was born in the year 1154, and was sixteen years of age when he succeeded his maternal grandfather on the throne of the Anango. The first princess married by Prithivi was the daughter of the Dahima of Biana, a city the castle of which was built on the topmost peak of Druinadaher. He enlarged the circle of his alliances, till there gathered round his throne 108 chiefs of high rank, and in the height of his power he celebrated the Aswa Medha as a claim of empire. By one account, it was on the occasion of this ceremony that Prithivi, in 1175, carried off the princess Sanjogata in open day from the capital of Jye-chand a feat, the heroism of which forms the subject of the Kanouj Kandh of the Prithivi Raja Chauhan Rasa of the poet Chand. The princess of Kanouj was not only remarkable for her personal charms, but formed the most perfect model of Rajput female character in her day. Her father, claiming empire, was being served by princes of his race, but as Prithivi Raja did not appear, the Kanouj king erected a mocking, ill-shapen image of him. The princess Sanjogata, however, threw her bridal garland over the image, and Prithivi Raja, hearing of it, successfully carried her off, but with the loss of his best chiefs.

Shahab-ud-Din's first attack on Prithivi was A.D. 1191, A.H. 587. The armies met at Tirouri, between Tanesar and Karnal, where most of the contests for India have been decided. While he was engaged in the centre of his army, the Hindus outflanked him; both wings of his army gave way. The rout was complete, and his army was pursued for forty miles, and Shahab settled at Ghazni, where, as he said, he never slumbered in ease or waked but in sorrow and anxiety. After two years (A.D. 1193, A.H. 589) he returned to India with an army of Turk, Tajak, and Afghan. Prithivi again met him on the banks of the Caggar with a vast army, swelled by numerous allies, who were attracted by his former success. They allowed themselves to be surprised one morning at daybreak, but recovered their position and advanced against the Muhammadans in four lines. Shahab-ud-Din retired, keeping his men in hand, till an opportunity occurring, he charged the Hindu army at the head of 12,000 chosen horse in steel armour, and Prithi's prodigious army, once shaken, like a great building, tottered to its fall, and was lost in its own ruins. The Viceroy of Dehli and many other chiefs were slain on the field, and Prithivi Raja, being taken in the pursuit, was put to death in cold blood. Then followed scenes of devastation, plunder, and massacre that have too often been enacted in Dehli. The bard Chand remained to sing the requiem of his nation's fall. He was the last heroic Hindu poet of India, and was the author of the Prithivi Raja Chauhan Rasa, containing an account of Prithivi Raja. It has many books, of which the Kanouj Kandh contains the history of Sanjogata Jye-chand.

The chief of the Chauhan Rajputs in the Ulwar district of Raht claims to be the living representative of Prithi.—*Elph.* pp. 313, 314; *Brigg's Ferishta*, i. pp. 173-177; *Tr. of Hind.* ii. p. [illegible] *As. Res.* ix. pp. 77, 109, 118, 168, 170.

PRIT'HIVI or Urvi, the goddess of the [illegible] is by some termed a form of Lakshmi, by o[thers] of Parvati. Her husband is Prit'hu, produce[d] churning the right arm of a deceased tyrant [who] had died without issue, that he might h[ave] posthumous son, who is represented as a fo[rm] Vishnu. As a form of Lakshmi, Prit'hivi [is] Indian Ceres. Daily sacrifices are offered [to] The Hindus divide the universe into ten p[arts] each of which a deity is assigned. Prit'hivi goddess of the earth. Viswakarma, the artif[icer] the universe, that is, the lord of creation, a[nd] ing that character, moulded the earth, and came Prit'hivi-conspicuous; and that name, hivi, is therefore assigned to the earth. In I[ndian] mythology, Urvi means broad and wide; the [earth] goddess is typified as a cow, which yields to e[very] class of beings the milk they desired as the ject of their wishes. In the Vedas the eart[h is] personified as the mother of all beings, an[d is] invoked together with the sky. In the form [of a] cow, Prit'hivi was milked by Swayambhuva, [the] ancestor of Prit'hu, who so employed Prit'hivi, as a personification of the earth, represents patience; the Hindus refer to the earth, or Prit'hivi, proverbially, as an example of patience or forbearance, permitting her bowels to be ripped open, her surface lacerated, and suffering every indignity without resentment or murmuring. She is quoted also as an example of correctness, as returning good for evil. Prit'hivi Pati, *i.e.* lord of the earth, is a title conferred on terrestrial or real, as well as mythological sovereigns. In the latter sense he is deemed the architect of the universe, and chief engineer of the gods. He revealed the fourth Upaveda in various treatises on sixty-four mechanical arts, for the improvement of such as exercise them; and he is the inspector of all manual labours and mechanical arts. The goddess Prit'hivi is also called Bhu-Devi, also Bhuma Devi, names of the earth. Bhu-Devi, in Hindu mythology, is the terrestrial name of Parvati, as goddess of the earth. As the names of Diana were varied to suit her various forms, she being Luna in heaven, Proserpine or Hecate in hell, so her archetype, the Hindu Parvati, is the heavenly Bhavani, on earth Bhu-Devi, and Patala-Devi as consort of the regent of the infernal regions. Bhu-Deva, as spouse of the earthly goddess, is a name of Siva.

—*As. Res.* vi. p. 502; *Hindu Infanticide*, p. 28; *Coleman*, p. 102; *Moor*, p. 113.

PRIT'HU, the first king who formed towns, taught the arts, taught cultivation, and is fabled by the Hindus to be married to Prit'hivi, a name for the earth. Prit'hu is said to have been grandson of Swayambhuva, the Hindu Noah. He had seven sons, one of whom, Agnidru, got Jambu Dwipa or India. Bharata, great-grandson of Agnidru, got from the Himalaya to the sea, and called it Bharata Varsha. Another account calls Prithi or Prithi Vainya, son of Vena, son of Anga. According to the Vishnu Purana, he was the first king, had universal dominion, and from him the earth was called Prit'hivi. He is fabled to have been produced from the right arm of the body of his dead father. He milked the earth, from which all sorts of corn and vegetables were produced, the earth probably being typified as a cow yielding to all mankind the objects they desired.—*Wilson; Dowson.*

PROBALONGGO or Probbolinggo is a district of Java, the richest sugar-producing district of the island, and its inhabitants are principally Javanese. The south-western side of the plain of Probbolinggo is bounded by the Tengger mountains.

CAPRA GUTTUROSA. —?

Capra gutturosa, *Pallas.*	Whang yang.
Hodgsonii, *Gray.*	Yellow goat of the Chinese.

Nearly 4½ feet in length, and 2½ feet high at the shoulder; the body also is large and corpulent, and the legs shorter than is common to the antelopes in general; the horns are black, lyrated, and marked to within a short distance of their tips with prominent transverse rings; the suborbital sinuses are small. On the prepuce of the male is a bag about the size of a hen's egg, which contains a waxy substance similar to that produced in the analogous organ of the musk animal, but without any kind of odour. They inhabit the very arid deserts of Central Asia, Tibet, China, and Southern Siberia, particularly the great desert of Gobi, and prefer the most sandy and stony plains, feeding upon such scanty herbage as these deserts supply, and avoiding water, to which they appear to entertain a marked aversion. They are remarkably swift, take prodigious leaps, and when frightened will occasionally pass over 20 or 30 feet at a single bound. In spring and summer they form small families, which live apart from one another, but in the beginning of winter they unite in large flocks, always under the guidance of an experienced old buck. They never run, even when pursued, in a confused crowd, but form single files, and follow closely in the footsteps of their leader. They rarely emit any voice. When taken they are easily tamed, and appear to have rather a predilection for the domestic state, often mixing with flocks of sheep, and approaching human habitations during the severity of the winter season. Their flesh is tender and well tasted, and they are a favourite object of chase with the Moghuls and Tartars.

Procapra picticauda, the Goa or Ra-goa, the Tibet ravine-deer of Europeans, is met with on craggy mountain sides, and, like the goral and chamois, delights to sport among cliffs and precipices. It is described by Mr. Hodgson as an inhabitant of Tibet. It has brown hair with rufous tips; the inside of the ears and limbs white, and tail black. It is perhaps P. gutturosa in its summer coat.—*Eng. Cyc.* p. 236; *Adams.*

PROCELLARIDÆ. The petrel family of birds, of the order Natatores and tribe Vagatores, *Blyth*, comprising the albatrosses (Diomedinæ), the petrels (Procellarinæ), and the diving petrels (Halodrominæ), including the genera Diomedea, Procellaria, Prion, Pelicanoides, Puffinus, and Thalassidroma.

Procellaria Capensis is the Pintado petrel, Cape pigeon, painted petrel.

Procellaria hœsitata, capped petrel of Indian and Southern Oceans. A rare straggler in Britain, has been obtained in Lower Bengal.

Procellaria pelagica, the stormy petrel, seems to belong to every sea.—*Cal. Mus. Cat.; Adams.*

PROCERIDÆ. Among the insects of this family, collected by Dr. Wallich, there were four or five species of true Carabus. Calosomæ are found wherever the oak grows. C. Indicum inhabits Nepal. If caterpillars are necessary to keep in check the luxuriance of tropical vegetation, the Calosomata are equally necessary to keep within bounds these insects, which sometimes destroy, in northern climes, nearly the foliage of the year.—*Hope's M. L. J.*, July 1840, p. 117.

PROME, a town which gives its name to a district in the Pegu division of British Burma. It is situated on the left bank of the Irawadi, in lat. 18° 43′ N., long. 95° 15′ E., and is 113 miles N.W. from the town of Pegu. The area of the district is 2887 square miles, and population in 1872 about 274,872. It was taken by the British Indian army on the 1st October 1825, and again on the 9th September 1852. There is here a famed Buddhist pagoda, commonly called 'Shoay San Dau,' or the royal golden-hair pagoda.

PROMETHEUS, the fire-stealer in an old Greek legend, takes his name from the Sanskrit Pramantha, identical with the Greek Manthano, and in their common root, 'Manth,' lay the idea of seizing, robbing, etc. The cave to which the Macedonians attached the story of Prometheus was somewhere in the Paropamisan mountains.

PROON-BA-JAH. BURM. A tree of Akyab, and plentiful in Arakan. Used for making wooden bells, etc.—*Cal. Cat. Ex.*, 1862.

PROPHET, a term in use amongst the people of Europe to designate Mahomed, whom his followers call the Ras-ul-Allah, or messenger of the Lord, also Paighambar. Europeans sometimes call him the Arabian prophet; his followers never do so.

PROSERPINE. Kali is the Hindu Proserpine, or Calligenia, the Grecian handmaid of Hecate. The latter name seems of Hindu origin, 'born of time' (Cali-janama?), and Proserpine is from Prasarpani.—*As. Res.* v. p. 298.

PROSOPIS, a genus of plants belonging to the order Fabaceæ. Prosopis algaroba, like Ava, to produce chica, is chewed and put in a bowl, mixed with water, allowed to ferment, and drunk.

PROSOPIS DULCIS. *Kth.*

Acacia lævigata, *Roxb.* | Mimosa lævigata, *Roxb.*

A tree of N. Spain introduced into India from the Mauritius. The pulp of the pods is very sweet, and is eaten.—*Voigt.*

PROSOPIS SPICIGERA. *Linn.*

P. aculeata, *As. Res.*	Adenanthera aculeata,
P. spicata, *Burm.*	*Roxb.*

Shami, Shuni, . . BENG.	Se, . . . SALT RANGE.
Shemu, Sumri, BOMBAY.	Khan Kunda, . . SIND.
Jhand, Khand, . HIND.	Vanni, Parambay, TAM.
Soundar, . . . MAHR.	Priyadarsini, Jammi, TEL.
Aghzakair, Seh, . PANJ.	Janum, ... ,,

This tree grows all over India and Sind. It is often stunted and gnarled, in the Panjab preserves it is abundant, and largely used for fuel in steamships and railways. Dr. Brandis relates that a root which was dug out penetrated 64 feet vertically. It attains even a large size in Sind, Coimbatore, and Mysore. Its timber weighs about 100 lbs. unseasoned, and 58 lbs. seasoned, and has a specific gravity of 1·152. It is dark red in colour, straight and close-grained, hard and durable, and superior to teak in strength, and is much used for building purposes and cart wheels, and occasionally for furniture, and makes excellent fuel. It is of very slow growth; it flowers in the hot weather; the mealy sweet substance in the pod is eaten by the natives, and a gum exudes from the tree. Dr. Wight found it sustain a weight of 592 lbs. Its pod is about an inch in circumference, and from 6 to 12 inches long, and when ripe it contains a quantity of a mealy substance which has a sweetish taste. The tree is reverenced in the Dassera rites. It is sometimes used for boat-building.—*Drs. Ainslie, Wight, Gibson, Stewart; Colonel Beddome.*

PROSTITUTES. The great bulk of the prostitutes of India are of Hindu origin. In 1853, Calcutta, with a population of 416,000, had 12,419 common women, of whom 10,000 were Hindus, several being daughters of Kulin Brahmans. In September 1867 there was reported to be upwards of 30,000 women in the town of Calcutta depending on prostitution, but this seems an unlikely number. The majority were said to be Hindus. —*Cal. Rev.*, August 1868. See Dancing Girls; Deva-Dasa.

PROTESTANT, a term applied to Christian sects founded by Luther and Calvin, who protested against doctrines enunciated by the popes of Rome. They number 531,345 in India. Protestant missions in the Tamil country were commenced in 1706, but for about a century the only labourers were Danes and Germans. Christian Protestant missions in Bengal may be regarded as dating from 1799, when the Serampur mission was founded. In 1862, there were 65 European missionaries labouring among the Bengal people, and 16,277 native Protestant Christians. In the Tamil country, there were 132 European missionaries, and 94,540 native Protestant Christians. The Bengali-speaking population of India may be roughly estimated at 26 millions, the Tamil at 12 millions.

PROTIUM CAUDATUM. *W. and A.*

Maray manga, . . TAM.	Malay kluvy, . . TAM.
Kilevay, ... ,,	Vela patri, . . . TEL.

This middling-sized green-barked tree is common in most of the dry sub-alpine jungles on both sides of the Madras Presidency, and is found in Ceylon. It is very common as an avenue tree, but is bare of leaves for some months towards the end of the cold season and beginning of the hot, the young leaves appearing with the flowers in March, the leaves and bark having a strong grateful fragrance. The tree grows most readily from large cuttings, which is the reason it is so often employed for avenue purposes; the wood is said to be worthless.—*Wight; Beddome, Fl. Sylv.* p. 125.

PROVINCE WELLESLEY, on the mainland of the Malayan Peninsula, opposite Penang, from which it is separated about 3 miles, runs north and south 25 miles, varying in breadth from 4 to 11 miles, contains an area of 15,000 acres.

PRUNELLA, Alu Bokhara, PERS., Ustukhudus, PUSHTU, have a reddish-yellow colour, and a sweet, grateful taste, with a slight and pleasant acidity. They are a variety of prunes, and are brought to Bombay from the Persian Gulf.—*Faulkner; Powell's Handbook*, i. p. 365.

PRUNES. Alu Bokhara, PERS. A spec
dried plum; there are many varieties. Th
generally of an oblong shape and sweet
and are prepared in France, Germany, Po
and other parts of Europe. Those procur
Bombay are brought from the Persian
Eng. Cyc.

PRUNUS, a genus of plants of the
Amygdaleæ, all of the species being
of the temperate parts of the northern
sphere. The Amygdaleæ comprise six
the East Indian species of which may
shown:—

Prunus acuminata, *Wallich.*
P. aloocha, *Royle*, plum of Irki.
P. amygdalus, *Baillon.*
P. Armeniaca, *Linn.*, the apricot, Panjab.
P. Bokhariensis, *Royle*, Bokhara plum.
P. cerasus, *Linn.*, the cherry.
P. cocomilla, *Ten.*, Calabria.
P. communis, *Huds.*
P. domestica, *Linn.*, common plum.
P. insititia, *Linn.*, the bullace.
P. Jacquemontii, *Hook.*
P. Japonica, *Thunb.*, China, Japan; *var. a.*, simple; *var. b.*, plena.
P. Jenkinsii, *Hook.*
P. macrophylla, *S. and Z.*, Japan.
P. mahaleb, *Linn.*
P. Martabanica, *Wall.*
P. mume, *S. and Z.*, Japan.
P. padus, *Linn.*, Japan, Hazara.
P. paniculata, *Thunb.*, Japan.
P. Persica, *Linn.*, Japan, Panjab.
P. prostrata, *Lab.*
P. puddum, *Roxb.*
P. punctata, *Hooker.*
P. rufa, *Wall.*
P. spinulosa, *S. and Z.*, Japan.
P. tomentosa, *Thunb.*, Japan.
Cerasus Caroliniana, *Michx.*, Florida.
C. cornuta, *Wall.*, Sirmore.
C. lauro-cerasus, *Lois*, Levant.
C. Nepalensis, *Ser.*, Nepal, Kamaon.
C. pseudo-cerasus, *Lindl.*, China, Japan.
Armeniaca dasycarpa, *Pers.*, —?
A. vulgaris, *Lam.*, apricot.
Amygdalus cordifolia, *Roxb.*, China.
A. Persica, *Linn.*, peach tree.

Prunus Armeniaca, P. cerasus, P. Bokhariensis, P. triflora, *Roxb.*, grow abundantly in North-Western India.—*Voigt; Powell; Royle's Ill. Him. Bot.* p. 205.

PRUNUS ACUMINATA. *Wall.* A tree of the E. Himalaya, Khassya Hills, and Darjiling, up to 6000 feet, with a thin dark bark and reddish-brown wood.

PRUNUS ARMENIACA. *L.* Apricot.
Armeniaca vulgaris, *Lam.*

Binkook, ... ARAB.	Zard-alu, Khoobani, HIND.
Tuffa Armina, . . ,,	Kashmiri kista, . ,,
Shari, ... BEAS.	Hari, Harian, . JHELUM.
Baboor-kohani, BOKHARA.	Cherkush, . . KANGRA.
Cheroli, . . . CHENAB.	Mishmish, . . . PERS.
Tser-kuji, Chu-li, . CHIN.	Chir, Chiran, . . RAVI.
Chulu, . . HIMALAYAS.	Jaldaru, . . . SUTLEJ.
Chinaru, . . . ,,	Mandata, TRANS-INDUS.

The apricot tree grows well on the first range of the Himalaya, bearing abundance of fruit in the months of May and June. It is propagated in the same way as the peach. In India the tree has been naturalized, and grows to a large size in gardens of the Dekhan and Mysore. It blossoms at the same season as the peach, from January to March. Dr. Stewart had seen the apricot wild in many places from 4000 to 6000 feet in the Panjab Himalaya. It is commonly cultivated all over, up to perhaps 15,000 feet, in some places in the dry climates of the Upper Sutlej and the Upper Chenab, and even to 11,500 or 12,000 feet in parts of Tibet. A great deal of the fruit, especially at the higher elevations, is very inferior, and in Tibet it is generally small. But very fair fruit is grown in many parts, and, in some of the Kanawar villages especially, the trees constitute a chief form of the wealth of the inhabitants, and yellow heaps of it may be seen drying in thousands on the roof of almost every house. A considerable quantity (100 maunds) of dried apricots are annually imported viâ Peshawur into the Panjab from Afghanistan, where the tree is largely grown. A gum similar to gum-arabic exudes from wounds in the bark of the tree. The wood is used occasionally for making the Tibetan drinking cups.—*J. D. Cunningham; Drs. Roxb., Riddell, Stewart, Royle, Birdwood, Moorcroft; Darwin, Variation of Animals.*

PRUNUS BOKHARIENSIS. *Royle.*

Bokhara plum, . ENG.	Kokamalis, GRÆCO-PERS.
κοκκυμελεα, ... GR.	Alu Bokhara, HIND., PERS.

Cultivated at Ghazni.

PRUNUS CERASUS, Cherry tree.

Kerasaya, Kerasya, ARAB.	Sakura, . . . JAPAN.
Padam, ... HIND.	Alu Balu, . . . PERS.

The cherry tree abounds wild in the hills north of Dehra Doon, producing a small common black fruit fit only for preserves, etc.—*Roxb.; Madell.*

PRUNUS DOMESTICA. *Linn.* Plum.

Barkook, Bargoog, ARAB.	Aluchah (small), . HIND.
Vars. Ejass, Idrek, Shahlooj	Shah Alu (yellow), ,,
Aru, Alu, . . . HIND.	Olchi, Er, Or, . KANGRA.

Appears to be common, wild and cultivated, in Kashmir, and is cultivated in Afghanistan, etc. Moorcroft mentions some from Yarkand as infinitely preferable to the best French plums. It is also cultivated in the Panjab plains, yielding a waxy yellowish fruit, also said to be found wild in the Caucasus. In Kashmir the wood is used for making the skeletons of the papier-mache boxes. The wood is not generally sound, but handsome, resembling pear or cherry. It is used in turning. Not available in quantity.—*Darwin; J. L. Stewart; Powell.*

PRUNUS INSITITIA, the bullace, is found wild in the Caucasus and N.W. India.—*Darwin.*

PRUNUS PADUS. *Linn.* Bird cherry.
Cerasus cornuta, *Roxb.*

Pacha; Paja, . . HIND.	Paras; Bart, . KAGHAN.
Kalakat, ... ,,	Krun, ... ,,

A plant of Kaghan, also of Simla, at elevations of 7000 to 10,000 feet; and Dr. Stewart had seen the people in the Murree Hills eating the black berries of this tree. He describes it as a fine tree, with handsome bunches of white flowers in April, growing in many parts of the Panjab Himalaya from 4000 to 10,500 feet, up to the Indus. The wood is not much valued, but is used for ploughs, railings, etc., and for spoons. The fruit is eaten by the natives, but has a mawkish astringent taste, not peculiarly attractive to Europeans. The kernel yields a poisonous volatile oil, similar to oil of almonds.—*Stewart; Powell.*

PRUNUS PUDDUM. *Roxb.*

P. sylvatica, *Roxb.*	Cerasus puddum, *Wall.*
Pajja paddam, . . BEAS.	Amalgueh, . . JHELUM.
Chamiari, . . JHELUM.	

A small tree of the Dehra Doon, Sirmore, and the eastern and Panjab Himalaya, at from 3000 to 5000 feet, up to near the Indus. The fruit is eaten by the natives, though it is always somewhat bitter. The wood is coarse-grained, light, soft, apt to split and to be attacked by insects, but is used in building, and occasionally for implements.—*Dr. J. L. Stewart.*

PRUSSIAN BLUE.

Yang-tien, . . . CHIN.	Berlinerblau, . . GER.
Sesqui ferro-cyanide of iron, . . . ENG.	Azurro Prussiano, HIND.
Percyanide of iron, . ,,	Ferri-ferro-cyanas, LAT.
Ferro prussiate, . . ,,	,, sesqui-ferro-cyanidum, . . ,,
Bleu de Prusse, . . FR.	Lasar Bexlinskaja, RUS.
Cyaneisen, . . . GER.	Azul de Prussia, . . SP.

A pigment or dye, composed of cyanogen and iron, and procured by a chemical process from carbonate of potass, bullock's blood, green vitriol, and alum. It is prepared of different degrees of purity, and additions are made to it according to the purposes for which it is required. When pure, it is of a rich and intense blue, with a copper tint on the surface, inodorous, tasteless, insoluble in water, in alcohol, and diluted acids, but is acted upon and dissolved by strong acids. Prussian blue is now extensively made in China, the art of manufacturing it having been carried from the west to the east by a Chinese sailor.—*Waterston; M'Culloch.*

PRUSSIC ACID, or hydrocyanic acid, is obtained by the action of muriatic acid on bi-cyanuret of mercury. It is limpid, very volatile, and of a strong pungent odour, resembling that of bitter almonds. Its taste is acrid, and it is virulently poisonous. In medicine it is used as a sedative.—*Waterston; Faulkner.*

PSAMMA ARENARIA. *Roem. and Sch.*

P. littoralis, *Beauv.*	Calamagrostis arenaria.

This is the bent grass.

PSEUDOCARCINUS, a genus of crustacea. The following are species of the E. Indies:—

Pseudocarcinus Rumphii, *Edw.*, Indian seas.
P. Belangerii, *Edw.*, Indian seas.
P. gigas, *Edw.*, New Holland.

PSEUDOCOCCUS ADONIDUM, white bug or mealy bug of Ceylon. See Insects.

PSEUDOIS NAHOOR, the Nahoor, Nervate, or Sna, is a native of Nepal.

PSIDIUM CATTLEYANUM. *Sabine.* Chinese guava, purple guava.

PSIDIUM POMIFERUM. *L.* Red guava.

Lal-payara, . . . BENG.	Jambu, . . . MALAY.
Ma-la-ka, ... BURM.	Ratu-pera, . . . SINGH.
Jam, ... DUKH.	Koia maram, . . TAM.
Lal-safri jam, . . HIND.	Jama chettu, . . TEL.

The guava tree of the W. Indies, Mexico, and America is cultivated throughout the E. Indies. It grows to a height of 20 or 30 feet, with leaves of pale green, and beautiful large white blossoms. The fruit is about the size of a pear, and a little yellowish when ripe, full of hard seeds the size of buckshot. The fruit is globose, yellow, and somewhat astringent, with an agreeable odour; the root and young shoots are astringent, and are esteemed strengthening to the stomach. The wood is but little used, though esteemed for engraving.—*Eng. Cyc.; Malcom's Tr.* i. p. 108.

PSIDIUM PYRIFERUM. *L.* White guava.

Guava pyriformis, *Gærtn.*

Payara, ...	Beng.	Amrood, ...	Hind.
Ma-la-ka, . . .	Burm.	Supari-jam, . . .	,,
Sebcmara, . . .	Can.	Pela, ...	Maleal.
Fan-nien, . . .	Chin.	Suda-pera, . . .	Singh.
Fan-shih-liu, . .	,,	Koia maram, . .	Tam.
Jam, ...	Dukh.	Jama chettu, . .	Tel.

The pear-shaped or white-fruited guava tree, in all Southern Asia is seen everywhere in gardens, and probably found its way to India from S. America through the Portuguese. Its fruit is esteemed as a dessert fruit, but the scent when too ripe is unpleasantly powerful; it makes a most excellent jelly, and also is prepared in a similar manner to damson cheese. The fruit is sometimes as large as a common baking pear, and may weigh half a pound. They have been brought to great perfection in some gardens, and the fruit of a large size divested almost of seed. This sort generally has a very rough knotty coat, and is more spongy and less firm than the other varieties. A plant continually grown from layers in time ceases to produce seed; perhaps this variety has been so procured. The tree is easily increased by seed, and only requires a good soil to thrive in. The trees should be pruned once a year, otherwise the branches become very straggling. Good gun-stocks are made from the old wood, which is small but very hard, and is used for wood engraving, and commonly for pegs, mallets, handles of tools, etc.—*Drs. Mason, Ainslie, Riddell, Cleghorn; Rohde's MSS.; M. E. J. R.*

PSITTACIDÆ, the parrot family of birds, of the order Scansores. See Birds; Parrots.

PSOPHOCARPUS TETRAGONOLOBUS. *D.C.*

Dolichos tetragonolobus, *Linn.*

Char-kona shin, .	Beng.	Winged pea, . .	Eng.
Chandaree, . .	Bombay.	Goa beans, . . .	,,
Charpattee, . . .	,,	Cheveaux de frise, .	Fr.
Pai myeet, . . .	Burm.	Pois carré, ...	,,
Pai hsoung wa, .	,,	Dara-dambala, . .	Singh.

A twining annual, the pods or tuberous roots of which are generally eaten in India; commonly cultivated, and young pods used as French beans; easily known by its four-fringed membranous edges; much used by Europeans. The plant is indigenous in the Mauritius. In Tenasserim there is a variety of the Goa bean which produces esculent roots that are eaten like potatoes, and are a very tolerable vegetable.—*Eng. Cyc.; Jaffrey; Mason.*

PSORALEA CORYLIFOLIA. *Linnæus.*

Trifolium uniflorum, *Forsk.*

Hakuch, ...	Beng.	Karpugum, . . .	Tam.
Po-ku-chi, . . .	Chin.	Bapunga, Bavanji,	Tel.
Baw-chan, . . .	Dukh.	Kalu gachcha, . .	,,
Karkol, . . .	Maleal.	Kala ginja, . .	Tib.
Bab-chi, ...	Pushtu.	Korjastham, ? .	,,

This herbaceous plant grows in Persia, Bengal, and the Peninsula of India. Yields the banchee seeds, used medicinally for leucoderma and scaly skin eruptions.

PSYCHOTRIA, a genus of plants of the order Cinchonaceæ, of which nine species are known to grow in the East Indies. A handsome shrub of this genus, Sgau, Burm., grows in Tenasserim, whose small white flowers throw out a delightful fragrance.—*Mason; Voigt*, p. 393.

PTERIDOPHYLLUM DECIPIENS. *Thw.*

Rhus decipiens, *W. and A.* | Pehimbia-gass, . Singh.

Grows in the central province of Ceylon up to an elevation of 3000 feet. It flowers in January and fruits in March. It is a very ornamental tree, and in Ceylon the wood is used for building purposes.—*Thw. Zeyl.* p. 59.

PTERIS, a genus of ferns of the order Polypodiaceæ. The following are East Indian species:—

Pt. amplectens, *Wall.*, Bengal, Burma.
Pt. angustifolia, *Swz.*, Paras, Sunderbuns.
Pt. dimidiata, *Wall.*, Sylhet.
Pt. esculenta, *Forst.*, Australia.
Pt. graminifolia, *Roxb.*, Paras, Sylhet.
Pt. vittata, *Linn.*, Sunderbuns.

The rhizome of Pteris esculenta is used as food in Australia, like that of Marattia alata in the Sandwich Islands. Pt. amplexicaulis is common at Tavoy, with pinnate fronds, whose leaflets have two lobes at the base which clasp their stipes. Pt. graminifolia, grass fern. The trunks of forest trees in Tenasserim are often clothed with the green drapery of the grass fern, which grows upon them precisely like bunches of long grass.—*Voigt; Mason.*

PTEROCARPUS, a genus of plants of the order Fabaceæ, generally tall trees, furnishing useful timber and other products. The following species are said to occur in the E. and W. Indies:—

Pt. draco, *Linn.*, Guadaloupe.
Pt. erinaceus, *Poir.*, W. Africa.
Pt. Indicus, *Willd.*, Moluccas, China.
Pt. macrocarpus, *Kurz*, Burma.
Pt. marsupium, *Roxb.*, Konkan, Assam.
Pt. Santalinus, *Linn.*, Coromandel.
Pt. Wallichii, *W. and A.*

One species of Pterocarpus is known in the Tamil countries as the Ausena maram; another, the Jumbagum maram, common about Nelambore and in Wynad, is a large tree, with wood used for building and fence gardens, said to be durable; a third, the Karu vagu, is a very common tree on the Western Ghats,—wood strong, durable, and much used for building; a fourth, the Wulla honnay of the Canarese, grows in the Mysore forests, and is used for furniture and house-building. A Burmese species, Padouk of Tavoy, is a large tree used for furniture, etc.; another, called Beejah in Hindustan, is a tree of Jubbulpur, grows to a large size, is found in all parts, but not very abundant, has an excellent wood, and easily worked.—*M'Ivor; Captain Puckle; Gibson's Bombay Forest Report of* 1857-60, p. 12; *Wallich; Cal. Cat. Ex.*, 1862.

PTEROCARPUS ACERIFOLIUM. *M'Cl.* Najee, Burm. This grows along with teak in all the Pegu forests; its timber is extremely valuable, and is as strong as either teak or oak. Its durability for purposes of ship-building has never been tested, because it has never been desiccated or killed like the teak. It attains a girth of 10 or 12 feet, and rises to a lofty height. It has a dark-brown wood.—*M'Clelland.*

PTEROCARPUS DRACO. *Linn.*

Pt. officinalis, *Jacq.*	Pt. hemiptera, *Gært.*
Dum-ul-akwain, AR., HIN.	Hira da-khun, . . PERS.
Jyda-roomee, . . ,,	Barg-i-bart, . . . ,,
Dragon's blood? . ENG.	Kandamoorgarittum, TAM.
Khun siawashan, PERS.	Katja murgam nitru, TEL.

This tree was introduced into India from the West Indies in 1812, but seems to have died out. It is a native of American islands, and especially Guadaloupe. The bark, wood, and leaves are remarkably astringent. The dragon's blood in mass, of commerce, according to Jacquin, is the produce of this tree, but another sort, and most likely that sold in Indian bazars, is produced by the Calamus draco of the Straits, in the form of a red hard resin, in large, somewhat cylindrical lumps; it contains benzoic acid and tannic.—*Voigt; O'Sh.* p. 997; *Powell.*

PTEROCARPUS ERINACEUS, *Poiret*, is a tree of W. Africa, which grows to 40 or 50 feet in height. When the branches are wounded, a clear bright gum exudes from them, which is one source of the gum-kino of commerce, and is mentioned as such by Park. It is a very powerful remedy in obstinate chronic diarrhœa and dysenteries, and in all diseases arising from laxity of tissue. Externally it is applied as a styptic to check hæmorrhages from wounds and ulcers, and to diminish discharges. The gums obtained from the Pterocarpus erinaceus of Gambia and Senegal, and from the Pterocarpus marsupium of India, are the true gum-kinos of commerce; the gum from the Butea frondrosa is the Butea gum-kino of commerce; Botany Bay kino is obtained from Eucalyptus resinifera; a kino-like gum is obtained from Syzygium jambolanum.—*Eng. Cyc.; Royle.*

PTEROCARPUS FLAVUS. *Smith.*

P'-i-muh, ... CHIN.	Yellow sandal tree, ENG.
Hwang-peh, . . . ,,	

A large leguminous tree of China, used for dyeing yellow. Its very bitter bark is used as a tonic diuretic and anti-rheumatic.—*Smith.*

PTEROCARPUS INDICUS. *Willd.*

Pt. dalbergioides, *Roxb., W. and A.*	Pt. flavus, *Lour.*
Pt. Wallichii, *W. and A.*	Pt. obtusatus, *Mig. Fl. Ned. Ind.* i. p. 136.
Padouk, ... BURM.	Hwang-peh, . . . CHIN.
Cha-lan-ga-da, . . ,,	Andaman red wood, ENG.

This very handsome lofty tree of Burma and the Andamans is said to be indigenous to S. India, but Colonel Beddome had never met with it wild, though grown in gardens there, and is well deserving of extended cultivation; it is common in Burma and in the Andamans; it is also found in Malacca, Penang, Sumatra, Java, Philippine Islands, and South China. It yields a valuable flame red-coloured beautiful timber, which is much used in the gun-carriage manufactories of Madras and Bengal. The wood is prized above all others in Burma for cart wheels; the trees are felled green, and split up into short planks 3½ feet long by 2 feet wide, and 9 inches thick; three of these pieces make one wheel, and a pair are sold in the forests from 12 to 25 rupees. The wood is used for furniture, and by the Burmese for musical instruments; it weighs about 60 lbs. the cubic foot.—*Beddome, Fl. Sylv.* p. 23.

PTEROCARPUS MARSUPIUM. *Roxb.*

Bija-sal, ... BENG.	Vijaya, ... NEPAL.
Hone whonay, . COORG.	Bengha, ... S. CAN.
Rakta whonay, . ,,	Zammalu, . . . SINGH.
Pia sal, Pit sal, . . ,,	Vengay, ... TAM.
Bibla, . . HIND., MAHR.	Yegi, ... TEL.

This is a large and a very beautiful tree, especially when in flower in the beginning of the rains; its seed ripens about the close of the year. It is widely diffused, and yields one of the most abundant and useful timbers of S. India, and also the valuable gum-kino of Malabar. Its size and manner of growth differ very much under different circumstances; it is often very poor and scraggy, but attains a fine size in the western forests of the Peninsula, and in favourable ravines and sub-alpine jungles elsewhere; it is seldom found of any size above 4000 feet elevation. It is common all round the foot of the Neilgherry Ghats, and along the roads through the Wynad. It is there notched in a V-shaped form for the extraction of kino, which meets with a ready market on the coast, and is exported in wooden boxes to Bombay. It grows luxuriantly on the Eastern Ghats, on the hills between Vellore and Salem, and on the Malabar and Canara Ghats, where large quantities are collected of the resinous kino. The tree abounds near Tellicherry, and along the whole Malabar coast. It is not generally common in the Bombay forests, but is most seen in the northern inland ones, and also in those of the extreme south, as in the Bedee taluk. Buchanan Hamilton mentions it under the name of Vijaya as occurring in Nepal and also to the eastward of Bengal. It has been observed in the Konkans (Graham), Rajpeepla jungles (Dr. Lush), and Assam (Voigt). The timber is dark-coloured and strong, and much prized for building purposes, and in some parts of Madras Presidency fetches as high a price as teak. On the Godavery, the native dhol is often made of it. It yields from incisions a large quantity of blood-red juice, which, on being simply exposed to the sun, hardens and then quickly cracks into little angular masses and crumbling fragments, which constitute, without further preparation, the kino of the shops. The product can be obtained with facility by simply incising the bark, and requires no outlay save that of collecting. The timber is very little inferior to teak; it seems less liable to split after long exposure, and is equally strong, but the wood is heavier. Vessels built in the Ganjam districts are planked with it; and the door panels and venetians of the neglected houses at Ganjam are formed of this wood, and have stood better than teak similarly situated. It is more expensive than teak to work, and when sawn green the outer planks bend considerably. This is one among the unlucky woods of the Hindus, though the prejudices against it have in part given way to profit. For general utility, it is superior to any other mahajante wood, a commercial term among the people of the Northern Circars, including all wood used for building except teak.—*Roxburgh*, iii. p. 234; *Coromandel Plants*, ii. t. 116; *Drs. Wight, Gibson, Royle, Ainslie, O'Shaughnessy, Cleghorn, Voigt; Captains Sankey, Puckle, Beddome; Messrs, Latham, M'Ivor, Rohde's MSS.; Madras Conservator's Report of* 1858; *M. E. J. R.; Eng. Cyc.*

PTEROCARPUS SANTALINUS. *L.*

Sundal ahmar, . . ARAB.	Red sanders wood, ENG.
Rackto-chandan, . BENG.	Red sandal-wood, ,,
Na-a-phiu, . . . BURM.	Santale rouge, . . FR.
Honnay, ... CAN.	Sandal-holz, . . . GER.
Chih-tan, Tsze-tan, CHIN.	Ruttunji, ... GUJ.
Sandel hout, ? . . DAN.	Lal-chandan, . . HIND.
Lal-chandana, . . DUKH.	Chandana, . . . ,,
Sanders wood, . . ENG.	Sandalo roso, . . IT.

Uruttah chandanam, MALEAL.	Rakta chandana, SANSK.
Raktchandan, MAR., SING.	Sigapu shandanum, TAM.
Sandal surkh, . . PERS.	Ranjana, ... TEL.
Buckum, ... ,,	Ku-chandanam, . ,,
	Rakta-gandham, . ,,

Colonel Beddome says this red sanders tree of commerce much resembles Pterocarpus marsupium in flower and fruit, but differs by always having 3 instead of 5 to 7 leaflets. It was thus described correctly by Dr. Roxburgh, but subsequent authorities have described it erroneously as having 5 to 7 leaflets. It is abundant on the low hills about the Cuddapah and North Arcot forests and the southern part of the Kurnool district, and Colonel Beddome has seen a few trees in the Godavery forests, but he never met with it elsewhere in the Madras Presidency, and it is not, he believes, found anywhere else in India. The wood is of a fine grain and bright garnet colour, which deepens on exposure to the air. It is beautifully streaked, very hard and heavy, and takes a fine polish; it is much used and highly prized by the natives for building purposes, and for turnery in Madras and the districts in which it grows; it is also largely exported from Madras as a dye-wood, and used as ballast; it is not often found over 3½ or 4 feet in girth and about 20 to 28 feet in height; the largest trees reach 4½ feet in girth, but are then much heart-shaken or hollow. The logs are often notched at both ends, or cut with a hole as for a rope, and are much worn externally from being dragged along the ground; other wood, as also indeed ivory tusks, are sometimes perforated for the like purpose. A bandy-load of selected logs will sell for as much as Rs. 200, *i.e.* twenty logs at 10 rupees each; the roots and stumps are used for dyeing purposes, and sell at 6 to 9 rupees the 1000 lbs. The cattle during the dry season are much fed upon the leaves of this tree, and young saplings are often bodily cut down by thousands by the cowherds. In the four years 1852-53 to 1855-56, there was exported from Madras 179,815 cwt., value Rs. 2,20,983, the destination chiefly being the United Kingdom, Indian French ports, Pegu, and Bengal. It is principally shipped to England from Calcutta in billets from 2 to 10 inches diameter, generally without sap, and sometimes in roots and split pieces. This will explain much of the shipments from Madras to Calcutta. Its timber is chiefly used by dyers and colour manufacturers, also to colour medicine preparations. Its colouring matter is called santalin, and forms a beautiful colour, but precipitates with many metallic solutions. It is employed to dye lasting reddish-brown colours on wool; it yields its colouring matter to ether and alcohol, but not to water. With different mordants it yields various shades of red, but these are said not to be permanent. Indian practitioners sometimes recommend it in powder in conjunction with certain herbs, and mixed with gingelly oil, as an external application and purifier of the skin after bathing. Its red colouring matter also acts as a diaphoretic, like gentian. It is applied to the forehead in headache, and also as a cosmetic.—*Ains.; Eng. Cyc.; Tredgold; Mr. Rohde's MSS.; Colonel Beddome; Drs. Wight, Cleghorn in M.E.J.R. of* 1855, *and Conservator's Report*, pp. 37, 38; *Mr. Simmonds; Balfour's Commercial Products of Madras Presidency; Drury's Useful Plants; Voigt; Gen. Med. Top.; Powell.*

PTEROCLES, a genus of birds of the family Pteroclidæ, the sand grouse or rock grouse of Europeans in India.

Pt. arenarius, *Pallas*, large sand grouse, Panjab, N. W. Provinces, and Sind.
Pt. fasciatus, *Scopoli.*, painted sand grouse, over most of India except Bengal and Malabar.
Pt. alchata, *Linn.*, large pin-tailed sand grouse, S. Europe, N. Africa, Central Asia, Panjab, Sind.
Pt. exustus, *Temm.*, common sand grouse, Central and S. India.
Pt. Senegallus, *Linn.*, S. Africa, Arabia, Sind.
Pt. coronatus, Africa, W. Asia.

The large black breast (Pterocles arenarius) is at once distinguished by its size and even tail from the pin-tailed grouse (P. exustus), which is by far the most common; both are met with in flocks in fields and waste places. Their flight is strong; and although their flesh is tough and unsavoury, they are much sought after by European sportsmen. The large pin-tail (Pt. alchata) is said to be plentiful in Afghanistan and westward.—*Adams; Jerdon.* See Birds.

PTEROMYS. *Cuv.* A genus of the family Sciuridæ, and commonly known as the flying squirrels, because of the skin of their flanks being extended between the fore and hind feet, forming, when expanded, a wide parachute. The species occur in the south-east of Asia and in the islands of the Archipelago. Pt. cineraceus, *Blyth*, is of Burma; Pt. elegans, *S. Muller*, is of Java.

Pteromys inornatus, *Is. Geoffry* (Pt. albiventer *Gray*), is the white-bellied flying squirrel, the rusi-gugar of Kashmir. Above it is grizzled reddish-brown; length of head and body, 14 inches; found throughout the N.W. Himalaya from Kashmir to Kamaon, Simla, Landour, from 6000 to 10,000 feet.

Pteromys magnificus, *Hodgson.*

P. chrysothryx, *Hody.* | Sciuropterus nobilis, *Gray.*
Red-bellied flying squirrel. | Biyom, . . . LEPC[illegible]

Above dark chesnut or ochreous chesnut mix[ed] with black, with lower part of a lighter hue, a[nd] the tail tipped with black. Its fur is very so[ft] a female measured 16½ inches from head insertion of tail; the latter was 20 inches length. This flying squirrel is nocturnal in ha[bits] secreting itself in hollows of decayed trees feeds on the tender shoots of the pine.

Pteromys nitidus, *Geoffry*, Peninsula of Malacca.

Pteromys petaurista, *Pallas, Blyth.*

Pt. Philippensis, *Elliot.* | Pt. oral, *Tickell.*
Brown flying squirrel, ENG. | Pakya, ... MAHR.
Oral, ... KOL. | Para-chalen, . MALEAL.

Upper parts dusky maroon, black grizzled with white; body 20 inches long. Inhabits Ceylon, north to Central India. It lives on roots. It is the brown flying squirrel of Ceylon and the Peninsula of India. The length of the male is 20 inches and the tail 21 = 41 inches; that of the female 19 and the tail 20 = 39 inches. The male is distinguished by an irregular patch of rufous on the sides of the neck, which in the female is a sort of pale fawn. It is very gentle, timid, and may be tamed; but from its delicacy is difficult to preserve. Lives in the holes of trees in the thickest part of the forest.

Dr. Horsfield, in his Zoological Researches in Java, describes two flying squirrels (Pteromys genibarbis and Pt. lepidus), both nocturnal in their habits, nearly approaching to Sciurus sagitta. He

describes the first as living on fruits; the second as found in the closest Javanese forests, where the height of the trees and the luxuriance of the foliage effectually conceal it. He enumerates 16 species of Sciuri, 4 of which were first described by himself. These do not include the flying squirrels. —*F. Cuvier; Gray; Tennent's Ceylon*, p. 42; *Adams; Jerdon's Mammals of India.*

PTEROPODA, a class of the mollusca.

PTEROPODIDÆ, a family of frugivorous bats of the sub-order Cheiroptera. Drs. Peters and Gray enumerate 50 of the flying Pteropus, viz. 1 Indian continent and Burma, 25 Archipelago, 4 China, Japan, and Loo-Choo Islands, 9 Polynesia, 5 Australia, and 6 Africa. Dr. Dobson greatly reduces the number. To drink, which it does by lapping, the Pteropus suspends itself, head downwards, from a branch above the water. Insects, caterpillars, birds' eggs, and young birds are devoured by them; and the Singhalese say that the flying fox will even attack a tree-snake. It is killed by the natives for the sake of its flesh, which Sir J. E. Tennent was told resembles that of the hare. It is strongly attracted to the cocoanut trees during the period when toddy is drawn for distillation, and exhibits, it is said, at such times, symptoms resembling intoxication. Neither the flying fox, nor any other bat in Ceylon, is ever known to hybernate. In Western India the Portuguese eat the flying fox, and pronounce it delicate and far from disagreeable in flavour. The Pteropus Edwardsii take up their abode on a banyan or other tree. Each bat is suspended by the hind feet. The Mahrattas call this bat the warbaggol. The species is very plentiful, and numbers are usually to be seen in the still evening at high elevations, flying with an easy floating motion, now and then varied by the regular flap of their large wings as they steer their course towards the fruit groves. Dr. Adams measured one from tip to tip about 5 feet. Figs, mangoes, etc., constitute their favourite food. Pteropus Edwardsii and Pt. concinnicillatus are found in Australia and Tasmania.

Pteropus Dussumierii, *Is. Geof.*, is of the continent of India?

Pteropus edulis is of Java and Malacca.

Pteropus Edwardsii, *Jerdon.*

Pt. medius, Temm.	*Pt. Assamensis, M'Clell., Ell., Blyth.*
Pt. leucocephalus, Hodg.	

Badul, ... BENG.	Warbaggol, . . MAHR.
Toggul bawali, . CAN.	Kalong, ... MALAY.
Rousette, . . . ENG.	Sikat yelli, . . . TEL.
Gadal, Barbagal, . HIND.	Siku rayi, . . . ,,

Found in Ceylon, India, and Burma. It is eaten in Ceylon. It is the flying fox or large fox bat. Its flesh is esteemed good eating. Its tongue is covered with large papillæ, pointing backwards, and each one terminating in a brush or collection of bristly points. Length of the male, 12 to 13 inches, weight 29 oz.; of a female, 20 oz. Expanse of wings upwards of 4 feet. When disturbed during the day, they fly slowly round and round, with a low screaming noise, and soon settle again; hovering for a moment over a bough, they catch suddenly with the claw on the angle of the wing, and, allowing the body to drop, they swing with a single hold. In shade and colour, they are of a yellowish-brown above, and yellowish-white below.

Pteropus Kernandrenii, a fruit-bat of Tongataboo, Fiji, Samoa, and Caroline Islands. The Indian fruit-bat is Pteropus medius; the Australian fruit-bat is P. poliocephalus; the collared fruit-bat is Cynonycteris collaris.

Pteropus Leschenaultii, *Jerdon*, Pt. seminudus, *Kelaart*, is the fulvous fox-bat of Madras, Carnatic, and Trichinopoly.

Pteropus Nicobaricus, *Fitzinger*, *Zeleb.*, Pt. melanotus, *Blyth*, is of the Andaman and Nicobar Islands and Java?

Cynopterus marginatus, *Dobson.*

Pt. marginatus, *Geoff.*	Cyn. affinis, *Gray.*
Pt. pyrovorus, *Hodgson.*	Eleutherura marginata, *G.*

Throughout all India and Ceylon.

Cynopterus marginatus, *var.* Andamanensis, Andamans.

Cynopterus Sherzeri, *Dobson.*

Pachysoma Sherzeri, *Fitz.* | Cyn. marginatus, *Zeleb.*

Carnicobar.

Cynopterus brachysoma, *Dobson.*

Cynonycteris amplexicaudata, *Dobson.*

Pt. Leschenaultii, *Desm., B.*	Pt. seminudus, *Kelaart.*
Pt. amplexicaudatus, *Tem.*	

Persian Gulf through the E. Archipelago.

Cynonycteris minor, *Dobson*, Java.

Eonycteris spelæa, *Dobson*, is Macroglossus spelæus, *Dobson.*

Macroglossus minimus, *Dobson*, *Temm.*

Pt. minimus, *Geoff.*	Pt. rostratus, *Horsf.*

India, Darjiling, through Burma to E. Archipelago.—*Tennent's Ceylon*, p. 18; *Adams' Naturalist in India; Jerdon's Mammals of India.*

PTEROSPERMUM, a small genus of plants of the order Sterculiaceæ (from the Greek word πτερον, signifying a wing, and σπερμα, a seed), found in the southern parts of India and the Archipelago. All the species form handsome trees, and abound in mucilage.

Pt. acerifolium, *Willde.*, Peninsula of India, Assam.
Pt. aceroides, *Wall.*, Martaban.
Pt. cinnamomum, *Kurz*, Burma.
Pt. diversifolium, *Bl.*, S. Indian.
Pt. glabrescens, *W. and A.*, S. India.
Pt. Heyneanum, *Wall.*, Ginji, Courtallum.
Pt. Javanicum, *Jungh*, Burma.
Pt. lancæfolium, *Buch.*, Assam.
Pt. obtusifolium, *Wight*, Courtallum.
Pt. rubiginosum, *Heyne*, Courtallum.
Pt. reticulatum, *W. and A.*, Peninsula of India.
Pt. semi-sagittatum, *Ham.*, Burma.
Pt. suberifolium, *Law*, Peninsula of India, Ceylon.

PTEROSPERMUM ACERIFOLIUM. *Willde.*

Kanak champa, . BENG.	Toung-phet woon, BURM.
Nagee, ... BURM.	

A large and useful timber tree of the Peninsula of India and Assam, and growing along with teak in the Pegu forests, though scarce. It affords good shade. The timber is extremely valuable, and is as strong as teak or oak, but its durability has never been fairly tested, as it has never been desiccated like teak. It attains a girth of 10 or 12 feet, and rises to a lofty height. It has a dark-brown wood. — *M'Clelland; Eng. Cyc.*; *Voigt; Gamble.*

PTEROSPERMUM ACEROIDES. *Wall.*

Tha-ma-jam-wai-zoke, . . . BURM.

A timber tree of Martaban, and growing in the Pegu forests similarly to Pt. acerifolium, but plentifully; timber of the same qualities as Pt. acerifolium.—*Voigt; Wallich; M'Clelland.*

PTEROSPERMUM INDICUM. —?

Kyaboka wood tree, ENG.	Lingoa wood tree, . ENG.
Amboyna wood tree, ,,	Serioulout, . . MALAY.

The kyaboka of commerce is said by Prof. Reinwardt, of Leyden, to be the burr of the Pterospermum Indicum, but by others that of Pterocarpus draco, and to be brought from the Moluccas, the islands of Borneo, Amboyna, etc. The wood is of the same colour as the burr, or rather lighter, and in grain resembles plain mahogany. Colonel Lloyd is quoted as saying that the root of the cocoanut tree is so similar, when dry and seasoned, to the bird's-eye part of the wood, termed kyaboka, that he could perceive no difference; the cocoa has a tortuous and silky fracture, almost like indurated asbestos. The general belief is that a tree called Pt. Indicum throws out burrs or excrescences, and that which receives the name of Amboyna wood or lingoa wood, seems to be the timber of the bole of the tree, sometimes along with that of the burr. The lingoa or Amboyna wood is abundant at Ceram, New Guinea, and throughout the Molucca seas. It is very durable, and takes a high polish. At the Exhibition of 1851, there was a circular slab of this wood, from Ceram, 6 feet 7 inches in diameter. But such large circular slabs are only obtained by taking advantage of the spurs which project from the base of the trunk. They are occasionally met with so large as 9 feet, but the usual size is from 4 to 6 feet. Amboyna or lingoa wood was imported in considerable quantities into Great Britain during the period in which the Moluccas were British possessions; but Poole in his Statistics of Commerce says it is now rarely seen in Britain.

The kyaboka wood of commerce is brought from Ceram, N. Guinea, the Aru and other islands of the Moluccas, to Singapore, being much esteemed as a fancy or ornamental wood for cabinet-work. Of late years its estimation seems to have decreased in Europe, but it is still much valued by the Chinese, and is sold by weight. It is sawn off in slabs from 2 to 4 feet long and 2 to 8 inches thick. It resembles the burr of the yew. It is used for making small boxes, writing-desks, and other fancy ornamental work. It is tolerably hard, and full of small curls and knots; the colour is from orange to chesnut-brown, and sometimes red-brown.—*Holtzapfel, J. R. M. E. of* 1855; *Cat. Ex.*, 1851; *Sing. Cat. Ex.*, 1861; *Poole's Statistics.*

PTEROSPERMUM LANCÆFOLIA, *Roxb.*, of Assam, has a dense strong wood.

PTEROSPERMUM RUBIGINOSUM. *Heyne, W. A. Prod.* p. 68. The Kara toveray, TAM., of Tinnevelly, is a large and very fine tree; is very common in the Tinnevelly districts, the Wynad, Animallays, and generally throughout the western forests up to about 3000 feet; the timber is excellent, the wood is much in use for building and other purposes.—*Beddome, Fl. Sylv.* p. 106.

PTEROSPERMUM SEMI-SAGITTATUM, *Buch.*, of Assam, flowers in March, April, and May, with large, white, fragrant flowers.—*Voigt.*

PTEROSPERMUM SUBERIFOLIUM. *Willd.*

Velago xylocarpa, *Gærtn.*	Pt. Heyneanum, *Wall.*
Welang-gas, . . SINGH.	Lolugu chettu, . . TEL.
Teddee maram, . TAM.	Lolugu karra, . . ,,
Nolika chettu, . TEL.	

A native of all the mountainous tracts of India, the Godavery forests, and the Ginji Hills. Wood pinkish and hard, but is generally hollow in the centre. In Ceylon, it is common up to an elevation of 2000 feet, especially in the drier parts of the island. The wood is useful for many purposes where toughness is required, such as poles of bullock carts, betel trays, and gun-stocks. A cubic foot weighs 36 lbs. Flowering time the beginning of the hot season, March, April, and May. Trunk erect, growing to be a timber tree of middling size.—*Thw.; Mr. Rohde's MSS.; Mr. Mendis; Tennent; Voigt; Capt. Beddome.*

PTERYGOTA ROXBURGHII. *Sch. and Endl.* Sterculia alata, *Roxb.* A tree of Sylhet and Chittagong, with large, iron-coloured flowers, streaked with crimson and yellow. At Sylhet, its seeds are eaten by the natives as a cheap substitute for opium.—*Roxb.; Voigt.*

PTILONOPUS CINCTUS, a white-headed pigeon of Timor. Pt. superbus and Pt. iogaster, green and purple doves. The Neilgherry wood-pigeon is Pt. Elphinstonei, *Sykes*, also named the Palumbus Elphinstonei, *Sykes.*

PTILONORHYNCHUS HOLOSERICEUS, the satin bower bird, is conspicuous for the satin texture of its glossy black plumage. The satin bower bird, and other species allied to it, long before the construction of their nest, and quite independently of it, weave with twigs, firmly planted in a platform of various materials, an arbour-like gallery of uncertain length, in which they amuse themselves. They pursue each other through it; they make attitudes to each other, the males setting their feathers in the most grotesque manner. The ornamentation of the platform on which the bower stands is an object of constant solicitude to the birds. Scarcely a day passes without some fresh arrangement of the shells, feathers, bones, and other decorative materials, which they bring from long distances in the bush for this purpose, and of which they immediately appropriate every fragment placed within their reach when in confinement.—*Gould, Ornithology of Australia.*

PTOLEMAIS of the Greeks, the modern Akka or Acre.

PTOLEMY, CLAUDIUS, or Claudius Ptolemæus, generally known as Ptolemy the Geographer, lived about A.D. 138. He was a mathematician of Pelusium, and is celebrated for his system of the world, in which he placed the earth as the centre. His geography is a valuable work, and was printed at Amsterdam in 1618, folio; his treatise on Astrology in 1535, and his Harmonica at Oxford in 1683. Although his Map of India is exceedingly faulty,—a work which has travelled down to us from the second century of the Christian era,—it must have possessed something worthy to recommend it, and to keep it alive. Taxila, almost due north of Barygaza, is placed by Ptolemy 11° to the east of it; and the mouth of the Ganges, which was fixed by land measurement from Taxila and Palibothra, is placed 38° to the east of the mouth of the Indus, the true difference being only 20°. As a general rule, the Greeks would seem to have designated the various peoples whom they encountered by the names of their principal towns. Thus we have Kabura and the Kabolitæ, Drepsa and the Drepsiani, Taxila and the Taxili, Kaspeira and the Kaspeiræi. The names of other peoples and towns are recorded by Ptolemy, but few of them can now be identified. The Parsee, with their towns Parsia and Parsiana, General

Cunningham takes to be the Pashai, or people of the Panjhir or Panshir valley. The true name is probably Panchir, as the Arabs always write j for the Indian ch. According to Ptolemy, the three great passes in the western chain of mountains, the Pyle Sarmatæ, the Pyle Albanie, and the Via Caspia, were each closed by large beams of wood pointed with iron. In the midst of the narrow valley flowed a river. The southern extremity was protected by a castle built on a high rock. This defence was to prevent incursions from the people of the north. It is thought likely that the Pyle Sarmatæ is the same with the Porta Ibericæ, or Porta Caucasia, mentioned by Strabo, and the present pass or valley of the Terek. The two latter, the Pyle Albanie and the Via Caspia, merely bestow two names on one place, which is the pass now called Derbent. But there was another, the Porta Cumana, that lay farther westward. Pliny notices it particularly, describing its fortress by the name of Cumania. These defiles, as keys of the east, have always been vigilantly guarded by the possessors. But Leon the First rather chose to incur an inroad from the barbarians than be at the smaller expense of keeping the gate that fixed their boundary. Justinian knew better, and concluded a treaty with Kobad, king of Persia (A.D. 532), agreeing that this pass should be protected by both sovereigns in common, or, if totally confined to Kobad's troops, the Roman should pay the Persian monarch in gold in reward of the double service. Ptolemy makes mention of the Arcati soren, or Arcot, and his tables show an acquaintance with the whole series of ports on both sides of the Bay of Bengal, though less of those on the east side, and on to China. In the last map of his volume, that which contains the Aurea Chersonesus and the Iabades Insulæ (supposed to have meant respectively the Malayan Peninsula or Sumatra and the Java Islands), he places a country far to the eastward of the Aurea Chersonesia, under the equinoctial line, which he states to be occupied by Æthiopes Ichthyophagi or Negro fish-eaters; the first term being that employed by the Romans to distinguish the black and woolly-haired *Africans from the Mauritani* and other brown races *of the east*; and the second, that usually applied to all nations who derived a portion of their subsistence from the sea. The system of naming nations from the food which formed their chief means of support, seems to have been very prevalent among the ancients; witness Hippophagi, the horse-eating Tartars, Lotophagi, lotus-eaters, etc.; and these names are sometimes found to contain the only existing description of the habits of the people on whom they were conferred, as in the present instance. Dr. Leichhardt, in his overland journey from Sydney to Port Essington, found some tribes of genuine Lotophagi on the lagoons of the table-land. The position of this country with regard to the Aurea Chersonesus agrees well with that of New Guinea, the great seat of the Papuan race. The existence of a Negro people at so remote a spot, which he must have learned from the information of Indian navigators, seems, indeed, to have led Ptolemy into the great error of his system; for, believing that the country of the Æthiopes Icthyophagi formed part of the continent of Asia, he has made that continent, in his general map of the world, come round by the south and join the African continent about Point Prassum, in latitude 15° S. (the then southern known limit of the east coast of Africa), thus making the Indian Ocean and the seas of the Eastern Archipelago form one vast inland sea.—*Rennell's Memoir*, pp. 35, 241; *Cunningham's Ancient Geog. of India*, pp. 9, 31, 32.

PTOLEMY LAGUS, or Soter, was the son of Philip of Macedon by his concubine Arsenoe. He was a favourite of Alexander the Great, on whose death he obtained Egypt, Lybia, and part of Arabia, to which, on the death of Perdiccas, he added Cœlo-Syria, Phœnicia, Judea, and the isle of Cyprus. He made Alexandria his capital, and built there a lighthouse, called the Pharos, as a guide to pilots for that harbour. Merchandise from Europe was carried thence up the Nile to the city of Coptus (probably near Keneh), and conveyed across the desert from thence to the seaport of Myos Hormos (probably near Cosseir) on the Red Sea. He dug a canal from a branch of the Nile to Damietta, a port on the Mediterranean. The canal was 100 feet broad, 30 feet deep, and 10 or 12 leagues in length, extending in fact to the 'bitter wells.' He meant to have continued it to the Red Sea, but desisted from fear that the Red Sea was 3 cubits higher than the land of Egypt! That this canal, though deeper than that of M. de Lesseps, did not succeed, is evident from the fact that in B.C. 277 Ptolemy Philadelphus again changed the direction of Indian traffic. Ptolemy Lagus died B.C. 285.

PTOLEMY PHILADELPHUS (B.C. 287–246), son and successor of Ptolemy Lagus, was so surnamed ironically, because he killed his two brothers. He was a great encourager of commerce, and a liberal patron of learned men. He sent Dionysius to visit India. He constructed considerable fleets both on the Red Sea and the Mediterranean Sea. On account of the dangers attending the port of Myos Hormos, he sent an army to construct the haven of Berenice, in which the ships engaged in Indian commerce took shelter in great security. Trade increased enormously by the new route, and Alexandria became rich and famous. On the recommendation of his chief librarian (Demetrius Philaretes), he is said to have sent a Jew of the name of Aristeas to Jerusalem, to ask the high priest for a MS. of the Bible, and for seventy interpreters. Others maintain that the Hellenistic Jews who lived at Alexandria, and who had almost forgotten their native language, had this translation made for their own benefit. Certain it is, that about the beginning of the 3d century B.C. (285), we find the Hebrew Bible translated into Greek, in that version called the Septuagint.

Ptolemy Philadelphus constructed a canal from Arsenoe (near the present Suez) to the Pelusiac branch of the Nile. The city of Berenice was on the western side of the Red Sea, 450 miles below Suez, from whence the merchandise was transported across the desert of Thebais to Coptus on the Nile. Ptolemy Philadelphus died B.C. 246, aged 64.—*Muller's Lectures*, p. 86; *As. Res.* i. p. 369.

PTOLEMY EUERGETES, son and successor of Ptolemy Philadelphus, declared war against Antiochus Theos, to avenge the death of his sister Berenice, the wife of Antiochus. He made himself master of Syria and Celicia, and was extend-

ing his conquests when the news of a revolt recalled him to Eygpt. He soon quelled the insurgents, and by the prudence of his reign acquired the title of Euergetes or benefactor. He died B.C. 221, and was succeeded by

PTOLEMY PHILOPATRES, ironically so called because he had poisoned his father, his mother, and several of his relatives. He favoured the Jewish nation. He died B.C. 204. It was the opinion of Major Rennell that under the Ptolemies the Egyptians extended their navigation to the extreme points of the Indian continent, and even sailed up the Ganges to Palibothra.

PTYADACTYLUS GECKO, the Chik-chak, a lizard of Labuan. It is very domestic, like the chaplak of India. It is said to be luminous on occasions.

PTYCHOSPERMA ARFAKIANA, *Beccari*, of New Guinea, at 5000 feet elevation attains a height of 30 feet. Pt. disticha, *Miguel*, the Areca disticha, *Griffiths*, a plant of Assam, up to 4000 feet. Pt. Musschenbroekiana, *Beccari*, a palm of Ternate, up to 3000 feet. It grows to 90 feet.—*Von Mueller.*

PTYCHOTIS, a small genus of umbelliferous plants, of which the seeds of some of the species have formed articles of condiment and of medicine from very early times. The genus extends from the south of Europe, through the oriental region, to all parts of India.

Ptychotis ajowan, *D. C.*

Ligusticum ajowan, *Roxb., Flem.*		Sison-ammi, *Ainslie.* Athamantha ajowan, *Wall.*	
Amus, ...	ARAB.	Nankhah, ...	PERS.
Boro-joan, . . .	BENG.	Ajmodam, . . .	SANSK.
Ajouain juvani, .	,,	Omam, Omamu,	TAM., TEL.
Bishop's weed, .	ENG.	Vamam chettu, . .	,,

This is one of the most useful of the Umbelliferæ, and an excellent remedy in flatulent colic. Cultivated in India everywhere, and much used there. Flowers small, white; small fruit. Seeds yield a volatile oil, from which is obtained ajowan camphor or thymol, a valuable antiseptic. Seeds of an aromatic smell; warm, pungent taste; much used by the natives as a substitute for aniseed, both as an aromatic and in colic; also as a deobstruent in ischuria and dysmenorrhœa, and as a stimulant in catarrh and hemicrania. Employed as an infusion.—*Voigt; Roxb.; O'Sh.*

Ptychotis coptica.

Bal-ajwan, . . . HIND. | Coptic ammi.

A plant of Candia and Egypt, used as a stimulant aromatic.—*O'Sh.* p. 357.

Ptychotis involucrata, —?

Chanu, Radhuni, . BENG. | Anisun, Anisbu, . HIND.

Used as a substitute for parsley.

Ptychotis montana, *Graham*, Bhaphallee.

Ptychotis sylvestris, *Royle.* Arab-ajwan, HIND. Grows in the khadir lands of the Saharunpur district, and used as a stomachic aromatic remedy in flatulence.—*O'Sh.* p. 358.

PU-AN-KU. According to Chinese mythology, the primeval man who came out of the mundane egg; he lived 18,000 years. See Pun-ku-wong.

PUAR or Pouar, a highly respectable Mahratta family at Multan, 30 miles N.E. of Poona. In the early periods of Mabratta history, the Puar family appears to have been one of the most distinguished. They were of a Rajput tribe, numbers of which had been settled in Malwa at a remote era, from whence this branch had migrated to the Dekhan.—*Malcolm's Central India*, i. p. 97.

PUBB MOUNTAINS, in length are about 90 miles, from C. Monze to lat. 26°. They are supposed to equal those of W. Sind, viz. 2000 feet; the highest part is about lat. 25° 30′ N. In lat. 25° 3′ N., and long. 66° 50′ E., they are crossed by the Guncloba pass, described as stony, and of easy ascent and descent. The Pubb river falls into the sea at Cape Monze. Hot springs occur in the neighbourhood. A district on the river, called Chuha, is occupied by a people of that name, who are said to be of Sumrah or Brahui origin.

PUBERTY amongst Muhammadan girls is called Baligh-hona; P'haili sir myli hona; also Burron men milna; and amongst the poor and uneducated its occurrence in a girl is celebrated with music. With Hindus and the non-Aryan races, the girl is put outside the house till the time of purification occurs.—*Herkl.*

PUBLIC WORKS, a department of the Executive Government of British India which attends to construction, irrigation, repairs.

PUBNA, a town in Bengal, about a mile from the left bank of the Pudda, in lat. 24° N., and long. 89° 12′ E. It gives its name to the flat, fertile district of Pubna, which lies to the N. of Jessore, between lat. 23° 34′ and 24° 36′ N., and long. 88° 55′ and 88° 48′ E. Area, 2606 square miles, and population, 700,000. The town is 130 miles from Calcutta.

PUDUKOTTAH, an independent state in the centre of the Peninsula of India, with an area of 1046 square miles, a population of 316,695, or 302·7 to the square mile, and a revenue of Rs. 5,00,000; but the public means is greatly lessened by having three lakhs in inams and jaghir. The ruler is styled the Raja Tondaman Bahadur, and he and his people are of the Kollari race. It is surrounded by the Tanjore and Trichinopoly districts. The Pudukottah chief did good service to the British during the wars around Trichinopoly in 1753, and remained unshaken in fidelity when all the other Polygar chiefs were in arms. He is the only chief in the south of India who pays no tribute. Pudukottah, the chief town, is in lat. 10° 23′ N., and long. 78° 51′ E., and has a population of 13,078 souls, on a low site surrounded by thick jungle. The raja holds also Kilanelli fort in S. Tanjore.

PUDUVELIGOPURAM, about 1½ miles N. of Negapatam, a tall, weather-beaten tower, known as the China Pagoda, Black Pagoda, Old Pagoda, Jaina Pagoda. It was removed about 1870. Supposed by Burnell to be a Vimana.

PUDWUL. HIND. Trichosanthes anguina. Tr. dioica is a small snake-gourd the size of an egg; the seed is sown in the cold season, and yields fruit from March to September.—*Riddell.*

PUERARIA TUBEROSA. *D. C.* A tall, woody, twining plant of the south of Asia, up to 4000 feet. Its large tubers are edible, and might improve by cultivation.—*Von Mueller.*

PUGHA, in the territories of the maharaja of Jamu and Kashmir, is a small valley with a lake, in which borax is deposited. The portion from whence the sohaga or tincal is collected has a fine stream running through it into the river Indus; the portion producing the borate of soda is, if not watered by, still under the influence of, thermal springs, varying from 130° to 167°; the tempera-

ture of the streams into which these empty being in July 56°. The entire produce of the valley might be roughly calculated at 20,000 kucha maunds of 38 lbs. The greater portion finds its way to Rampur in Bishahr; some to Kulu, via Mandi, to the lower hills; and a small quantity, via Chamba, to Nurpur. Nearly all that going via Rampur is taken into the lower hills in the neighbourhood of Sabathu, Bhaji, etc., where wood is procurable, and where, during winter, it is refined by the carriers who go there to graze their flocks. It thus becomes borax, in which state it nearly all finds its way to Jugadri in the plains. The whole of the lake plain of Pugha is covered, to the depth of several feet at least, with white salts, principally borax, which is obtained in a tolerably pure state by digging; the superficial layer, which [illegible]ins a little mixture of other saline matters, [illegible] rejected. There is at present little export [illegible]orax from Pugha, the demand for the salt in [illegible]r India being very limited, and the export to [illegible]pe almost at an end. It has long been known [illegible]borax is produced naturally in different parts [illegible]ibet, and the salt imported thence into [illegible], was at one time the principal source of [illegible]f the European market. There is another [illegible] near Rodok, in Chinese territory, yielding [illegible]m which the route to the plains is via the [illegible]pass; this borax is said to be of a very [illegible]r quality, nearly pure, and requiring little [illegible]refining.—*Turner's Tibet*, p. 406; *Blane in* [illegible]., 1787, p. 297; *Powell, Handbook.*

[illegible]GHMAN or Pamghan, a mountain range, [illegible]dinate to Hindu Kush, running along its S. [illegible] generally from N.E. to S.W. Estimated [illegible]ation, 13,000 feet. Oona pass, lat. 34° 23′ N., [illegible] long 68° 15′; 11,320 feet. Erak summit, lat. [illegible]°40′ N., and long. 68°48′ E., 12,480 feet. Always [illegible]vered with snow. Its south-eastern brow over[illegible]ngs the delightful region of Koh-i-daman and [illegible]so Kābul; its northern face forms the southern [illegible]oundary of the Ghorband valley.

PUGIONIUM CORNUTUM. *Gærtner.* A herb [illegible]rown as a vegetable by the Mongols, from the Caspian Sea to China.—*Hance; Von Mueller.*

PUIMANGU of Kashmir, a dealer in shawl-wool yarn.

PUJA. Sansk. Worship of the Almighty or [illegible] idols; any Hindu worship. Durga puja is the [illegible]orship of the goddess Durga; but it assumes [illegible]arious forms, and is attended by a variety of ceremonies, according to the circumstances under which the worship is performed. A Pujali or Pujari is any worshipping priest; the officiating Brahman or priest of a temple; an inferior priest. Puj, a devotee.

PUJAWALIYA, a book of legends in Singhalese, relating principally to Gautama Buddha.—*Hardy*, p. 440.

PUJA WIPU, a ceremony celebrated with splendour in Trevandrum. Kumarasamy (the son of Siva), who is kept at Kumara Coil, near Puttmanabapuram, is brought to Trevandrum for the celebration of the Dashara feast. It costs the State 3000 fanams annually in cash, exclusive of his travelling expenses. The god is supposed to receive these 3000 fanams in consideration of the difficult task he has to perform in crossing the three great rivers, Neyour of Neyattencuray, Tambrapurni of Culiteray, and the Caramanayaur of Trevandrum. This deity, having lost caste because he married a girl of the Curava caste, by name Vulley, and one of the Parava caste, by name Thaivayanay, is not allowed entrance inside Padhmanabaswamy pagoda, but is made to reside in a pagoda outside the fort near Chalay, called Ariya Chalay. After the close of the ceremony, for the celebration of which his presence is invited, the god receives the fee of 3000 fanams, and is taken back to his pagoda at Padhmanabapuram, escorted by a company of the Nair brigade, a good number of pagoda girls, the tahsildar, and some petty officials, and is not disturbed till the next feast. Dancing girls belonging to many of the pagodas in South Travancore also grace the occasion with their agreeable presence and remarkable dancing, creating during their short stay of ten days a great deal of disturbance by their immoral and obscene conduct, and thereby giving a good deal of trouble to the police authorities. On the day that this ceremony closes, his highness the maharaja proceeds in his royal car to Pujeperah.

PUKALENTI, said to have been a contemporary of Kambar, but he was one of the court poets of Varaguna Pa[illegible]ing of Madura. He wrote a history [illegible]a and Damayanti in Venpa metre, enti[illegible] Nala Venpa; also the Irallina Surukkam, enumerating the metaphors to be used in erotic poetry.

PUKAT, a Chinese trading vessel employed in the eastern seas; Prahu.

PUKEO, a money of account in the island of Lombok, equal to 5 attaks or 1000 cash; about 9 shillings.—*Simmonds' Dict.*

PUKHAWAJ. Hind. A kind of drum, a timbrel.

PUKHTUN-KHWA and Watan-khwa, names by which the Afghans designate their own country.

PUL or Pool. Abul Fazl says that the pool of olden days was equal to 4 tolas; Ferishta, again, gives 1 or $1\frac{3}{4}$ tolas.

PULAHA, a Hindu sage, is described in the Bramhanda Purana as a tall, aged man, in the dress of a mendicant, who lived as a hermit on Mount Mandara. He is said to have written one of the Smriti. One son, Variyana, is said to have introduced the Hindu custom of preserving the ancient fire; and another son, Sahishnu, originated the austerities practised by the Jogi ascetics.—*Ward*, iv. p. 18.

PULAIMAKAN, a Tamil term, applied to a Paraiya or Pulaya.—*Wilson.* See Pariah.

PULASTYA, one of the Smriti writers of the Hindus, and author of an astronomical work. He had two sons. He is described as a tall, dark man, and dressed as a mendicant.—*Ward*, iv. p. 17.

PU-LA-TE, a wandering tribe found on the island in the Baikal lake. Mr. Bell says the tribe are natives of Siberia, and are called by the Russians Brustky, but by themselves Buraty. They live in tents all the year; and, having large flocks of sheep and many cows and horses, they remove from place to place, as the convenience of grazing requires. Their language has a great affinity to that of the Kalmuks, and they have priests among them who can read and write that language.—*Staunton's Narrative*, pp. 51, 52.

PULAYAN or Pulian, of Malabar, is a low and servile caste, often slaves. The Tandu Pulayan section of this Travancore tribe are so named

because their women wore a dress of the leaves of the Tandu water plant. Its leaves were cut into lengths a foot long, and tied round the waist so that the strings unwoven reach to the knees, hanging like tails before and behind. The men wear the ordinary lower cloth of the Hindus. They are said to have been without cloths, and to have been compelled by an ancient king to clothe themselves, and the women adopted this. They are also called Kuri Pulayan, meaning Pit-Pulayan. They speak Malealam, worship the sun and heavenly bodies and their ancestors' spirits, which are supposed to dwell in the marine lagoons, and the phosphorescence of its waters is supposed to indicate their presence. The Pulayan eat fish, cooked in arrack, with roots of water plants. They drink largely. They dwell in the Malealam country south of Cochin, between the backwater and the sea; and a section of them is more south, near Aleppey, who are called Kanna Pulayan, and their wives on maturity wear a better kind of [illegible]. They are virtually slaves.—*Rev. W. J. Wilkins' Indian Antiquary*, p. 120.

PULEETA. HIND. A lamp charm.

penetrans, the [illegible]NS, or Dermatophilus small flea of the W. Indies [illegible]blesome and noxious penetrates into and deposits its eg[illegible] America, which man. [illegible]he skin of

PULGOONDHUN. HIND. The plaiting [illegible] girl's side locks, a Muhammadan ceremony.

PULIAR and Kader, as also the Malai-Arasar and Muduwar, all inhabit the Animallay Hills. They all gather the rich natural products of the forest,—cardamoms, honey, wax, ginger, turmeric, resins, millets, soap-nuts, gall-nuts,—and exchange them in return for rice and tobacco. See Puller.

PULICAT, properly Paliyavarkadu, a small town 20 miles N. of Madras, on the Coromandel coast, in lat. 13° 25′ N., and long. 80° 21′ 24″ E., situated on the borders of a large island at the southern extremity of a marine lagoon, called the Pulicat Lake. The Dutch established themselves there in A.D. 1609. The lake is 37 miles from N. to S., and 11 miles across at its broadest part. Communication is open to Madras by Cochrane's canal, 14 miles long, which was excavated about the end of the 18th century. Pulicat is close to the village of Coromandel, which again gives its name to the coast of the eastern side of the Peninsula of India. The lake has many islets, one of them at Sriharikotta is covered with jungle. Off the coast here are the Pulicat shoals, lat. 13° 25′ N., and long. 80° 18′ E.

PULINDA, ancient dominant tribes in Central and Northern India, and on the Indus, alleged barbarians.—*As. Res.* x. p. 87; *Dowson.*

PUL-i-SIRAT, a bridge, according to Muhammadans, over which the dead have to pass. If in life the traveller have been good, he passes safely; if an evil-liver, the sword-like bridge cuts him in two.

PULLA. HIND. A kind of carp found in the Indus and Ganges rivers in the four months that precede the periodical swell of these rivers. The pulla, called by the Sindi 'pallo,' is the hilsha of the Ganges, the sable or black fish, also called the tamarind fish. The usual weight is about two pounds, and the body averages 20 inches in length. The finest are found ascending the Indus as far as Bukkur, between January and April, and are rare above the island of Bukkur. It is caught in abundance and by various methods, sometimes by fishermen perched on a narrow-necked earthenware pot, which serves the double purpose of support and a reservoir for his fish and tackle; others buoy themselves up by means of dogskins kept inflated from a mouthpiece. Some ten or fifteen fishermen are to be seen dropping slowly down with the current.—*History of the Panjab*, i. p. 8; *Burton's Scinde*, ii. p. 256.

PULLA PASSAONA, HIND., or spreading the cloth or scarf, is the figurative language of entreaty arising from the act of spreading the garment preparatory to bowing the head thereon in token of perfect submission.—*Tod's Rajasthan.*

PULLER. TAM. A race in the south-west of the Peninsula of India, supposed to have formerly been in a state of slavery, but their position is solely dependent on their wealth. Both and women work well, take part in all agricul labour, the women in this particular vying the men. The Puller women go about with chests exposed, and as a rule cannot be ind to cover their breasts. Previous to British the Puller, who inhabited the forests and m tainous districts of the Malabar coast, were by the settled inhabitants as inferior to the of prey, and were not even permitted to houses for themselves. A shed supported on bamboos, and open on all sides, sheltered from the rain, but not from the inclemency weather. They dared not [illegible] the road lest the [illegible]ons should defile it; and they perceived any person approaching them a distance, they were required to utter a yel loud cry, and make a wide circuit to let him p The Puller in Tinnevelly are predial slaves of wealthier classes. They are the lowest Hind grades of the right-hand caste. They bury the dead, have pujaris of their own castes.—*Wilson Campbell*, p. 133. See Puliar.

PULLIAR or Pulliyar, in the Tamil country, a form of the Hindu deity Ganesa.

PULLICATES, a commercial term for cotton checked handkerchiefs of various colours.

PULLICONDAH, a village 97 miles W. of Madras, near the right bank of the Palar river. It has a handsome pagoda, in front of which is a pagoda supported by four lofty pillars.

PULNEY, a small town that gives its name t a spur, called Kurragherry, of the western range o mountains which runs out boldly into the Madura district, and on which a sanatorium is growing up. Pulney is to the north of this range. A festival is annually celebrated there, and the worshippers of the idol Subramaniya crowd to the place. On approaching the town from the east is seen two massive rocks lying to the south, and about half a mile distant from the road and from each other. The elongated one to the east is named Idumba hill; the larger and rounder mass is Pulney rock, the summit of which is crowned by a temple, different parties moving up the rock to the shrine of the divinity, beating of drums and braying trumpets cry out Harakara—meaning O Siva! great Siva!—in praise of their deity. The local name of the god is Pulney Andi, also Dandaythapani (wielder of the spear), Arumugam (six faces), and Kartikeia (the god of war). His Puranic name is Skanda. He is the youngest son of the god Siva, and the hero of the Skanda Purana.

[illegible]ders, viz. Bowani and Jutan; to the descend-
[illegible]ts of the former the large estate of Mowaya was
[illegible]lotted, and to those of the latter the nine
[illegible]tates. Some entire mouzahs in each of these
[illegible]luks were subsequently assigned to different
[illegible]ches of the family, and the remainder held
[illegible]ly by all, but as they are now divided into
[illegible]rate estates, the holdings are strangely inter-
[illegible]d, as in some of the villages nine taluks have
[illegible]s, not, however, of any one distinct portion,
[illegible]they are divided field by field; and as in
[illegible]ss of time sales and mortgages took place,
[illegible]some of the fields became the property of
[illegible]r estates, the intermixture has greatly in-
[illegible]ed. There are innumerable subdivisions of
[illegible]i in Malwa, and extending from Behar and
[illegible]res through the N.W. Provinces of India up
[illegible]e Panjab.

[illegible]. (now Sir) George Campbell, writing of
[illegible], says they are no doubt of Aryan origin, and
[illegible]part of a later movement than the branch who
[illegible]e down by the Saraswati, and up to the latest
[illegible]s have shown themselves a brave people,
[illegible]hting in war and in bloodshed; and they are
supposed by Mr. Campbell to be the old
[illegible]triya race, noticed in the early Brahmanical
[illegible]s as existing many hundred years before the
[illegible]stian era, though they have taken the place
[illegible]ned to the Kshatriya. They undoubtedly
[illegible]ed on the north-west of India long after th[illegible]
[illegible]try had been occupied by Dravidian, Kolaria[illegible]
Mongoloid races, and after [illegible] the north-eastern
[illegible]ab and Cis-Sutlej districts seem to have first
a Brahman, then a Rajput country, and
[illegible]equently advanced upon by the Jat.

[illegible]e *Baghel*, also Waghel, is a Rajput tribe in
[illegible]. The Baghel are a branch of the Sesodia
[illegible]nts of Gujerat, who migrated to the east,
[illegible]gave their name to Baghelcund or Rewa,
[illegible]others of the tribe have spread through
[illegible]elkhand, Allahabad, Benares, Cawnpur,
[illegible]khpur, and Farrakhabad.

[illegible]e *Bais* has obtained a place amongst the
[illegible]-six royal races, though Tod believed it to be
[illegible]division of the Suryavansi, as it is neither to
[illegible]t with in the lists of Chund, nor in those of
[illegible]Komarpal Charitra. It is now a numerous
[illegible], and has given its name to an extensive
[illegible]ct, Baiswara in the Doab, or the land
[illegible]een the Ganges and Jumna.

[illegible]e Bais intermarry with the Chauhan, Kach-
[illegible], and others. They claim to have come
[illegible] Manji Paithan in the Dekhan, and to be
[illegible]ndants of its king Salivahana, A.D. 78.

[illegible]e *Bhatti* are of the Yadubansi race, and
[illegible]rule in Jeysulmir, and give their name to the
Bhatti country between Hissar and Garhi. It is
not clear whether the Bhatti of Bhattiana were
originally Rajputs or really are Yuti or Jat.

The *Birgujar*, one of the thirty-six royal races
of Rajputs, are settled along the Jumna from
Rohilkhand to Matura; some are Muhammadans.

The *Bundela* is a Rajput tribe descended from
the Garhwar of Kantit and Khairagarh, who
settled in Bundelkhand in the 13th or 14th
century, and gave their name to that province.

The *Chahil* or *Chahira* Rajput tribe is now for
the greater part converted to Muhammadanism.
There are a few in the Hissar district and on
the borders of Bikanir. Though Muhammadan,
they nevertheless retain charge of the tomb of
Goga Chauhan, a Hindu prince now esteemed a
saint.

The *Chandel* Rajput tribe are scattered in
various parts of the N.W. Provinces, and for the
most part came from Muhoba in Bundelkhand.
Before the Muhammadan conquest, Muhoba ap-
pears to have been the capital of a principality
that extended to the Nerbadda, and included the
province of Chanderi, which is called after their
name. They are styled Sombansi, but they are
not considered to be of pure descent, and their
sons are carefully excluded from marriages with
the higher clans. This tribe expelled the Baland
tribe from Ajori, Burhur, and Mirzapore. They
have many divisions, and are supposed to have
come from Muhoba in Bundelkhand. They claim
to be of the Lunar race, and they give their name
to the Chandeli or Chanderi district. There are
four subdivisions of them in the Lower Doab, who
suffix to their names the regal terms Rae, Rawat,
Rao, and Rana.

The *Kachwaha* tribe are the ruling race in Amber
of Jeypore. Its raja is a Kachwaha.

The *Dahia* was an ancient tribe whose residence
was the banks of the [illegible] with the Sutlej [illegible]ndus, near its confluence
place amo[illegible]j; and although they retain a
no[illegible]ngst the thirty-six royal races, there is
ar[illegible] knowledge of any as now existing. They
[illegible]e mentioned in the annals of the Bhatti of
Jeysulmir, and from name as well as from locale,
we may infer that they were the Daha of
Alexander.

The *Dahima* has left but the wreck of a great
name. Seven centuries have swept away all re-
collections of a tribe who once afforded one of the
proudest themes for the song of the bard. The
Dahima was the lord of Biana, and one of the
most powerful vassals of the Chauhan emperor,
Prithi-raja. The brothers of this house held the
highest offices under this monarch, and the period
during which the elder, Kaimas, was his minister,
was the brightest in the history of the Chauhan,
but he fell a victim to a blind jealousy.

Dahirya.—The Komarpal Charitra classes this
with the thirty-six royal races. Amongst the
princes who came to the aid of Chitore, when
first assailed by the arms of Islam, was the 'lord of
Debeil, Dahir, Despati.' Dahir was the ruler of
Sind, whose tragical end in his capital, Debeil, is
related by Abul Fazl. It was in the ninety-ninth
year of the Hijira that he was attacked by Kassim,
the general of the khalif of Baghdad, and treated
with the greatest barbarity. Whether this prince
used Dahir as a proper name, or as that of his
tribe, must be left to conjecture.

The *Dogra* tribe in the N.W. of India are pre-
datory and pastoral, following Muhammadanism,
but claiming to be Chauhan Rajputs. The other
converted Chauhan, however, believe them to have
been Jat and Gujar. The raja of Kashmir is a
Dogra. In the 18th century they occupied a
considerable tract on the banks of the Sutlej, and
made themselves formidable to the Muhammadan
government of Dehli.

Jharija Rajputs are dominant in Cutch, but
about A.D. 800 a branch of the family, in con-
sequence of intestine feuds, crossed the Runn at
the head of the Gulf of Cutch into Kattyawar,
and established themselves upon the ruins of the
Jetwa Rajputs, and a few petty Muhammadan
chieftaincies. The lands appear to have been

divided in common among the whole tribe, the teelat or eldest branch of the family reserving to itself the largest portion, while the bhaiad or relatives (brotherhood) held their respective villages by a purely feudal tenure.

The *Joyha* race possessed the same haunts as the Dahia, and are always coupled with them. They, however, extended across the Gharra into the northern desert of India, and in ancient chronicles are entitled Lords of Jungul-Desa, a tract which comprehended Hurriana, Bhatnair, and Nagore. This tribe, like the Dahia, was in the beginning of the 19th century extinct.

The *Macheri* Rajput in Mewar were formerly turbulent.

Mohil.—All that can be learned of the past history of this race of Rajputs is that it inhabited a considerable tract so late as the foundation of the present state of Bikanir, the Rahtor founders of which expelled, if not extirpated, the Mohil. With the Malun, Malani, and Mallia, also extinct, it may claim the honour of descent from the [illegible] (qu. the foes of Alexander, whose abode [illegible]).

Nicoompa.—Of this race, [illegible] to which celebrity attaches in all the Rajput genealogies, we can only discover that they were proprietors [illegible] of the district of Mandelgarh prior to the Gehlot.

Raj-Pali.—This race, under the names of R[illegible]aj-palica, or simply Pala, are mentioned by all the [illegible] genealogists, especially those of Saurashtra, to which in all probability it was confined. This tends to make it Scythic in origin,—a conclusion strengthened by the derivation of the name, meaning 'royal shepherd;' it was probably a branch of the ancient Pali.

Sikerwal is a tribe which never appears to have claimed much notice amidst the princes of Rajasthan; nor is there a single independent chieftain now remaining, although there is a small district called after them, Sikerwar, on the right bank of the Chambal, adjoining Jaduvati, and, like it, now incorporated in the province of Gwalior, in Sindia's dominions. The Sikerwal was therefore in the early part of the 19th century reduced to subsist by cultivation, or the more precarious employment of his lance, either as a follower of others, or as a common depredator. They have their name from the town of Sikri (Futtehpur), which was formerly an independent principality.

Sirvi Rajputs, descendants of Sheopal, dwelling in Merwara, are a hardy race of agriculturists.

A Rajput even of the humbler people has a bold and dignified appearance, and their women are singularly beautiful. The tradition of common ancestry has preserved among them the feeling which permits a poor Rajput yeoman to hold himself as good a gentleman as the most powerful landholder. The Rajput proper is very proud of his warlike reputation, and most punctilious on points of etiquette. The Rajput who possesses but an acre of land has the proud feeling of common origin with his sovereign, and in styling him bapji (sire), he thinks of him as the common father or representative of the race. 'I am a Rajput,' literally 'I am of royal descent,' is a usual remark, and it is a reflection which lends an air of dignity to all their actions. But in their military organization their constitution is feudal. Each Rajput or Jat is a free citizen, and all

are peers. The Panch or Kratisteuontes (κρατι[illegible]τευοντες), or, as the British call them, Lambardar[illegible] are but the elected representatives of the body [illegible] the citizens, and the only general rule is that [illegible] village is always represented by a plural numb[illegible] of representatives.

Over great tracts the Rajput are a fe[illegible] minority. In some parts, however, the agri[illegible] tural Rajput villages are strong and numer[illegible] every Rajput is free and equal, the land is div[illegible] amongst them, and the commune is administ[illegible] on democratic principles; wherever this is [illegible] case, their institutions resemble those of the [illegible] race.

One large section of them, chiefly of [illegible] Oswal tribe, have become the greatest finan[illegible] of India. The mercantile classes are stronge[illegible] the northern cities, where are the homes of al[illegible] all the petty bankers and traders, who have s[illegible] over Central and Western India under the [illegible] of Marwari. Perhaps the Oswal section of [illegible] Jains, which had its beginning in Rajputana [illegible] the wealthiest among the merchants; and n[illegible] of the hereditary officials belong to the comm[illegible] castes.

Rajputs have clan or tribal names, but [illegible] extensively distributed to take the place of fa[illegible] names. In the Lower Doab, the Rajput tak[illegible] Hindu royal designations of Raja, Rao, Rana, [illegible] Rawat. Rajput, son of a raja, is not a term [illegible] by all Rajputs. In some parts of their cou[illegible] they call themselves Thakur, which means [illegible] or noble. They are, however, frequently di[illegible] guished by the name of their tribe, as Chau[illegible] Rahtor.

Their practice is not to marry into their [illegible] but into another clan, and this has assimilat[illegible] tribes to each other. A marriage within th[illegible] is regarded as incestuous; each clan depen[illegible] the other clans for its wives, for no Rajput[illegible] take a wife elsewhere than from Rajputs. [illegible] has led to much celibacy and to infanticide. [illegible] daughters are married to men of the best t[illegible] and their widows are not permitted to re-m[illegible] and it is the point of honour as to their daug[illegible] marriages that led to the practice of in[illegible] cide.

During the year 1871, an enumeration o[illegible] whole of the Rajput population in Oudh was [illegible] by native police officers in every village [illegible] even a single Rajput family lived. There [illegible] found 439 clans or divisions of clans, some o[illegible] divisions having only one or two living mem[illegible] The clans and divisions were distributed over [illegible] villages, containing a total Rajput populati[illegible] 559,699; and of this number 250,849 were males, and 184,623 females, above 10 years; and 84,200 male, and 60,027 female, children under 10 years. Of all the districts of the province, Roy Bareilly was supposed to be the one in which infanticide prevailed to the greatest extent. In 1075 villages, 10,643 boys under 10 years were living, and only 6619 girls. Roy Bareilly had 71,000 Rajputs in 1075 villages; Unao, 65,000 in 927; and Faizabad, 63,000 in 1565. The jurisdiction of Juggutpore, Roy Bareilly district, with a total Rajput population of 7836 distributed over 145 villages, only had 14 per cent. of female children under 10; there were 3386 males, and 2844 females above 10 years; 1386 boys under 10, and only 238 girls. Here it was that infanticide was considered

to be most common. But the 1881 Census Report inclines to the belief that the children born are largely of the male sex, and this is probable.

Rajputs had high notions of honour, and treated women with great respect. But in their haughty pride, the vices of female infanticide and sati rose to the highest pitch in Rajputana, and girls were destroyed even after attaining adolescence. Major M'Murdo, writing in 1818, mentions that amongst the offspring of 8000 Rajputs, probably not more than thirty females were alive.

In 1810, the rajas of Jodhpur and Jeypore became rival suitors for a princess of Udaipur, and supported their pretensions by waging war against each other, and the family of the unhappy girl at length terminated the contest by putting her to death.

A prince of Bundi had married a Rajputni of the Malani tribe,—a name now unknown; but a Bard repeating the 'gotra acharya,' it was discovered to have been about eight centuries before a ramification (sak'ha) of the Chauhan, to which the Hara of Bundi belonged; divorce and expiatory rites, with great unhappiness, were the consequences.

Their great desires are to marry their daughters [illegible] a clan of a higher rank, and to avoid mis[illegible]nces. The court of Ranjit Singh furnished a [illegible]st striking proof of the tenacity with which [illegible] Kutoch of Kangra asserts and maintains [illegible] superiority. Dhian Singh, the brother of Maharaja Ghulab Singh, while the prime [illegible]nister of Ranjit, sought an alliance for his son, [illegible]eera Singh, with one of the daughters of the raja [illegible] Kangra, but the proud Kutoch deserted his [illegible]ereditary kingdom rather than, as he thought, [illegible]egrade his house by intermarriage even with a [illegible]lian, or prince of the Jummoo stock. Many [illegible]hiefs of the clans are said to have wished their [illegible]aughters married into the Rewa family, and [illegible]sums up to five lakhs of rupees have been given [illegible]as a daughter's dot.—*Elph. Hist. of India; Jour. of the Royal As. Soc.*

RAJSHAHI, in lat. 24° 3′ to 24° 59′ N., long. 88° 20′ 45″ to 89° 23′ 30″ E., is a revenue district of Bengal. The Ganges forms its southern boundary. Its population in 1872 was 1,310,729. The Muhammadans numbered 1,017,979; the Chandal, 28,762; the Koch or Rajbansi, 11,625; the Chain, 8802; the Kaibartta, 60,440; and the Jaliya, 16,992. Towards the east, the marshes increase in number and size until they merge in the great Cholan bil on the district boundary. The river system is composed of the network of streams and water-courses which anticipate the confluence of the main channels of the Ganges and Brahmaputra. The Cholan bil is, in fact, a great reservoir for the surplus water supply of the whole surrounding country. It has open connections with the rivers and water-courses, which here lose their ideptity, and during the rains it swells till it covers a total area of about 120 square miles.

RAJ TARINGINI, a work by Vedyadhar, which gives the various dynasties who ruled at Indraprastha, or Dehli, from Yudishtra to Vikramaditya. It was compiled under the eye of Siwai Jye Singh of Amber.

RAJUR, a Rajput tribe, siad to be of Bhatti descent; they confine their haunts to the desert, or the borders of Jeysulmir, as at Ramgarh, Keallah, Jaraillah, etc., and the t'hul between Jeysulmir and Upper Sind. They are cultivators, shepherds, and thieves, and are esteemed amongst the very worst of the converts to Muhammadanism.

RAJ VULA, the chronicle of the reign of Raj Singh, a prince of Mewar.

RAJWAR, a predatory tribe in the Gya and adjoining districts. In Sirguja and the adjoining estates they are peaceably disposed cultivators, who claim to be of illegitimate Kshatriya descent from the Kurmi and Kol. They do not conform to Hindu customs, and they are skilled in the chailo dance, believed to be of Dravidian origin.

RAJWARA, the territory of the raja of Koch-Behar in Rungpur. Here, when the means of individuals prevent them from cultivating their own lands, it was not uncommon to hire out the whole with men and implements, for the use of which one-eighth of the produce was the established consideration.—*Rajasthan*, ii. p. 542.

RAK. SIAMESE. [illegible] tree which produces the beautiful varnish valued in the lacquer ware of China.

RAKBA. HIND. In Hindustan, the village area; lands comprised within the boundaries of a village or township.

RAKH. HIND. An uncultivated or waste tract bearing grass, firewood, and stunted jungle of capparis, dhak, jhand, etc.; also a reserved plantation, a shikargah, a rund, a chuk. Tracts of rakh are to be met with in portions of many districts of the Panjab. In the Lahore district there are no less than 86 such tracts, consisting of plots of uncultivated ground; the total area is 250,000 acres, but not all of this yields wood, a great deal is grazing ground, much of which is quite capable of being brought under cultivation. The great value of the wood-bearing rakhs consists in their being the source from which all the fuel for railway consumption is to be taken. Not only is the upper growth of wood valuable in this way, but the roots that remain in the soil after the stunted growth has disappeared from the surface, are equally capable of being utilized.—*Powell.*

RAKHA. HIND. A watcher or watchman. It is from Rakshan, protection. A village watchman; a person employed for the protection of a village. A hereditary payment, a stipendiary payment or haq, to descendants of former watchmen, in Gujerat called toda geras haq.

RA-KHAING, a race occupying Arakan, towards the embouchure of the Koladyn river, having the Sak, Kumi, and Khyen on their north-east and south. A settlement of Ra-khaing has been made on the Tenasserim coast in long. 98 E., from lat. 13° 40′ to 14′ 30″ N., east of the Moscos Islands. They are a branch of the Burmese who separated themselves from the main stock at a very early period. The people of India call them Mug, a name of Persian or Arabic origin, unknown to the Ra-khaing themselves. They call themselves Myama-gyi, or great Myama. They give their name to Arakan.

Bomzu or Bunzu, called also Bondu, are a tribe of the Ra-khaing who dwell north of the Koladyn river. They have on their north the Lungkta, Kungye, or Kuki in the highlands of Tiperah. The Bomzu and the Kuki seem to belong to the Burman race. The seaboard and the lower portions of the valleys opening

into it, form the country of the Ra-Khoung-tha, or Arakan tribe, of whom the Burmans are a branch. Some are found residing on the banks of the mountain streams, and are distinguished by the name of Khoung-tha. Their language proves that they do not belong to the Yuma group, but are intruders from the north; and their own traditions recognise the Ku-mi as the tribe in possession of the seaboard when they entered Arakan.

The Mrung, in the upper basin of the Mayu and towards the hill frontier of Chittagong, are a colony imported from the Bodo country by the kings of Arakan, at the period when their conquests extended far up Eastern Bengal.

On the south of Assam is the prominent Burmese race, who profess Buddhism, and south of them the British province of Pegu, containing Burmese, Mon, also called Talaing, Khe Karen, Karen-ni or Red Karen, the Khyen, whose women tattoo their faces, the Yo Baing on the Yoma range, and the Shan, who form separate communities.—*Mason's Burm.* p. 62.

RAKHAJ, more properly Rakhkhaj, from which, preceded by the Arabic article (as al Rakhaj), comes the Arachosia of the ancient geographers. Rakhaj, one of the dependencies of Sijistan, the chief town of which, bearing the same name, was situated on the Helmand.

RAKHI. HIND. A bracelet consisting of a piece of thread, or silk, or tinsel, bound by Hindus round the wrist on particular occasions, especially on the Rakhi purnima, or full moon of the month Sravan (July—August), either as an amulet or a preservative against misfortune, or as a symbol of mutual dependence or of respect. A Rajput lady of rank or family sometimes sends it to a person of influence or power, whose protection she is desirous of securing, and whom she thus adopts, as it were, as a male relative or brother.

The Rakhi festival was instituted in honour of the good genii, when Durvasa the sage instructed Salone (the genius or nymph presiding over the month of Sravan) to bind on rakhi, or bracelets, as charms to avert evil. The ministers of religion and women alone are privileged to bestow these wristbands. When the ladies of Rajasthan, either by their handmaids or the family priests, send a bracelet as the token of their esteem to such as they adopt as brothers, these return gifts in acknowledgment of the honour. The claims thus acquired by the fair are far stronger than those of consanguinity. Sisters also present their brothers with clothes on this day, who make an offering of gold in return.—*Tod's Rajasthan*, ii. p. 697; *Wilson.*

RAKHI TANEE. HIND. A douceur, a vail or vale, a perquisite, a retaining fee.

RAKHWAL or Rakhwar, a guard, a watch, a keeper of a field; watching the crops; a cow or cattle herd; also a person capable of counteracting the evil designs or practices of malevolent beings, or witchcraft and the like.

RAKM, a form of writing character used in enumeration. See Raqm.

RAKSHASA, a term applied by the Aryan immigrants into India to the prior inhabitants whom they found settled there. In the present day, according to the Hindu superstitions, amongst the evil genii of all India, is a being called Rakshasa, of giant bulk, terrible teeth, who feeds on dead bodies; a spirit, or demon, or goblin, who appears to be of various descriptions. As a kind of Titan, or enemy of the gods, of the Hindu mythology, he assumes a gigantic superhuman form, after the manner of Ravana and others. He is sometimes represented as the guardian of the treasure of Kuvera, the god of wealth; and sometimes as a cannibal, imp, or goblin, haunting cemeteries, devouring human beings, impeding sacrifices, and disturbing religious people in their devotions. In this last-named character the Rakshasa appear to have waged continual war with men, as the Daitya or Danava did with the gods.

RAKSHASA. HIND., SANSK. An ancient form of marriage amongst the Hindus, where a maiden has been carried off by force after her kinsmen have been subdued or slain.—*W.*

RAKSHASA-LIPI, the running hand of the Mahratta character, meaning Rakshas writing. It is also called Mori.

RAKTA. SANSK. Blood. Raktoka dagi in Mysore is land given free of rent to the family of a person killed in battle. Also the red colour of plants, their woods and flowers.

RAKTA-BALI, blood-offering, a blood sacrifice to an idol. The blood sacrifice of the Hindus and most of the non-Aryan races prevails over the Peninsula of India, in Mysore, Hyderabad, in the Carnatic, and Northern Circars. It has different names, and is varied as to whether, as with the Khonds, a human being is sacrificed, or, as with the Pariahs and humbler non-Aryan classes, a buffalo, a bullock, with goats, sheep, kids, or fowls, the rite is identical. The British Government has put down the Khond human sacrifice, and are discouraging the great sacrifices of cattle which occasionally occur. In 1859, 1400 sheep and 50 or 60 buffaloes were sacrificed at the village goddess festival of Ellora. The goddess was carried round the village in a car, at each corner was a sharp wooden spike, on each of which a lamb was impaled alive, and a four sucking pigs in the middle.

Amongst the Mahrattas, it is conducted by the helot races,—Mhair, Mhang, and Parwari, and the Dhangar or shepherd,—and all village functionaries attend. A bullock is thrown down before the village deity, its head is struck off by a single blow, and placed in front of the deity, with one fore leg thrust into its mouth. Around it are vessels containing grain, and nearer is a heap of mixed grains, with a drill plough in the centre. The carcase is then cut into pieces, and each cultivator gets a bit to bury in his field.

The blood and offal are collected into a basket containing cooked food, which has already been offered as a meat-offering to the idol (Nai-vedya) the Pot-raj, or worshipping priest, cuts a live kid to pieces over it, as a Hari mariah, or plough sacrifice, and, mixing all together, the basket is placed on the head of a Mang, who runs through the town followed by Pariahs, and as he goes scatters handfuls of it to the spirits (bhutbali).

That is the village offering; but 50 or 60 buffaloes and goats may be offered by private persons. Women nude, but covered by leaves and boughs of trees, walk in fulfilment of vows.—*W. E. J.E.S.*

KTA VIJA, an Asura who fought the ss Chamunda, a form of Durga or Devi. elebrated in the Devi Mahatmya.—*Dowson.*

KUS TAL, or Tso Lanag, the Salt Lake, 30° 29′ E., and long. 81° 10′ N. (referred gan Tunkan, on its southern border), in Khorsum, is 15,250 feet above the sea.—*ley.*

L, also Rala. HIND. Dammer, resin, rosin. neral Hindi term for all resin-like substances. white rosin is the safed ral from the Shorea ta. The black and yellow rosins are called ral and zard ral.

LI. HIND. Red powder from fruit of era tinctoria.

ALLIDÆ, a family of birds, comprising the s, the water-hens, the rails, the corn-crake.

SUB-FAM. Gallinulæ.
Porphyrio polyocephalus, *Lath.*, the purple coot.
Fulica atra, *Linn.*, the bald coot.
Gallicrex cristatus, *Latham*, the water-cock.
Gallinula chloropus, *Linn.*, the water-hen.
G. Burnesii, *Blyth*, small water-hen.
G. phœnicura, *Pennant*, white-breasted water-hen.
Podaca personata, *Gray*, Cachar, Burma, Malacca.

SUB-FAM. Rallinæ.
Porzana akool, *Sykes*, the brown rail.
P. maruetta, *Brisson*, the spotted rail.
P. pygmæa, *Naaman*, the pigmy rail.
P. fusca, *Linn.*, the ruddy rail.
P. Zeylonica, *Gmel.*, the banded rail.
P. striatus, *Linn.*, the blue-breasted rail.
P. Indicus, *Blyth*, the Indian water rail.
P. Japonicus, *Schlegel.*
Crex pratensis, the corn-crake.
—*Jerdon*, ii. p. 700.

RAM or Rimmon. HEB. The exalted.

RAMA, among the avatara of Vishnu, in the mythology of the Hindus, are recorded three favoured personages in whom the deity became incarnate, all named Rama. They are distinguished by the names of Bala Rama, usually called Balaram, Parasu Rama or Parasram, meaning Rama of the club, and Rama Chandra or Dasrat Rama, and are all famed as great warriors, and as youths of perfect beauty.

Bala Rama was elder brother to Krishna, and greatly assisted him in his wars; so that, in this instance, Vishnu seems to have duplicated himself, as indeed may be also said of the others, for Parasu Rama and Rama Chandra, otherwise called patronymically Dasrat Rama, were contemporaries. But it has been made a question whether they be not three representations of one person, or three different ways of relating the same history; and whether any or all of them mean Rama, the son of Kush, Sir W. Jones says (As. Res. ii. p. 132) he leaves others to determine. He deems Rama, son of Dasarat'ha, to be the same as the Grecian Dionysos, who is said to have conquered India with an army of Satyrs, commanded by Pan; and Dasrat Rama was also a conqueror, and had an army of large monkeys or Satyrs, the general or prince of whom was Hanuman, a name said by this author to mean, with high cheek-bones; others translate it, with bloated cheeks, alluding to his fabled origin from Pavan, regent of the wind. Dasrat Rama is also found to resemble the Indian Bacchus; he is a descendant of the sun, and the husband of Sita; and it is worthy of remark, that the Peruvians, whose Inca boasted of the same descent, styled their greatest festival Ramasitoa. Krishna, describing himself to Arjun as the first of all things, says, 'Among those who carry arms, I am Rama.'

Of Parasu Rama it is related that he was born near Agra, in the Tirtya yug, or second age. His parents were Jamadagni, whose name appears as one of the rishi, and Runeka. He seems to have been a warrior prince, who about B.C. 1176 overran the Malabar coast, introduced an Aryan race from the north, and gave his name to an era used still on the Malabar coast from Mangalore to Cape Comorin. Parasu means a club, and was probably applied to him from his carrying a mace.

In the Rama Chandra avatar, Vishnu appears in the person of a courageous and virtuous prince, the son of Dasarat'ha, the powerful sovereign of India (whose capital, Ayodhya, is said to have extended over a space of forty miles), and employed to punish a monstrous giant, Ravan, who then reigned over Lanka, or the island of Ceylon. The Ramayana contains the heroic description of the battles and lives of all the three Ramas, although it more particularly details the exploits of Rama Chandra, or Dasrat Rama, so distinguished from his royal father, Dasarat'ha. The name of this monarch means, whose car had borne him to ten regions, that is, to the eight cardinal and intermediate points, the zenith, and nadir. He was a descendant from Surya, or Heli, which is a name of the sun in Greek and Sanskrit; and one of his ancestors, the great Raghu, had conquered the seven Dwipas, or the whole earth. But it is not known why a Suryavansa, or descendant of the sun, should be styled Rama Chandra, the latter patronymic referring contradistinguishingly to the descendants of the moon, Chandravansa. In Hindu mythology, however, everything seems, directly or indirectly, to merge in, radiate from, or amalgamate with, the sun, or Surya, in one or other of its names or prototypes. All of the Vaishnava sects agree in stating that, with the exception of Krishna, the potentiality of the preserving power of the deity was never exhibited in such plenitude as in this avatara of Rama. In popularity, and in dramatic, historic, and poetic shapes, it rivals the avatara of Krishna. And as the Gocalastha sect adore Krishna as the deity himself, and draw rules for their religious and moral conduct from the Sri Bhagavata, so the Ramanuj sect similarly clothe Rama in almighty attributes, and deem the Ramayana a complete body of ethics and morality.

Rama Chandra, called also Dasarat'ha Rama, succeeded his father Dasarat'ha as king of Ayodhya. Rama was 34th in descent from Ikshwaku, son of Vaivaswata Manu, the son of the Sun. From Ikshwaku to Rama, of the Suryavansa or Solar race of the sun, was a period of 1200 years. Rama preceded Krishna; but as their historians Valmiki and Vyasa, who wrote the events they witnessed, were contemporaries, it could not have been many years. Rama, of the Solar line of Hindu chronology, is, however, placed by the Brahmans 867,102 B.C., between the silver and brazen ages; but this era was brought down by Sir William Jones to 2029 B.C., and reconciled to the Rama of Scripture. Rama's brothers were Lakshmana, Bharata, and Satroghana, but he has been variously supposed to have lived 2029 B.C., Jones; 950, Hamilton; and 1100, Tod; and according to Bentley, he was one year old in 960 B.C., born 6th April 961.

Rama possessed a powerful kingdom in Hindustan, and invaded the Dekhan, penetrating to the island of Ceylon, which he conquered. Sir William Jones places the subjugation of India by Rama about the year 2018 B.C. In his time and that of his father Dasarat'ha, astronomy was much cultivated; and it is supposed (not without much probability) that the first astronomical tables for computing the places of the planets were constructed on the observations made in Rama's time. There was an eclipse of the sun on the 2d of July of the year 940 B.C., which, according to Mr. Bentley, may be referred to with certainty as an epoch of Rama's reign.

Rama married Sita, daughter of raja Janaka, king of Mithila. He gained her by breaking the great bow, and their stories are told in Valmiki's epic, the Ramayana.

From Rama, all the Hindu tribes termed Suryavansa, or race of the sun, claim descent, as the present princes of Mewar, Jeypore, Merwara, Bikanir, and their numerous clans; while from the Lunar (Indu) line of Budha and Krishna, the families of Jeysulmir and Cutch (the Bhatti and Jareja races), extending throughout the Indian desert from the Sutlej to the ocean, deduce their pedigrees. Rama, king of Oudh, is almost the only person mentioned in the Hindu traditions whose actions have something of a historical character. He is said to have been at first excluded from his paternal kingdom, and to have passed many years in religious retirement in a forest. His queen Sita is said to have been carried off by the giant Ravana; for her sake he led an army into the Dekhan, penetrated to the island of Ceylon, of which Ravana was king, and recovered Sita, after a complete victory over her ravisher. In that expedition his allies are fabled to have been an army of monkeys, under the command of Hanuman, whose figure is frequently seen in temples, and who, indeed, is more worshipped in the Dekhan than any of the other Hindu gods. Rama's end, however, was unfortunate, for, having by his imprudence caused the death of his brother Lakshmana, who had shared with him in all his dangers and successes, he threw himself, in despair, into a river, and, as the Hindu say, was reunited to the divinity. He still, however, retains an individual spiritual existence, as is shown by the separate worship so generally paid to him. Rama is represented in his natural form, and is an object of general adoration. He is usually described as a green man, seated beneath an umbrella, the emblem of sovereignty, on a throne; a quiver of arrows hangs at his back; in one hand he holds his destructive bow, and in the other a flower of the sacred lotus. By his side is placed Sita, who is depicted as a goddess of transcendent beauty, of a deep yellow complexion.

The following passage, taken from the Uttara Rama Cheritra, affords an idea of the costume of the warrior race in ancient times. Janaka, the father of Sita, the heroine, is describing the hero Rama:—

> 'You have rightly judged
> His birth; for see, on either shoulder hangs
> The martial quiver, and the feathery shafts
> Blend with his curling locks. Below his breast,
> Slight tinctured with the sacrificial ashes,
> The deer-skin wraps his body, with the zone
> Of murva bound; the madder-tinted garb
> Descending vests his limbs; the sacred rosary
> Begirts his wrists; and in one hand he bears
> The pipal staff, the other grasps the bow.'

—*Prinsep*, p. 215; *Elph. India*, i. pp. 103, 389; *Warren*, *Kala Sanhita*; *As. Res.* i. p. 426, iii. p. 68, ix. p. 239, xiv. p. 382; *Gita*, p. 86.

RAMA-DASA, the religious preceptor (guru) of Sivaji.

RAMA DEVA, author of the Vidvan Moda-Tarangini, or fountain of pleasure.

RAMAGRAMA, a famous city between Kapila and Kusinagara, identified with Deokali. According to the Mahawanso, the relics at Ramagrama consisted of only one Drona measure, which, after being enshrined by the Nagas at Majerika, were carried off to Ceylon in the fifth year of the reign of Dutthagamini, 157 B.C., by whom they were enshrined in the Mahathupo or great stupa at Ruanuelli.—*Cunningham*, *India*, p. 535.

RAMAH, called by the natives Ramla, is situated in a fertile plain that formerly belonged to the Hebrew tribe of Ephraim. It is supposed to be the same as the ancient Arimathea to which that Joseph belonged, who, having begged the body of Jesus from Pilate, took it down from the cross, wrapped it in linen cloth, and laid it in his own new sepulchre. The monks there have a tradition that their chapel is built on the site of the house wherein he dwelt.—*Robinson's Syria*, i. p. 28.

RAMAL. ARAB. Sand. The method of divination by it is scattering a quantity on a board, over which certain ceremonies have been performed, and then reading the characters. The person thus officiating is called Rummal. Ilm-ur-Raml, the divination by sand, in great vogue among Muhammadans, many elaborate treatises having been written on the subject. Many unequal lines are drawn on the sand, upon which are disposed a certain number of points, from the combinations of which they pretend to foretell future events. They claim for its founders, Enoch, Shem son of Noah, and Daniel. Qurua or Kuruh means a lot, and means a form of divination. It is practised in different ways, but most frequently by bones of a dead man cut in the shape of dice, and marked with hieroglyphic characters. These are thrown by the person wishing to know his destiny, and the fortune-teller explains the result. Raml-ul-Jumar, the Muhammadan ceremony of throwing gravel by the pilgrims near Mecca.—*Pottinger's Travels*, p. 154.

RAMA-LILA. SANSK. A dramatic epitome of the adventures of Rama. They are performed publicly in the month Aswin, and in some places with great splendour.—*W.*

RAMANANDA, a religious reformer of the Vaishnava sect, who is considered by some to have been an immediate disciple of Ramanuja, by others the fifth in descent from that religious teacher, and to have lived about the middle or end of the 14th (A.D. 1350) or beginning of the 15th century. He is said to have seceded from the Ramanuja sect, because of an accusation of laxity in their custom of taking meals. His residence was at Benares, at the Pancha Ganga Ghat, where a mat'h or monastery of his followers is said to have existed. The special object of their worship is Vishnu, in his incarnation as Rama Chandra and his consort Sita, either singly or jointly; but other forms of Vishnu are

worshipped by them, and the religious mendicants of the sect consider all forms of adoration superfluous, except incessantly invoking the names Krishna and Rama. He instituted no nice observances, he admitted all classes of people as his disciples, and he declared that the true votary was raised above mere social forms, and became free or liberated. He abolished the distinction of caste among the religious orders, and taught that a Viragi who abstains from the ties of nature and society, shakes off at the same time all personal distinctions. The initiatory formula is Sri-Rama, blessed Rama. The sectarian mark on the forehead is almost the same as that of the Ramanuja sect. There are various subdivisions of this sect, but all friendly with each other and with the Ramanuja. Most of the Vaishnava sectarians of Northern India follow the teachings of Ramananda; they are numerous in Gangetic India, and direct their worship to Rama Chandra and Sita. He was the first to admit low caste men as his disciples, amongst whom are mentioned Kabir, a weaver; Asanand; Rai Das, the Chamar; Sena, a barber; Dhunna, a Jat; Pipa, a Rajput; and the Ramawat poets, Sur Das and Tulsi Das. The rani of Chetori Jhali was a follower.—*Garrett; Oudh Census Report*, p. 116; *Cal. Rev.* No. 109.

RAMANANDI or Ramawat, a Hindu sect founded by Ramananda. Wilson, in his Hindu Sects, says they are usually considered a branch of the Ramanuja sect of Vaishnava, who worship Vishnu as Rama Chandra, and reverence all the incarnations of Vishnu, but maintain the superiority of Rama (hence their name, Ramawat) in this Kaliyug age. They worship, singly or collectively, Rama and Sita, or Sita Rama. In his Glossary he says the Ramanandi are a sect of Vaishnava ascetics, who dwell in mat'hs or monasteries. They are particularly numerous about Benares. They follow the teachings of Ramanuja, Ramananda, and Madhavacharya. They admit into their fellowship people of all castes, but the acolyte must first have adopted the views of those teachers, and have had his arms and body marked with the sankha or shell, the gada or club, the chakra or discus, and the lotus flower, symbols of Vishnu; the brass figures being heated for that object. The tilak with which they mark their foreheads is shaped so, ш, the outer red strokes being from the chandan (Pterocarpus Santalinus) or roli (Rottlera tinctoria). Sherring says (p. 267) that only Brahmans and Kshatriyas are now admitted into the sect.—*Wilson's Hindu Sects; Wilson's Gloss.*

RAMANDROOG or Raman Mallay, a hill 37 miles west from Bellary, about 1½ miles long, ¾ of a mile broad, and 3190 feet above the sea-level. It is in lat. 15° 7′ N., and long. 76° 29′ E. Climate cool, invigorating, and healthful, 13° to 14° degrees cooler than Bellary; the table-land is 2735 yards long, by extreme breadth 996 yards. In 1846, Drs. Macdonald, Godfrey, and Balfour reported on it as a sanatorium, the latter unfavourably. A few officers and soldiers visit it in the hot weather, but as it is subject to the S.W. monsoon like Mahabaleshwar and Chikaldah, it is always deserted early in June. Ramandroog is situated in the Native State of Sandur, a small principality in the Bellary district. In 1846, permission was obtained from the raja to establish a sanatorium here, and a tahnamah was executed ceding to the collectorate of Bellary criminal jurisdiction to a limited extent on the Droog.

RAMAN PAAJ, the native name of the Great Basses, rocks of the Ceylon coast.

RAMANUJA, styled Sri Bhashyakar, a philosopher, the founder of the Sri Vaishnava sect of Hindus, is sometimes supposed to be identical with Yembara Manmar, the last of the Alvar. His philosophy is the so-called Visishtadwaita system. He was born at Stripermatur, 25 miles west of Madras, about the early part of the 12th century, and was educated at Kanchi or Conjeveram, where also he taught his system of the Vaishnava faith. He afterwards resided at Sri Ranga (near Trichinopoly), worshipping Vishnu as Sri Ranga Natha, and there composed his principal works. He then visited various parts of India, disputing with the professors of different creeds, overcoming them of course, and reclaiming various shrines then in possession of the Saivas for the worshippers of Vishnu, particularly the celebrated temple of Triputty. On one occasion, Ramanuja was compelled by persecution to flee to Mysore, where he converted Vitala Deva, the Jaina sovereign, and others to Vaishnavism. After twelve years' absence, on the death of the Chola king, his persecutor, Ramanuja returned to Sri Ranga, where he spent the remainder of his life. He was a voluminous writer. He is said to have been able to introduce the worship of Vishnu into Triputty in N. Arcot; to have founded 700 mat'hs or religious monasteries, one of which still exists at Mail Cottah in Mysore; he also established 74 hereditary offices of guru, the representatives of which still exist at Conjeveram. The followers of Ramanuja in Mysore still are to be seen as a separate class, speaking Tamil in their families and Carnatica in public. His followers are known as the Ramanuja or Sri Sampradayi sect. Their worship is addressed to Vishnu or to Lakshmi and their incarnations, and they assert that Vishnu is the supreme cause. They draw their doctrines from Vedanta works, the Vishnu, and other Puranas. They are scrupulously secret in the preparation and consumption of their meals.

RAMASANTIRA KAVIRAYAR was born at Rajanellur, but lived at Madras, where he died in the middle of the 19th century. He wrote the dramas Sakantati Vilasam, Parata Vilasam, Taruka Vilasam, Iraniya Vasakappar, and Irankum Sandai Nadakam.

RAMASAWMY, a Hindu name very common in the south of India; a silver cigar-lighter.

RAMA SITA, Rama's Bridge, Adam's Bridge, rocks between Ceylon and the Peninsula. Rama Sitoa, a title of the Inca of Peru.

RAMAYANA, the older of the two great epic poems of the Hindus, and that in which the principal hero is Rama. Three versions exist of this book, one supposed to have been composed by Valmiki, one by Tulsi Das, one by Vyasa. That of Vyasa is known as the Adhi Atma Ramayana. The story of the Ramayana has some resemblance to that of the Iliad. Sita, the beautiful wife of the hero Rama, is carried off by the giant Ravana to the island of Lanka or Ceylon, whither Rama follows him, and after a variety of adventures recovers his spouse, and subsequently recognises his two sons, Kusa and Lava.

The reef across the Straits of Manaar is called Rama's Bridge; and the legend says that Rama

Situ threw the rocks which compose it into the sea. The bare story of each epic is probably historical. Bentley assigned the Ramayana to the 4th century of the Christian era. The scene is laid in Oudh. It describes his youthful days, his education and residence at the court of his father, Dasarattha, king of Ayodhya, his marriage with Sita, and his inauguration as heir apparent; 2dly, the circumstances that led to his banishment, his exile and residence in the forests of Central India; 3dly, his war with the giants or demons of the earth for the recovery of his wife, Sita, who had been carried off by Ravana, king of Ceylon, his conquest and destruction of Ravana, and his restoration to the Oudh throne. The first two parts contain little of extravagant fiction, but in the third part there is the wildest exaggerations and hyperbole, the subject being the conquest of the parts then conquered and pertaining to Brahmanic India, and of the island of Ceylon. With its other subjects, the Ramayana describes the forest or wilderness of Dandaca as covering the whole extremity of the Southern Peninsula, and the rude inhabitants are designated Rakshasha (monsters), or Vanara (monkeys), the former meaning races or tribes hostile to the Aryans. The word Vanara is from Vana, a wilderness, and Nara, a man,—that is, a wild or uncivilised man; and to this sense, as to the wild races in the extreme south, the fable of Hanuman, the chief monkey, and that of his army, Mr. Taylor thinks may be reduced. He says that those who have seen the Colleri and Marava will readily consider them to differ from all family likeness of the Aryan Hindus, and as their visages often resemble baboons more than men, it would require even less than the ardent poetical imagination of a Valmiki to induce the employment of an equivalent word which would so aptly seem to convey the idea imparted by their appearance.

The name is from Rama, and Ayana, to go. Ramayana has seven kanda or books, and 24,000 sloka, or about 48,000 lines. Mr. Fergusson supposes that the events it details occurred 2000 B.C., and those of the Mahabharata about 1200 B.C.

RAMAZAN or Ramadan, the 9th month of the Muhammadan year, each daytime of which is observed as a strict fast, with abstinence from all sensual gratifications from the dawn of day to sunset, as also from chewing betel leaves, or taking snuff, or swallowing the saliva. The excellence of this month was much extolled by Mahomed, and it is undoubtedly a time of solemn trial of a believer's integrity. The sick, the infirm, pregnant or nursing women, the young who have not reached puberty, and travellers are exempt. The fast is extremely rigorous and mortifying, a drop of water, even the moisture of the mouth, must not be swallowed; the death of young persons even occurs from this austerity. The devout Muhammadans seclude themselves for some time in the mosques, abstaining from all worldly conversation, and reading the Koran. The 21st, 23d, 25th, 27th, or 29th of the month are sacred nights, and the 27th is the night of power, Lailat-ul-Kadr, during which 'all is peace till the breaking of the morn.' It is frequently confounded by writers with the Shab-i-Barat. The nights of the Ramazan, from sunset till dawn, may be passed in lawful enjoyments. Breakfast is from 2 to 4 A.M. Ramazan-ki-Eed or Eed-ul-Fitr (the feast of alms), the feast of the Ramazan, is held on the first day of the month Shawāl. Ali, son-in-law of Mahomed, is said to have died on the 20th or 21st of this month; and the 27th is the Lailat-ul-Kadr, or night of power, on which the Koran is said to have descended from heaven. It should be observed as a vigil. The Ramazan ends with the Eed-ul-Fitr.

RAMBHA. HIND. A sort of flat trowel or hand-hoe, like the khurpa of Hindustan. It is used in rice-fields; it is also the name of a chisel with slanting edge for leather cutting.

RAMBHA, in Hindu mythology, an apsaras or nymph produced at the churning of the ocean, and the type of female beauty.—*Dowson.*

RAMBODDE, near Newera Elia in Ceylon, presents superb cascades in the rainy season.

RAMBOWE, a Malay State, N. and E. of Nanning and Salangore. It has two divisions, Rambowe Ulu and Rambowe Ilir, each under its own four suku or heads of tribes, and all subject to the control of one panghula, who resides at Chembong. Besides Malays, are several aboriginal tribes inhabiting the slopes of the mountains and the forests, who subsist by hunting, to whom the resident population apply the general terms Orang Benua; they are the Udai, Sakkye, Jakun, and Rayet Utan. Their hair is sometimes straight like that of the generality of Asiatics, but more frequently curling, at the same time very different from the frizzled locks of the African. Their stature is short, but they do not differ much in features and complexion from the Malay. They bear little resemblance to the Semang in the interior of Quedah, or to the thick-lipped, woolly-haired Papuan. Malays entertain a high opinion of the medical skill of these tribes, who are to be found over the whole of the interior of this part of the Peninsula, particularly in Ulu-kalang, Sungi Ujong, Johole, Jompole, Jellabu, Ulu Muar, and Segamet. The tribes of Rambowe Ilir are Battu Ampar, Payu Kumba Barrat, Munkal, Tiga Nenik. Those of Rambowe Ulu are Paya Kumba Darrat, Battu Ballang, Sa Melongang, Sri Lummah.—*Newbold's Malacca*, ii. p. 122.

RAMBUTAN. MALAY. The fruit of Nephelium lappaceum, the name being from Rambut, MALAY, the hair of the head, in allusion to its villose covering. The fruits of N. litchi and N. longana are also prized. N. hypoleucum, N. rubescens, and N. stipulaceum are also known.

RAM CHANDAR KI KUP, mud volcanoes or mud wells in the bed of the Aghor river in Mekran. See Oritæ; Volcanoes.

RAM CHANDAR ROY, under the direction of H. T. Prinsep, compiled a General Register of the Honourable East India Company's Civil Servants on the Bengal Establishment from 1799 to 1842, Calcutta 1846.

RAMESES II. was the Pharaoh who oppressed the Israelites, but Menephthah was Rameses I., and was reigning at the Exodus. His tomb is in the valley of kings' tombs near Thebes. The name of his son and successor is variously written in the hieroglyphics. See Egypt.

RAMESWARA, one of the twelve great lingas of the Hindus; this one gives its name to Ramisseram, written Rama Iswara.

RAMGANGA RIVER, rises among the outer Himalayas, in lat. 30° 6′ N., and long. 79° 20′ E. Flows for about 100 miles through the hills of

Garhwal and Kamaon, with a very rapid fall; enters the plains at Kalagarh in Bijnaur district.

RAM GHAT, a ghat or pass through the mountains of the Western Ghats, leading from Belgaum to the Arabian Sea.

RAMI, also called Tali Rami. MALAY. The China grass, Boehmeria nivea or Urtica nivea, a nettle the bark of which furnishes a thread remarkable for strength and durability. Rami-China, *i.e.* 'Chinese Rami,' a name given by the Malays to the jute, Corchorius olitorius; also to the true hemp, and to the Urtica nivea.—*Royle.*

RAMISSERAM is a small island 8 miles long, situated between Ceylon and the continent of India, at the entrance of Palk's Passage in the Straits of Manaar, where there stands a very ancient pagoda, and formerly an observatory. It was found by Colonel Lambton's Survey to lie in lat. 9° 18′ 7″ N., and long. 79° 22′ 5″ E. Many Telugu and Tamil astronomers, as Baladityacalu and Mallicarjanadu, refer their computations to the meridian of Rameswara. It is in a line with the island of Manaar, near Ceylon, which forms the Adam's Bridge, and is famed throughout India as a place of Hindu pilgrimage. It is united by a bank of sand to the island of Manaar. Hindu pilgrims resort to Ramisseram from remote parts of India; its celebrated temple is sacred to Vishnu in his avatara of Rama called Rameswara, or in its neighbourhood is called Ramisseram, conformably with the Tamil and Canarese termination of names ending with a vowel or a liquid.

The pagoda in the island of Ramisseram is said to have been founded by Rama after his invasion of Ceylon. It has two lingams, one which Sita is said to have made, and one which Hanuman is said to have brought from Mount Kailasa. There is one complete goparum, about 100 feet high, covered with figures relating to the Hindu mythology; it is on the west. Other three doorways are 19 feet high, composed of single upright stones, with others laid across at the top. Inside the gate is a magnificent colonnade. It runs along the four sides of the quadrangle, from N. to S. 353 feet, and E. to W. 671 feet, by 17 feet in breadth. It is the most remarkable structure of its kind in India. The ceiling is composed of large slabs of granite, supported by numerous carved granite pillars, each 12 feet high, raised on each side on a platform 5 feet high. Most of the pillars are single blocks of stone, all brought from a distance of 40 miles. The annual revenue of the pagoda is Rs. 40,000. The glory of the temple is in its corridors; these extend to a length of 1333 yards, from 20 to 38 feet broad, and from the floor to the centre of the roof about 30 feet in height. The inner prākaram or corridor is said to have been constructed by a Naik ruler of Madura, and the sokkatan or mantapam outside was raised by two of the Setupati of Ramnad. Each pillar is compound, and is richer and more elaborate in design than those of the Parvati porch at Chedambaram, and more modern in date.—*Moor; Fergusson.*

RAMJANI. In Benares, a Hindu tribe of professional musicians. They wear the sacred cord, and call themselves Kshatriyas, but in social position there is a great difference between them and the Kathaks. The Muhammadan dancing girls are often called Ramjani.

RAM KOMOL SEN, a native of Bengal, the author of a Bengali and English dictionary; obiit 1843.

RAM MOHUN ROY is the only great mind to whom modern Bengal can point. He was the first great modern theistical reformer of British India. He was born about 1774, at the village of Radhanagar, in the district of Murshidabad. His father was a Brahman, and his grandfather had held office under the Moghul emperor. Brought up as a child in the popular Hindu faith and piety, he became as a boy disgusted with its extravagant mythology, and at sixteen composed a spirited tract against idolatry. He was persecuted, and fled, first to Benares, the stronghold of Brahmanism, afterwards to Tibet, that he might converse with the Buddhist priests, being determined to study each religion at the fountainhead. Probably he was the earliest earnest-minded investigator of the science of comparative religion that the world has produced. As he studied the Vedas in Sanskrit, so he was believed to have approached the Buddhist Bible, the Tripitaka, in the original Pali. He mastered Arabic that he might read the Koran; and later in life learnt Hebrew, and began Greek, that he might the better know the Old and New Testaments. Returning home at about twenty years of age, he seems to have been reinstated in the favour of his family, and returned to his Sanskrit studies and the examination of his ancestral religion. He was too logical to be deceived by Brahmanical sophistries, yet he was wont to say he found nothing elsewhere equal to the Hindu scholastic philosophy. Then, too, he learnt English, and shook off his prejudices against European society. After his father's death in 1803, he became bolder in his controversies with the Brahmans, and published various works against Hinduism, his antagonism to idolatry becoming more and more marked. He maintained that the worship of idols was not sanctioned by the oldest national sacred books, and aroused general attention by insisting on the absence of all Vedic sanction for the self-immolation of widows (sati). The agitation set on foot by him against sati ultimately led to its abolition by law throughout British India in 1830. Ostracised by his own social circle, he had retired to Calcutta in 1814, and there, having been joined by Jains and Hindus of rank, wealth, and influence, among them being Dwarkanath Tagore, formed in his own house in 1816 the Atmiya Sabha, or Spiritual Society. Becoming more and more impressed with the sayings of Christ, he published in 1826 a book called The Precepts of Jesus, the Guide to Peace and Happiness. Being shown a picture of Christ, he said the painter had falsely given him a European countenance, whereas Jesus was an oriental, and that the Christian Scriptures glowed throughout with rich oriental colouring. He strongly opposed the doctrine of the Trinity, arguing that it was polytheistic, and to the last his Unitarianism was strongly marked. His idea of inspiration was that it was co-extensive with the human race.

The beginning of January 1830 inaugurated a new era in the history of Indian religious thought, ushering in the dawn of the greatest change that has ever passed over the Hindu mind. Then was opened in Calcutta the first Hindu theistic church, called the Brahma Sabha, or Brahmiya Samaj,

that is to say, 'the assembly or society of God.' Ram Mohun Roy visited Britain in April 1831, being the first native of rank and influence to cross the 'black water.' Here he stayed until his death at Bristol, on 27th September 1833. His Brahmanical thread was found coiled round his person when his spirit passed away. His successor was the son of his friend Dwarkanath Tagore. This remarkable man, Debendranath Tagore, like his predecessor, aimed at being a purifier rather than a destroyer. It was not until 1843 that he formally joined the church founded by Ram Mohun Roy. He saw that organization was needed if the Samaj was to hold its ground as a permanent church in India, and he himself drew up the Brahma covenant, consisting of seven solemn vows, to form the bond of union among its members. They bound themselves to abstain from idolatry, to worship no creature, but to worship, through the love of God, and through the performance of the works God loveth, the Great God, the Creator, Preserver, Destroyer, the Giver of Salvation, the One only without a second; to lead holy lives, and to seek forgiveness through abandonment of sin. The year 1844 might be given as the date of the real commencement of the first organized theistic church of India, hence called the Adi-Brahma-Samaj. In three years the covenanted members numbered 767, and in three years more kindred societies had sprung up in not a few Indian provincial cities, though meanwhile controversies had broken out which led Debendranath to put forth a new theistic directory. —*Monier Williams on Indian Theistic Religion; Rajasthan*, ii. p. 642; *Marshman's Defence of the Deity and Atonement of Jesus Christ*, London 1822; *Calcutta Review*.

RAMNA. HIND. A park; a game preserve; grass lands. It is this word that the gypsies in Europe take to themselves as Rămnă-chăl, dwellers of the Ramna.

RAMNAD or Rama Natha-Puram, in lat. 9° 22′ 26″ N., and long. 78° 52′ 9″ E., gives its name to a large zamindari in the south of the Peninsula of India, situated between lat. 9° 3′ and 10° 2′ N., and long. 78° and 79′ 24″ E., covering an area of 1900 square miles, but half of it is sand, waste land, and water. It is the S.E. portion of the Madura district. It and Shiva-ganga are occupied by the Maravar race, to whose care Rama is believed to have delivered over the temple of Ramisseram. About A.D. 1380, the Ramnad chief declared himself independent, but during the contests for supremacy in the 18th century, Shivaganga was separated about A.D. 1729; and finally, in 1801, when the country was ceded to the British, it was declared a zamindari. Ramnad was stormed by General Smith in 1772. The district has gentle undulations. Near the sea-coast towns are extensive groves of palmyra and cocoanut palms. It has several rivulets and streams, and several tanks or lakes. The chank shell fishery yields a revenue. Population (1871), 15,442. Within the fort, the majority of the inhabitants belong to the Vallallar and Maravar castes. The Vaigar river, which waters Madura, supplies the large tank at Ramnad, capable of irrigating over 6000 acres of land. The total number of tanks in the zamindari is 1767.

RAM NAOMI is a nine-day festival in honour of the birthday of Rama Chandra at Oudh, B.C. 1400? and is held from the 1st to the 9th of Chaitra, about 12th April. During the nights of the nine days, Kirtan is preached, the Ramayana is recited, sprinkling with the red gulal powder, and nautching. Rama is said to have become incarnate at noon of the 9th day, the object being to destroy Ravana, the ten-headed tyrant of Lanka or Ceylon, and which he effected with the aid of Hanuman, the chief of the monkey tribe. On the Ram Naomi, the images of Rama in the temples are decorated with ornaments and brocade, and at noon the image is brought out, as if then incarnate, and put into a cradle, on which there is much rejoicing and throwing of gulal. Rama is commonly believed to be an incarnation of Vishnu, and the observances of the Ram Naomi are chiefly performed by worshippers of Vishnu.

RAMOTH GILEAD, a small town of 6000 people, the modern Es-Salt. It is in the most favoured district in Palestine.

RAMPUR is the chief town of the Rampur State, N.W. Provinces of India, in lat. 28° 48′ N., long. 79° 4′ E.; population (1872), 68,301. It is built on the left bank of the Kasila river, surrounded by a belt of bamboos, trees, and brushwood, with a low, ruined parapet. It is famed for damask and for its fine shawls, known in commerce as Rampur chadars. The Rampur State lies between lat. 28° 26′ and 29° 10′ N., and between long. 78° 54′ and 79° 33′ E. Bounded on the N. and W. by the Moradabad district, and on the N.E. and S.E. by the Bareilly district. Its area, 945 square miles; and population (1872), 507,004.—*Imp. Gaz.*

RAMPUR BEAULEAH, the chief town of the Rajshahi district in Bengal. It is situated on the north bank of the Ganges, in lat. 24° 22′ 5″ N., and long. 88° 38′ 55″ E.; population (1872), 22,291. The mean height of the station is 56 feet above the sea.—*Imp. Gaz.* vii.

RAM RAM, an exclamation, or salutation, or invocation. It is proper to be addressed to a Vaishnava ascetic. Amongst Mahratta Sudras, it is the usual exclamation of greeting, and is a Hindu salutation equal to the salam alaiakum in use amongst Muhammadans.

RAM RAZ, a Hindu author on architecture.

RAMRI or Yambie, or New Island, forms the N.E. side of Cheduba Strait. It is 40 miles long and 15 broad, of moderate height near the sea, and extends N.W. to Saddle Island in lat. 19° 26′ N., on the north side of which is the entrance to Khyouk-Hpyu harbour. From its southern point, the islands of Amherst or Juggu, Adam Hill, Wyndham, and Harrison project in a chain. Ramri town is in lat. 19° 6′ 36″ N., and long. 93° 53′ 45″ E. It has many wells of petroleum or earth-oil, generally situated near the bases of low hills, and of various depths. The deepest is said to be about 50 feet, having about 6 feet diameter at the mouth. The sides of this well have been ingeniously boarded by the natives, having diagonal cross bars, which not only secure the structure but serve as a ladder. There is no sort of machinery used to get up the oil. A young lad is first sent down, a man on the cross bars lets down to him earthen pots in succession, into which the contents of the well are filled, and then the pot is drawn up. The whole of the contents of the pot, as drawn up, is not oil, which is of a light bluish colour, and floats on water; there is sedi-

ment scooped up from the bottom. This takes place twice a day, and the yield is from four to six gallons per day. The oil sells in the bazar at a rupee per gallon. The deepest of the wells in the island is in the Laytoung Circle, and is said to have been productive for a great number of years. Natives have been known to dig wells of short depths for temporary purposes, after which the wells are abandoned, and soon choke up from the falling in of the earth. There is a fish found in these waters called Luckwa, the oil extracted from the liver of which is said to have the same properties as cod-liver oil. The island lying about two and a half miles to the westward of old Khyouk-Hpyu is called on old marine charts Saddle Island from its shape. When Khyouk-Hpyu was a military station, some of the officers, it is said, let loose thereon a pair of goats; these have increased to such an extent that the island now abounds with wild goats, and hence it is now called by natives Chy-Kysor or Goat Island.

RAMSANEHI, or Friends of God, a sect of Hindu schismatics in Western India.

RAM TCHU, a lake frequented by great abundance of water-fowl, wild geese, ducks, teal, and storks, which, on the approach of winter, take their flight to milder regions. Prodigious numbers of the saras, the largest species of the crane kind, are seen here at certain seasons of the year, and any quantity of eggs may there be collected; they are found deposited near the banks; they are as large as a turkey's egg.—*Turner's Embassy.*

RAMTEK, 24 miles N. of Nagpur, in lat. 21° 24′ N., and long. 79° 20′ E., population 7045, has ever been, amongst the Hindus, a chosen seat of religious veneration. Of the many old temples, the oldest appears to be one in a small dell on the north side of the hill. It is built of hewn stones, well fitted together without mortar. From its shape and structure it is probably of Jain origin, though local tradition would make it the work of one Hemarpanth, by some said to have been a Brahman, by others a Rakshasa, with whose name many remains of buildings in the Bhandara and Nagpur districts are connected.

RAMUSI or Ramoosi, a race who have crossed into the west of India, and there assumed predatory habits. They speak the Telugu tongue in their families, but have acquired Mahrati. They are in small numbers west to Bombay, southwards to Sholapur, and northwards towards Berar. In the Mahratta country, the low caste tribes are the humbler village servants, the Ramusi, Bhil, Gond, Mhair, and Mhang, all of whom serve as watchmen. The Ramusi, Kallar, Marawar, Beder, are sturdy, martial, predatory races. Below the ghats, near Bombay, the Dher are known as Parwari, which means outside the hamlet or village, they not being allowed to reside within its walls. As amongst the Dravidian races in the south of India, so the various Aryan or Hindu districts contain numerous small tribes, the supposed remnants of a prior colonization, and mostly supposed to be, like the Tamil, people of Turanian descent. Among these are the Ramusi of the Bombay Presidency.

RAN, also Ranwa. MAHR. Wild; a forest, a wood, a waste. Ran patti, a forest.

RANA, a genus of reptiles of the second subclass Batrachians, of the order of tailless Batrachians or Batrachia salientia. The following species occur in the E. Indies:—

Rana Kuhlii, *Schlag.*, Ceylon, Ningpo.
R. hexadactyla, *Less.*, Ceylon, Madras.
R. cyanophlyctis, *Schneid.*, Ceylon, S. India, Lower Bengal.
R. tigrina, *Daud.*, all India.
R. Liebigii, *Gthr.*, Sikkim, Nepal.
R. esculenta, S. China.
R. sylvatica, *Leconte*, Ningpo.
R. gracilis, *Wieg.*, from Madras to S. China.
—*Gunther.* See Frogs; Reptiles.

RANA, a title of the ruler of Mewar, a Rajput race whose capital is Udaipur, but it is also given to the chief of Porbandar, to the ruler of Dholpur, and to the chief of Jhalawur. A higher grade is maharana. A lady of this rank, or the wife of a rana or raja, is a rani or maharani, and these titles are applied to the Empress of India. Rana Singha, chief of Chitore in 1526, defeated the emperor Baber at Futtehpur Sikri, but shortly after, in 1527, Baber overthrew him and completely broke his power. Ranawat, in Mewar, descendants of Raja Oody Singh. They are also styled Purawat and Kanawat. See Mewar.

RANADITYA was a very powerful prince, whom native writers have accredited with the miraculous reign of 300 years. The period of his reign General Cunningham places between A.D. 480 and 555. The date, therefore, of the two smaller temples of Ranesa and Amriteswara may be assumed as about A.D. 500.—*Cole. Ill. Ancient Buildings of Kashmir.*

RANCHEE, the chief civil station of Lohardugga.

RANDIA, a genus of plants of the natural order Rubiaceæ. R. dumetorum, Dekhanensis, fragrans, Gardneri, rigida, speciosa, tetrasperma, nutans, and uliginosa grow in the E. Indies. One species, the Nalla Manga, TEL., is a good-sized armed tree of the Godavery forests, furnishing a very hard and close-grained wood, good for turnery.

Randia dumetorum, *Lam.*, Bush Randia.

Gardenia spinosa, *Linn.*	Randia longespina, *D. C.*
Posoqueria dumetorum, *Roxb.*	Canthium coronatum, *Lam.*
Cerıscus Malabaricus, *Gært.*	Gardenia dumetorum, *Retz.*
Jowz-ul-kueh, . ARAB.	Madana, . . . SANSK.
Jowz-ul-kowsul, . ,,	Wali kukuru-man, SINGH.
Pieralu, . . . BOMBAY.	Maru karang, . . TAM.
Muen-phal ka-jhar, HIND.	Madu karray, . . ,,
Gehela, . . . MAHR.	Manda, Manga, . . TEL.
Mindhal, Mendphal, PANJ.	

A shrub or small tree, thorny and branching, met with in the hotter parts of Ceylon; in Coimbatore and the Bombay forests, the wood is strong, hard, and close-grained. It grows also in Gujerat and northwards in the Dehra Doon and the Kheeree pass. The fruit is used in Malabar to poison or intoxicate fish, which are still considered good for eating.

Randia uliginosa, *D.C.*, Bog Randia.

Gardenia uliginosa, *Roxb.*	Posoqueria uliginosa, *Roxb.*
Devata malle, . . TEL.	Guahu pedda mranga, TEL.
Nalla kakasi, . . ,,	

A native of Ceylon and British India, in moist places. The flowers are large, white, and fragrant, and in twos or threes at the top of the branchlets. The berry is about the size of a pullet's egg, ash-coloured or olive-grey, and two-celled. The seeds are flattish, nestling in the pulp. The unripe fruit is employed as a vegetable dye.—*Thw.; Wight; Roxb.; Beddome; Stew.*

RANG. HIND. Colour, dye. SINGH., gold. Hence Rang-welle, golden sand; Rang-galla, golden rock.

RANGACHARYA, a great scholar who translated into Sanskrit the writings of Ramanuja. He was also author of two treatises defending Vaishnava doctrines.—*Growse*, p. 210.

RANGAR, a Rajput race in Malwa and Mewar; also disorderly persons in the N.W. of India, a slothful caste of agriculturists.

RANGAR amongst the Mahrattas is a term applied to all the Brahmans of Central India. Sherring says the Rangar are, to some extent, an agricultural class. Some of them have been employed as sepoys. They are numerous in Shekhawati and the Bhatti territory. Colonies of the caste are found in the Upper Doab and Rohilkhand. They have, as a class, the reputation of being turbulent and disorderly. Some of them have embraced the Muhammadan faith.—*Wilson; Sherring's Castes*, p. 329.

RANGARI. HIND. A dialect of the Hindi spoken along the south and west of Malwa and in Mewar. Its limits are the Indus on the west, Bundelkhand on the east, the Satpura Hills on the south, and Jeypore, Jodhpur, and Jeysulmir on the north.—*W.*

RANGAS or Rangi. MALAY. Supposed to be the manchineel of the West Indies, but perhaps only from the noxious quality of its juices; is the Arbor vernicis of Rumphius, and is particularly described in the Batav. Trans. v., under the name of Manga deleteria sylvestris, fructo parvo cordiformi.

RANGBODDE or Rambodde, in lat. 7° 9′ N., and long. 81° 49′ E., in Ceylon, 10 miles N.W. of Nurelia. The old rest-house is 3187 feet above the sea. The flag-staff at the foot of the Rangbodde pass is 6586 feet.—*F. and S.*

RANGHA-AS. ? A Penang wood of a light-brown colour, used for furniture. — *Col. Frith.*

RANGOON, the chief town of British Burma. It was founded in the second half of the sixth century B.C. by a missionary body of Buddhists. It was rebuilt in 1755 by Alompra, and named by him the Yankon or 'Victory achieved,' in commemoration of his conquests. It is built on the left bank of the Hlaing river, at its junction with the Pegu and Pu-zwon-doung streams, 21 miles from the sea. It gives its name to a British revenue district in the province of Pegu, occupying the seaboard from the mouth of the river Tsit-Toung (Sit Tang) to the To or China Buckue, a branch of the Irawadi between lat. 16° and 17° N., and long 95° and 96° E., the area being 5691 square miles. The population of the town in 1872 was 98,745, and that of the district 332,324.

Burmese, . . .	349,713	Muhammadans, .	10,126
Mon or Talaing,	12,394	Europeans, Americans, ...	2,384
Karen, . . .	27,830	Chinese, ...	3,718
Arakanese, . . .	302	Others, ...	1,989
Shan, ...	6,396		
Hindus, . . .	16,218		

In 1881 the town population had increased to 134,176, and that of the district to 602,223.

Gaspar Balbi visited Pegu in 1579-80. The English, Dutch, Portuguese, and French had factories at Than-ly-eng or Syriam. Difficulties occurred between the British and the Burmese in 1794, and after Colonel Sym's visit a British resident was appointed to Rangoon.

The Mon are supposed to have been prior occupants of Pegu, whom the Talaing (Teling) from the Peninsula found settled there, and the Talaing language is spoken in British territory. At the 1881 Census it was spoken by 154,553 souls. The principal pagodas in the district are the Shwe-dagon, the Bo-ta-h'toung, and the Tsulai, in Rangoon; the Kyaik-houk at Syriam, the Shwe-h'maw-daw at Pegu, and the Tshan-daw at Twan-te. The Shwe-dagon is the most celebrated object of worship in all the Indo-Chinese countries, as enshrining several hairs of Gautama Buddha. The Shwe-h'maw-daw is the great pagoda of the Talaings. They say the Shwe-dagon pagoda was founded by two brothers, who had met and conversed with Gautama Buddha in India. But the first notice of the country that can be considered as historical is given in the Singhalese Mahawanso, which mentions the mission of Sono and Uttaro, sent by the third Buddhist Council (B.C. 244) to Suvarna-bhumi ('Aurea Regio') to spread the Buddhist faith. Karens belong to the Pwo and Sgau families, and are industrious agriculturists. Many have been converted to Christianity. In a commercial point of view, it is the most important town of British Burma. Rise of tide at springs, and for two days afterwards, from 20 to 25 feet, and 13 and 14 feet on the neaps. The sands extend a long way to seaward, over which the bore rushes with the flood, which makes it very dangerous when near them; the same bore runs up the Sitang river 15 leagues east of Rangoon bar. It is very slightly felt in the delta of the Irawadi, and merely rushes over the extensive sand at the entrance of the Rangoon river and on to the Sitang. There is a bore in Bassein creek, which joins the Rangoon and China Buckue branch. Rangoon was twice taken by the British Indian armies, once on the 11th May 1824, and again on the 5th April 1852, and the British soldiers are now cantoned on the S.W. and W. of the Shwe-dagon pagoda.—*Winter's Burma*, p. 6.

RANGO PEAK, in lat. 33° 8′ N., and long. 78° 54′ E., in Ladakh, N. of Hanle. The top of the peak is 20,786 feet.—*Cunningham.*

RANGPUR, a small town in Bengal with about 14,000 inhabitants. It gives its name to a revenue district between lat. 25° 2′ 50″ and 26° 18′ 45″ N., and long. 88° 47′ and 89° 35′ 30″ E., in the Rajshahi and Koch-Behar division. Local traditions allege that the district has been ruled successively by Prithi-raja, the ruins of whose capital are pointed out at Jalpaiguri; the next was a Pal dynasty; and the third had three kings, each of whom had a separate capital, that at Kamatapur being the capital of Niladwaj, the first ruler. In the end of the 15th or beginning of the 16th century, the State was conquered by Husain Shah, the Afghan king of Gaur, under whom most of the people adopted Muhammadanism; and in 1872, 1,291,465 were professing that faith, the total population being 2,149,972. The Koch, Pali, and Rajbansi in Rangpur are the semi-Hinduized aboriginal tribes, numbering 407,658 persons,—the Chandal, 36,148; and the Khyen, 20,013; Teyar (fisherman), 141,213; and Kaibartta, 35,396. There are also 10,623 Brahmans of the Mithila and Kamrupi Vaidak clans; Kayasths,

largely exported to Europe. Rape-seed is being exported from India in increasing quantities.

	Cwt.	Rs.		Cwt.	Rs.
1874-5,	827,430	37,23,429	'81-2,	1,935,621	1,03,19,272
1877-8,	3,193,488	1,91,84,378	'82-3,	2,821,420	1,57,06,129
1879-0,	1,380,572	85,37,717			

RAPHANUS, the radish genus of plants of the order Brassicaceæ. R. caudatus, *Linn.*, or long-podded radish, Mugra, HIND., a curious plant, with enormously elongated seed-pods, which has excited attention in Europe. It is cultivated in Gujerat and the Panjab. The natives have an idea that this is only the R. sativus taken up, having all its roots cut close round and then re-planted. R. sativus, *Linn.*, is the muli of India, and the red variety is the Hung-lo-peh of the Chinese. It is grown in all the south of Asia, and up to 16,000 feet in the Himalaya.—*Stewart.*

RAPHIA, cloth of twisted thread made from the leaves of the Ruffia palm (Raphia ruffia, *Mt.*) by the Malagasy. Garments in common use in Madagascar are of this cloth.

RAPHISTEMMA PULCHELLUM. *Wall.* A handsome climber of the N.E. Himalaya.—*Gamble.*

RAPHO-CHE or Ra-chhe, and the female Ramo-chhe, of Tibet and Ladakh. Capra megaceros, *Hutt., Bly.* The name means the great goat, and is the Mar-khor or snake-eater of the Muhammadans. It is common in Balti, Badakhshan, and Chitral.

RAPTA, now Quiloa, near the oriental marsh of Ptolemy.

RAPTI, a river of Oudh and the North-West Provinces, which rises among the Outer Himalayan ranges of Nepal, in lat. 28° 19′ N., and long. 82° 53′ E., and flowing round a long spur of mountains, first southerly for 40 miles, and then north-westerly for 45 miles, enters British territory in Bahraich district, Oudh, in lat. 28° 3′ N., and long. 81° 55′ E.; frequent changes of its bed occur. Numerous lakes in the Basti district communicate with the Rapti, the chief being the Tal Bakhira, Tal Pathra, and Chaur Tal. It then enters Gorakhpur district, flows beside the town of Gorakhpur, and finally joins the Gogra (Ghagra), in lat. 26° 15′ N., and long. 83° 42′ E., after a total course of 400 miles.

RAPTORES, or birds of prey. In natural history, an order of birds comprising the families Vulturidæ, Polyboridæ, Serpentaridæ, Falconidæ, and Strigidæ. They are numerous in India. The peregrine falcon, the true hobby, the kestrel, the British sparrow-hawk, all the Indian harriers, and the short-eared owl, are true migratory birds. See Birds.

RAQM. PERS. The Persian term for the phonetic expression of the numerical powers of the Arabic letters. A kind of enumeration by the initial letters of the Arabic words for the numbers, used at Muhammadan courts and by the Kayasths. The following is an attempt to reduce the orthography of the Roman equivalents to as close an adherence to the literal definition of the original Kufic as the nature of the English system of writing will allow. In this case, the nine letters of the Arabic alphabet whose powers have been perverted in the utterance of foreigners, have been made to follow the Persian system of phonetic expression, and are severally represented by the following English pointed or accented equivalents:—

	1 ث s	2 ح h	3 ذ d	4 ص s	5 ض z	6 ط t
The Arabic powers of these letters are severally .	th (thick)	h	th (this)	s	d	t
The Persian phonetic expression,	Adad.	Adadan.	Salasa.	Arba.	Khamsa.	Sitta.

	7 ظ z	8 ع a, u, etc.	9 ق k
The Arabic powers of these letters are severally .	th (father)	a	k guttural
The Persian phonetic expression,	Sabá.	Samania.	Tissa.

—*Thomas' Prinsep.*

RAS. ARAB. The head; a head of cattle or [illegible]. In Bengal, it is customary for a person to h[illegible] names, one his Ras name when engaged in [illegible] rites, as Tarani Charan; the other his Dak[illegible], as Kesav-Das.—*W.*

RAS. ARAB. A cape, a [illegible] hence—

Ras-Arah, the S. cape [illegible] w, sandy, rounded, and dang[illegible] have been wrecked on its [illegible] as Khor Amran.

Ras Asir or As[illegible] of the old charts, the N.E[illegible], is a precipitous rocky cape 900 [illegible] in height.

Ras Bab-ul-Mandab, the northern headland on the Arabian shore of the straits of that name.

Ras Jashk, in lat. 25° 50′ N., long. 57° 43′ 3″ E., is a low projecting cape, sandy, on the N. coast of the Persian Gulf.

Ras Mahomed, the extreme point of the peninsula of Mount Sinai, in lat. 27° 43′ N., long. 34° 15′ 30″ E. It is 50 feet high.

Ras Muari or Cape Monze is called Ras Jil by the Baluch. It is the frontier promontory between Sind and Baluchistan, at the S.E. extremity of the estuary of the Hab river, lat. 24° 50′ N., long. 66° 43′ E. This headland is well known to mariners, and forms the extreme southern offshoot of the hills which, under the name of Brahuik, Hala, etc., separate Sind from Baluchistan. The Hab river washes its eastern base, and on the Baluchi or western side of the Hab estuary rise the Jabal Pabb mountains, with peaks as high as 2500 feet. Cape Monze, with the Jabal Pabb on the Baluchi or western side of the river, form well-known landmarks for making Kurachee during the south-west monsoon.

Ras-Rahmat, called by British navigators Cape of the Wind's Death, is the western headland of that extensive bight on the Arabian coast whose eastern boundary is near the town of Gosierh.

Ras-ul-Khyma, in lat. 25° 48′ N., long. 56° 4′ E., a narrow sandy spit, known to historians as the scene of an expedition of the British Government of India against the Wahabee sect. It is an Arabic name, signifying the 'cape or head of the tent,' situate on the Arabian coast of the Persian Gulf. The Juasmi, a Wahabee tribe, having captured some of the East India Company's ships, and murdered the greater number of their crews, in 1820 an expedition was sent against them, which

completely effected the object of the expedition, by destroying Ras-ul-Khyma, the Juasmi capital, and above fifty large dows.

Ras Zeiti, Zeitiyah, on the Egyptian side of the Gulf of Suez, 16 miles S.W. by S. of Tur. The *Carnatic*, P. and O. steamship, was lost on a reef near Ras Zeiti.—*Imp. Gaz.* viii.; *Ouseley's Tr.* i. p. 5; *Findlay*.

RAS, a musical term. Rasdhari, a musician, applied to Hindu dancers, etc.

RASA. SANSK. The passions, of which, according to Ward, the Hindus reckon nine, viz. love, risibility, courage, terror, pity, peace, disgust, wonder, and rage. Colonel Tod says the nine nymphs, the Nao-Rasa, are also called Nao-Ragini, from Raga, a mode of song over which each presides, and No-rasa, or nine passions, excited by the powers of harmony; and to this he would trace the origin of Apollo and the muses.—*Ward*, iv.; *Tod*, i. p. 540.

RASA. SANSK. A circular dance in which Krishna joined with the shepherdesses. It is [illegible]ed at the festival of Krishna by cowherds [illegible]shippers of Krishna. The Ras Yatra is a [illegible] festival held in the month Kartika (October—November), in honour of Krishna, when dancing and dramatic representations take place. The mover[illegible]e who personate the deity and his fa[illegible]re full of grace, and the dialogue [illegible] The Chobi of Mathura [illegible] considerable reputation [illegible]ffect of the modulated and deep [illegible]dult blending with the clear treble of the juvenile performers, while the time is marked by the cymbal or the soothing monotony of the tabor, accompanied occasionally by the murali or flute, is very pleasing.—*Tod's Rajasthan*, i. p. 543. See Holy or Hohli.

RASA, also Sutum, also Parada. SANSK. Mercury; also a savour.

RASAD. PERS. Supplies to an army on the march; provisions.

RASALAH, a pamphlet; a troop of horse. Rasaldar, a commander of a troop.

RASA-MALA. MALAY. Liquidambar altingia.

RASA-MANDALA, called Mandala Nritya, is a mystic dance, apparently analogous to the Pyrrhic dance, or the fire dance of the Egyptians, performed on the annual festival sacred to the sun-god Heri. He is represented with a radiant crown in a dancing attitude, playing on the flute to the nymphs encircling him, each holding a musical instrument. The Ras-mandala is typical of the zodiacal phenomena; and in each sign a musical hymn is sculptured in alto-relievo, in the vaulted temples dedicated to the god, or in secular edifices by way of ornament, as in the triumphal column of Chitore. On the festival of the Janam, or 'birth-day,' there is a scenic representation of Kaniya and the Gopis, when are rehearsed, in the mellifluous accents of the Ionic land of Vrij, the songs of Jaya-deva, as addressed by Kaniya to Radha and her companions. A specimen of these was translated by Sir W. Jones.—*Tod's Rajasthan*, i. p. 540.

RASA-PUSPUM. HIND. One of the mercurial preparations of India. Rasayana, in Hindu medicine alteratives. Rasan, transmutation of metals.

RASAUT. HIND. The extract from the wood and roots of the Berberis aristata and other species of berberry.

RASA YATRA, an annual festival in various parts of India, held in the month Kartika, upon the sun's entrance into Libra, celebrated by nocturnal dances and representations of the sports of Krishna.

RASHANA or Roxana, mother of the child of Alexander the Great.

RASHID-ud-DIN, also named Fazl Ullah Rashid, author of the Jami-ut-Tawarikh, was born at Hamadan A.D. 1247, A.H. 645. He was son of Imad-ud-Daulah Abu-l-Khair. His enemies, in the latter part of his life, called him a Jew both by birth and religion. Quatremère is inclined to think that he was possibly of Jewish descent, as he shows an acquaintance with Jewish rites and customs singular for a Muhammadan statesman; and Ibn Batuta (ii. 116), who saw Rashid's son attending as wazir on Abu Said Khan at Baghdad, says that the father, Khaja Rashid, had been an emigrant Jew. He had studied agriculture, architecture, and mataphysics. He was acquainted with Hebrew, Arabic, Mongol, Turki, and Persian. His great work, the Jami-ut-Tawarikh, is a collection of histories, or historical cyclopædia. It contains histories of the Tartar and Turkish tribes, of Chengiz and his race, and of the Persian khans in particular, including his master, Ul Jaitu; of various dynasties of Western Asia, of Mahomed and his companions, of the prophets of Israel, the Cæsars, and several Christian princes; of China and of India. It was intended to conclude with a universal geography, but it is doubtful if this was ever written, though the existing portions of the work contain many geographical notices. It is in Persian. In 697 he became Grand Vizir to Ghazan Khan, and held the office under that monarch's brother and successor, Ul Jaitu. Accused of having poisoned the last mentioned, he was put to death by Sultan Abu Sadi in A.H. 718. The Jami-ut-Tawarikh was commenced by order of Ghazan in A.H. 700, and completed in 10 years (A.H. 710), A.D. 1310. It gives a picture of the knowledge regarding India which Muhammadans possessed at the close of the 14th century.—*Elliot's History of India; Yule's Cathay*, ii. p. 255.

RASHTRA KUTA, the Rahtor rulers at Malkher, the Balhara dynasty.

RASK, ERASMUS, an eminent oriental scholar, a native of Denmark. In 1826 he published a little treatise on the age and genuineness of the Zend Language and the Zendavesta, etc. He was a Sanskrit scholar, and a general linguistic investigator of rare talents and acquirements; he had travelled in Persia and India, and had brought home to Copenhagen a valuable collection of Avestan manuscripts. Professor Rask of Copenhagen and Dr. Caldwell are of opinion that the Dravidian languages are to be affiliated to the Scythian, Turanian, or Altaic.—*Oriental Linguistic Studies*, p. 175.

RASKHUT. ARAB. A pomade compound of antimony with galls, with which the ladies anoint the hair of their eyebrows and eyelashes.

RASOLNIKI, a fanatic sect in Kazan. A horrible practice reigns among some of the members of this sect,—that of condemning the persons to mutilation; the females also use violent means to obtain the same end. The greatest part of the money-changers in St. Petersburg are said to follow this custom. The severest persecuti[illegible]

has been from time to time employed against them. —*Turnerelli's Kazan*, i. p. 171.

RASORES, Gallinaceous birds or game birds; the Gallinæ of Linnæus, the Gallinacei of Vieillot, and the Pulveratrices of some authors. The order includes the Pteroclidæ family, also the Phasianidæ, Tetraonidæ, and Tinamidæ. See Birds.

RASPBERRY.

Hindbœr,	DAN.	Frambesia,	PORT.
Flamboos,	DUT.	Malina,	RUS.
Framboise,	FR.	Frambuesa,	SP.
Himbeere,	GER.	Hallon,	SW.
Mora di rovo,	IT.	Aghaj-chileghi,	TURK.

The raspberry of India or country raspberry is the Rubus lasiocarpus; the R. albescens and racemosus of Roxburgh, and the Mysorensis of Heyne, grow in most parts of India. See Rubus.

RASSAM, HORMUZD, born at Mosul, the modern town on the Tigris, opposite to which, and principally beneath the mounds of Kouyunjik and Nabbi Yunus, the ruins of ancient Nineveh have been unearthed. He began his connection with Sir Henry Layard's explorations in Assyria and Babylonia with his own important discovery, in the southern corner of the Kouyunjik mound, of the palace of Assurbanipal, the warlike Sardanapalus of Greek tradition. He secured for the British Museum bas-reliefs, exhibiting with great spirit and truth the king's hunting and warlike expeditions, which are now in the British Museum, also the more precious contents of the royal record chamber or library, including Assurbanipal's Annals and the famous Deluge Tablets. In 1876, on the recommendation of Mr. George Smith, Mr. Rassam was chosen to continue that eminent Assyriologist's explorations at Mosul, and he engaged several hundred workmen to dig for inscriptions and other antiquities in the ruins of the palaces of Assurbanipal and Sennacherib, and other discoveries attended his renewed excavations at Nimrud, the Calah of Genesis. He heard of a mound called Balawat, about 15 miles to the east of Mosul and 9 from Nimrud, in which some bronze plates with Assyrian figures and cuneiform inscriptions on them had been found by an Arab while digging a grave there. A sample had even been sent to him in England. Eager to secure the remainder of the monument, and aware that great difficulty would be encountered, he used every effort to obtain the requisite permission. The tablets were inscribed by the great conqueror's royal father, Assurnazirpal, and a translation of them was made by Mr. Ernest A. Budge. The tablets are dated in the reigns of Samas-sum-ukin and Kandalanu, the Chinladanus of the Greeks, who were contemporary with the latter half of the reign of Assurbanipal or Sardanapalus of Assyria, about B.C. 646. The tablets came from Abu-habba, the site of the ancient Sippara, the Sepharvaim of the Old Testament, which is mentioned by Sennacherib in his letter to Hezekiah as a city whose king had been unable to resist the Assyrians. Sippara, or Pantibiblon, as the Greeks called it, is mentioned by Berosus as having furnished five out of the ten Chaldæan kings of the time before the flood, and as the place where Xisuthrus, or Noah, buried the records of the antediluvian world at the time of the deluge, and from which his posterity afterwards recovered them. The Hebrew term Sepharvaim, which is the verbal equivalent of the 'two Sipparas, is applied to twin cities, one of which was situated on each side of the river. The Sippara from which these tablets were procured is the Sippara of Samas, Tsipar sha Shamas, or Sippara of the sun-god, as being the place where pre-eminently the sun was a chief object of worship. The other Sippara, or Sippara of Anunit, which is supposed in ancient times to name the Sepharvaim of Scripture history, is up to the present unknown to modern investigation.

RASSI-KA-MELA is a fair which since some years has been put a stop to through the Commissioner of Kamaon, who represented to the raja of Garhwal the loss of life which frequently took place during the spectacle. A rope is prepared several inches in circumference, and several hundred yards in length, made of Babur grass, which grows on these hills. When finished, it is tested. A few days before the fair takes place, and a locality has been fixed upon, this rope is stretched from the hill-top, or hill-side, to another, across some frightful yawning khud, some hundred yards in width; one end of the rope being fixed much higher than the other. On this rope is placed a large wooden horse, or imitation of one, generally painted red or blue, under which or through the horse's legs, it is so tied as to keep it in an upright horizontal position, so that it may slide from the higher to the lower end of the rope. On the day the fair comes off, thousands of hill folks collect together to witness the tamasha, music, and dancing, not forgetting hill whisky. As the hour of action approaches, the horseman gets astride of his charger, and, at a given signal, away go horse and rider, acquiring increased impetus as they proceed; the crash at the last is fearful, horse and rider being pitched with great violence to the ground. In former years, hill rajas, their ranis and retinue, used to be present. It was customary then to have a body of matchlockmen in attendance, and as the bold rider and horse slipped down the rope, a volley was fired at them, but seldom hit, but had a casualty occurred, the venturesome rider would have been handsomely paid, and the family pensioned. After the ride is over, all present contribute according to their means, so that a goodly sum is generally collected. A Rassi-ka-Mela took place at Landour, a little above Claremont, a house half-way up the hill, and where some rocks stand at the turning of the road. One end of the rope was fixed in there, and then stretched across above the Butcher khana-khud to the hill opposite, several hundred yards. Away went the rider, obtaining a frightful impetus; with great force horse and rider were pitched against the hill-side. As they reached terra firma, the rider had his thigh and arm broken, in fact barely escaped being killed.—*Himalaya Chronicle.*

RASTOJI, a tribe of Vaisya Hindus in Benares, engaged extensively in trade; extensive bankers, wealthy and industrious.—*Sherring's Hindus.*

RASUL. ARAB. A messenger, an ambassador, a prophet. Rasul Allah, the messenger of God, *i.e.* Mahomed. Of these Rasul messengers, Muhammadans recognise 224,000, or 124,000, amongst them 313 apostles. Six brought new laws,—Adam Sufi Allah, the chosen of God; Nuh (Noah) Nabi Allah, the preacher of God; Ibrahim (Abraham) Khalil Allah, the friend of God; Musa (Moses)

Kalim Allah, one who conversed with God; Isa (Jesus) Ruh Allah, the Spirit of God; Mahomed, Rasul Allah, the messenger of God.

RASUL NUMA (lit. displaying the messenger), a clan of fakirs. Rasulshahi, a clan of fakirs.

RATH-MUNCHU of the Hindus, a sacred edifice, so called, in which the image of Krishna is annually placed and worshipped. — *Ward's Hindoos*, ii. p. 3.

RAS YATRA, a Hindu festival, the annual commemoration of the dance of Krishna with the sixteen Gopi. Vast crowds, clad in their best attire, collect in some open place in the vicinity of the towns, and celebrate the event with music, singing, and dramatic representations of Krishna's sports. All the public singers and dancers lend their services on this occasion, and trust for a remuneration to the gratuities of the spectators. At Benares and Bindraban, this festival is held with much display.

RAT, amongst naturalists, the genus Mus. The coffee-rat is an insular variety of the Mus hirsutus of W. Elliot, found in Southern India. They inhabit the forests, making their nests among the roots of the trees, and feeding, in the season, on the ripe seeds of the nilloo. They do much mischief by gnawing off the young branches of the coffee plant, apparently to get at the tender pith; it is called Dadda-wedda by the Singhalese, is as large as a weasel, and of a greyish-black colour. Monkeys, squirrels, and the rat commit great depredations in fruit time; they are partial to the sweet pulp, which they digest, but evacuate the beans whole. The Mus rufescens, *Gray*, syn. of Mus flavescens, *Elliot*, and Mus nemoralis, *Blyth*, are tree rats, which make their nests on the branches of trees in the forest, and by turns visit the fields and dwellings of the natives, frequenting the ceilings in preference to the lower parts of houses. In Ceylon it is incessantly followed by the rat-snake, Coryphidon Blumenbachii, *Merr.*, whose domestication is encouraged by the servants, in consideration of its services in destroying vermin. One day a snake had just seized on a rat of this description, and both were covered by a glass. The serpent appeared stunned by its own capture, and allowed the rat to escape from its jaws, which cowered at one side of the glass in the most pitiable state of trembling terror. On setting them at liberty, the rat bounded towards the nearest fence; but quick as lightning it was followed by its pursuer, which seized it before it could gain the hedge, through which the snake glided with its victim in its jaws. In parts of the central province of Ceylon, at Ooreah and Bintenne, the house rat is eaten as a common article of food. The Singhalese believe that it and the mouse are liable to hydrophobia. The Golunda meltada, *Gray*, the soft-furred field rat, makes its dwellings in cultivated fields, in pairs or small societies; and great numbers perish annually when the rains fall. If the monsoon be deficient, this rat becomes a perfect plague. This occurred in 1826 in the Peninsula. After the famine of 1877–78, the Bombay Government gave one rupee for every hundred tails, and upwards of 11,000,000 were destroyed. In 1875–76, rats infested the watersheds of the Salwin and Sitang, and were journeying steadily southwards. In the spring of 1878, rats, mice, and other vermin made their appearance throughout parts of Bohemia in such vast numbers as to cause serious loss and damage. Rats are eaten by the Chinese.—*Tennent's Sketches of the Natural History of Ceylon*, p. 423. See Mammalia; Mus.

RAT. HIND. Night. Rat-din, day and night continuously. Rat Jaga, nocturnal vigils; a Muhammadan ceremonial on several occasions, particularly on the Lailat-ul-Kadar.—*Herkl.*

RATA. GHORKA. Xanthochymus pictorius.

RATAN or Rattan; Cane.

Beta, ... BENG.	Calamus rotang, . . LAT.
Bet, Bed, ... HIND.	Rotan, ... MALAY.
Panjalin, ... JAV.	Pirambu, ... TAM.
Kowe Sunda, JAV., SUNDA.	Bettam, ... TEL.

The rattan canes of commerce are obtained from Calamus rotang, *Linn.*, C. rudentum, *Lour.*, C. Royleanus, *Griff.*, and C. fasciculatus, *Roxb.* The Malay term Rotan is an abbreviation of Raotan, from the verb Raot, to pare or trim, that is, the object pared or trimmed. The plants which yield rattans are a genus of palms, which consists of many species, from the girth of a goose-quill to that of a stout walking-stick. They are abundant in all the forests of the Malay and Philippine Archipelagos, and are everywhere extensively used as cordage or ligatures, or in the manufacture of mats and basket-work. These singular plants creep along the ground or climb trees, according to the species, to the length of from 100 to 1[illegible] feet. The principal places of production for the general market are Sumatra, Borneo, and the Peninsula of India. A valuable species is brought from Banjarmassin, on the southern coast of Borneo; in the market they are worth about [illegible] per cent. more than any others. A vast quantity of rattans are exported from the Malay Archipelago to Europe, Hindustan, and China, four or five millions of them being in some years shipped from the territories under the Government of British India. Amongst the plants producing them may be named the genus Calamosagus, hariniæfolius (Wallichiæfolius), termed Rotan Simote; C. ochriger, Rotang Lemak; with scapiger and C. laciniosus. The Calamosagus are all climbing plants. The rattan cane is used extensively in Burma and the Tenasserim Provinces instead of cordage. The stays of the masts in native boats are usually made of rattans, as they are split up into strings for innumerable purposes, to which cord and twine are elsewhere applied. The Karen have different names for seventeen species or varieties. Rattans are manufactured into chairs, baskets, etc.; they also furnish material for the cables of Shakespearian bridges. One species, called country rattan, Pedda pirambu, TAM., Moti bet, HIND., Pedda bettam, TEL., grows to a great length in most districts of the Peninsula. When green, it is formed into cables for drawing the cars of the Hindu idols, and in some parts for suspension bridges. It answers better than bamboo for baskets and for strong fences, when interwoven between stakes. The ratan when burnt yields an ordinary black for paint. In Liverpool the selling price is from 1s. 6d. to 3s. per 100. The rattans of Borneo are exported to Singapore and Batavia in immense quantities from the Coti and Banjar rivers; on the south and eastern parts of the island they are collected and brought down these streams on rafts by the Dyaks; they are principally re-exported from Batavia and Singapore to India and China. The exports [illegible]

rattans from India are principally from Calcutta and Bombay to the Mauritius, Cape of Good Hope, and New South Wales, to the value of £3000 to £4000 annually.—*Seeman; Rohde, MSS.; Crawfurd's Dict.* p. 365; *Williams' Middle Kingdom*, ii. p. 402; *Low's Sarawak*, p. 42; *Mason's Tenasserim.*

RATAN KHAUR. HIND.? A tree of Chutia Nagpur, furnishing a hard, white timber.—*Cal. Cat. Ex.*, 1862.

RATANPUR, a town of the Central Provinces of India, in the district of Bilaspur, 12 miles N. of Bilaspur town. It was here that the ancient rajas held their court, and it was from this point that the early Hindu settlers, gradually acquiring strength, displaced the aborigines, reclaimed the wilderness, and spread over the plain their civilisation and faith. The township covers an area of 15 square miles, and contains within its limits a perfect forest of mango trees, amid the luxuriant shade of which are scattered an almost countless number of tanks and Hindu temples. The most prominent of these is near the old fort, where a large building, gracefully adorned on all sides with arches and minarets, proclaims that here, about the middle of the 17th century, twenty rani of raja Lachhman Sahi became voluntary satis (suttees).

Ratanpur is in lat. 22° 16′ 30″ N., and long. 82° 11′ E., in a hollow surrounded by the Kenda offshoots of the Vindhyan range. It was the capital of the Haihai Bansi kings of Ch'hattisgarh. Since the death of Raja Bimbaji Bhonsla, in 1787, the town has decayed.—*Cent. Prov. Gaz.; Imp. Gaz.* viii.

RATANS, GROUND. The excellent walking-sticks known to the English under this name, are made from the Rhapis flabelliformis, which grows in Lin-kin and Southern China. Much of the fibre used by the Chinese is made from the bark of the Rhapis flabelliformis palm, called tsung, which is stripped off in large sheets from the trunk of the tree. When steeped in water the fibres separate in short wiry threads, of a dark-brown colour, having all the properties of the cocoanut coir. It is the material from which the cordage in Chinese vessels, and sometimes the cables, is manufactured; brooms, rain-cloaks, sandals, hats, brushes for block printing, twine, and other articles are also made from it. The rhapis grows all over Southern China, attaining at times the height of 30 feet and upwards; the bark is stripped off every year. The price for the prepared coir is about four sp. dlrs. per pikul. Another kind of coir is also in extensive use in the Archipelago for rigging; it is called gomuti or eju, and the thread sells at sp. dlrs. 1·50 or sp. dlrs. 2 per pikul. It is the Arenga saccharifera. The best comes from Amboyna.—*Seeman; Morrison.*

RATH or Ratha. HIND. A car, an idol car, a four-wheeled carriage drawn by bullocks, from which, no doubt, has been derived the word chariot; the rath is sometimes ornamented, its scarlet screens and canopy hung with fringes. Rath is a term by which the Mahavellipuram temples are designated. Ratha or Padha Jatra is the procession of Jaganath in his car, a festival in much repute among the Hindus of Bengal and Orissa. Rathapa-yootapa-yootapa, SANSK., from Ratha, a chariot, and Yootapa, a chief; repeated it signifies chief of chiefs.—*Tr. of Hind.* ii. p. 39.

RATH SAPTAMI, from Ratha, a car, and Saptami, the 7th day of the month, is dedicated by Hindus to the worship of the sun. This is held about the 11th February, and is regarded as the beginning of the Manwantaram or period embracing the age of Menu. The Holi or Hutasavi festival, in Sanskrit Holikha or Phal gotsava, is called also Dola or Dolavatra, the swinging festival, and supposed to relate to the vernal equinox, and to be similar to the Persian New-year. It is held about the 19th March, or 15 days before the full moon of Phalgun. It is in honour of Krishna, and is quite a saturnalia; red powders are thrown and red fluids squirted at passers-by, and licentious songs sung. At the close of the festival, a pile is lighted, and a wheaten cake, or poli, offered on it.

RATI, the foot roller for cleaning Dharwar cotton. The iron is worked with two feet on a stone by a woman sitting, or rather balancing herself, on a low stool. The seeds are rolled out in front, and the cotton drawn away as fast as it is freed from the seed, and piled up behind under the stool.

RATI, the wife of Kama-deva, the Indian Cupid. Rati is the Hindu goddess of sexual enjoyment. She has several names, Mayavati, etc. etc., and is the analogue of Venus.

RATI, HIND., written Ruttee, the seed of Abrus precatorius; used as a weight. The seed averages 1·312 grains, but the artificial weight has been found to average nearly 2¼ grains, being one-eighth of a masha rated at 17·708 grains. As the masha in use, however, averages about 15½ grains, a rati will weigh 1·938 grains, or, according to Colonel Jervis, 1·953 grains.

RATL. ARAB. One pound troy, equal to 5760 grains, but varying from 12 to 16 oz. An Arab weight in Bangalore; 24 ratl make one maund of 25 pounds; in Travancore 25 rattl or rautel=the maund of 18 lbs. 12 oz. 13 grs.—*Simmonds' Dict.*

RATLAM, chief town of a Native State of the same name in Malwa, in Central India, in lat. 23° 21′ N., long. 75° 7′ E.; 1577 feet above sea-level. It is one of the principal seats of the opium trade in Malwa. The area of the state is 1200 square miles, and population about 100,000. The reigning prince is descended from a younger branch of the Jodhpur family, and ranks as the first Rajput chief in Western Malwa. He has a personal salute of 13 guns. His military establishment consists of 5 field guns, 58 artillerymen, 35 cavalry, and 300 infantry.—*Imp. Gaz.* viii.

RATNA. SANSK. A gem. In Hindu mythology, Chatur-desa-ratna are the fourteen articles, called gems, produced by the churning of the ocean. This event is fabled to have occurred in the second incarnation or avatar of Vishnu in the form of a tortoise or Khurma, when the ocean was churned by means of the mountain Mandara, the serpent Sesha being employed to whirl the mountain round. Ratna champaca is a topaz.

RATNAGIRI, a British district in the Konkan division of the Bombay Presidency, lying between lat. 15° 43′ and 18° 5′ N., and between long. 73° 3′ 30″ and 74° 2′ E. Area, 3789 square miles; population (1872), 1,019,136. Ten miles or so inland the country becomes more open, but advancing a little farther, it is occupied by spurs

[illegible] ...rn [illegible] ...ruiting [illegible] —*Imp. Gaz.* viii.

[illegible] ...e of gems, a Hindu [illegible], which in Hindu fable [illegible] ...ta and Asura, and pro- [illegible] ...ns.

[illegible] ...ARA, author of the Vivada Tandava, [illegible] ...ok of the Benares school.

[illegible] ...TNA MALA, by Krishnaji, a Brahman. [illegible] ...as translated by Mr. Alexander Kinloch [illegible] ...bes, of the Bombay Civil Service. The name [illegible] ...eans the necklace of gems, and each of the [illegible] ...antos are numbered the first to the eighth gems. It is a chronicle of Siddhraj Jayasinh. It is said to have consisted originally of 108 gems or cantos, of which eight only now remain. Nothing is known of the author Krishnaji. The language is the Bhasha, a dialect of the Prakrit, and his work is founded on the labours of preceding authors.

RATNAPURA, or the gem city, now called Ava or Ayn-wa, a town in Burma, in lat. 21° 50′ N., and long. 59° 95′ E. It is stated to have been founded in A.D. 1364, by Thaido-men bya, prince of Tagoung, who mastered the kingdoms of Panya and Sagain, into which the country was then divided. The first mention made of Ava by any European traveller, is that by Nicolo di Conti, who was there about 1440 (Ramusio, i. 340). It continued to be usually the royal residence, with some intervals, till the end of the 18th century. In 1526, the Shan races of Monyin and Mogoung took the city and overran the country, of which they held possession till 1554. In that year, the Tounghoo king of Pegu, Tshen-byoo-mya-yen (lord of many white elephants), conquered Ava, and destroyed the city. The king, Nyoung-men-ta-ra, who re-established the city and kingdom after the fall of Pegu in 1601, appears to have been a natural son of the conqueror. Ava was taken by the Peguers during their resumption of independence in 1752. They were speedily expelled by Alompra, but he always resided at Mout-sho-bo. In 1763, on the accession of Tshen-byoo-yen, Ava again became the seat of royalty. It was, however, abandoned on the founding of Amarapura in 1783, and reoccupied in 1823 by the king and queen, who entered in great state, accompanied by the white elephant, and by all the dignitaries of the court, only to be again deserted in 1837 by Tharawadi, who had vowed to make it a heap of ruins.—*Yule's Embassy*, p. 184. See Buddha; India.

RATNAPURA, in lat. 6° 42′ N., and long. 80° 17′ E., a town in Ceylon, 56 miles S.E. of Colombo. Mean height of the village above the sea is 77 feet. Gillemalle village is 112 feet. The great bulk of the gems of Ceylon come from Ratnapura, which means the city of gems. See Precious Stones.

[illegible] ...nent's *Sk.* p. 42.

[illegible] ...NAS, a species of coarse sacking, made of a long stout fibre in Madagascar, about five feet square, and largely used in the island of Mauritius to dry sugar on.—*Simmonds' Dict.*

RAUCHYA, in Hindu mythology, one of the 14 patriarchs who are supposed to preside successively over the 14 Manwantara of the calpa.—*Warren.*

RAUGHAN. HIND., PERS. Ghi, butter, grease, fat, oil, balsam, resin.

Raughan-i-badam, almond oil.
Raughan-i-baiz-i-murgh, oil of egg-shell.
Raughan-i-balsan, medicinal balsam, Balsamodendron Berryanum.
Raughan-i-bhirbuti, a medicinal blistering oil.
Raughan-i-gul, rose-scented oil.
Raughan-i-majmua, scented oil, compound scents.
Raughan-i-mom, wax oil, medicinal.
Raughan-i-motya and chambeli, jasmine oil.
Raughan-i-pin, Dehra Ghazi Khan, a medicinal oil, made of pelican's fat.
Raughan safed, ghi or clarified butter.
Raughan siya, coarse oil.
Raughal-i-turb, Balsamodendron Roxburghianum, gugal resin.

Raughan-i-bhirbuti, oil of the red velvet insect, bhirbuti, which appears in the rains; the oil is used only as an irritant and blistering agent.

Raughan-i-pin, pelican oil, is made from its fat; one bird yields a quarter of a seer. The Persian name of the bird is Fitan.

Raughan-i-baiz-i-murgh, oil from the shells of hens' eggs, obtained by dry distillation; used in native medicine.

Raughan-guna, a varnish used in gilding leather.

Scorpions' oil, made by steeping scorpions in oil; is used as a cure for scorpions' bites.—*Powell.*

RAUL, amongst the Mahrattas a low tribe who weave a coarse cloth and tape.—*Wilson.*

RAUTIA, a tribe numbering about 15,000 in Chutia Nagpur. They were at an early period introduced by the Nagbansi raja to aid him against his irrepressible Kol subjects, and they obtained grants of land as military colonists, which their descendants still hold. They resemble Gonds in feature and in disposition, but claim Aryan descent; and as they have lost all trace of their original language, and follow the customs of Hindu Sudras, it is impossible to be certain of their affinities.—*Dalton's Ethnology.*

RAUZAT US SAFA, by Mir Khond, who wrote in the 9th century of the Hijira, a vast compilation, consisting of seven books on the general history of the world, from the Creation to the author's time.

RAVANA, a king of Lanka or Ceylon, who ruled over a powerful and civilised state, comprising Ceylon and the whole of the southern division of India. He was the son of Visvarawa Muni by his wife Nikaksha or Naikasi, the daughter of Sumali who, observing the splendour of Kuvera, a son of the sage by his wife Irvira, directed his daughter

to propitiate the sage, that she also might have children by him. Having succeeded in obtaining the good graces of Visrava, Naikasi had by him Ravana, Kumbhakerna, and a daughter, Surpanakha. Another wife of Visvarawa Muni was Brabira, daughter of Trinavindhu, a king of the Solar line of Vesala, descended from Srad'ha Deva. Ravana is described as like a demon and cruel. He carried off Sita, wife of Rama, also known as Rama Chandra and Dasrat'h Rama, and brought on an invasion of his island by Rama, in which Rama was assisted by the uncivilised races of the Dandacaranya or forests of the southern part of the Peninsula of India. Ravana and his brother were slain, and Sita was recovered. The story of the Ramayana recounts this war. A festival is celebrated in honour of Ravana by the Shanar race. In Hindu legend Ravana is depicted with numerous heads and arms, and is said to have become so potent, in consequence of an ill-judged promise (according to some of Siva, according to others of Brahma), obtained by rebellous religious austerities and devotion, as to have brought all the gods under his subjection. The promise of the deity could not be revoked, but Vishnu found the means of evading the performance of it by becoming incarnate as Rama Chandra to effect *this*. Ravana is also called Dasagriva, the ten-necked; and Pulastya, and Visravana as son of Visrava, the father also of Kuvera. His numerous heads and his twenty arms are the usual symbols of dominion.—*Tylor*, p. 334; *Hero and Nymph*, p. 288.

RAVANA SURUNI MISALU. TEL. Spinifex squarrosa, *Spreng.* This curious diœcious grass, called the sea-pink, is found in great abundance along the Coromandel coast. When the seed is ripe, the spherical head of the plant is detached and blown about the sands by the wind, illustrating in a remarkable manner 'the rolling thing before the whirlwind' of Isaiah xvii. 13, and 'the wheel and stubble before the wind' of Psalm lxxxiii. 13.

RAVATA, in Hindu legend a mountain greater than Meru.

RAVEN, the Corvus corax, has the circuit of northern regions; rare in N. Africa, Panjab, Kashmir, Afghanistan; the Tibetan raven is considered as a peculiar species by Mr. Hodgson, an opinion to which the Prince of Canino seems to incline. It may be presumed to inhabit the lofty mountains of Bhutan to the north. The raven of Ladakh is a larger bird than that of the Northern Panjab, owing most likely to the climate being better adapted to its habits and constitution. Dr. Adams scarcely thinks there are sufficient grounds to consider this species distinct from C. corax, the differences in what Mr. Hodgson calls this variety C. Tibetanus being only in a somewhat larger size, the wing measuring 18½ inches, tail 11½, and the bill to gape 3 inches. The raven of Tibet has been called C. Tibetanus by Mr. Hodgson (An. and Mag. Nat. Hist. iii. p. 203) for the reason that it is somewhat larger than C. corax.—*Blyth; Adams.*

RAVENALA SPECIOSA or Urania speciosa, the traveller's palm of Madagascar, has been introduced into India.—*Tennent.*

RAVENSARA NUTS, the produce of Agathophyllum aromaticum, found in Madagascar, where they are used as a spice, and occasionally exported. The article imported into China from India under this denomination, is a nut of a dark-brown colour, the size of a nutmeg, in smell and taste resembling both cloves and pimento; internally it is divided into cells, and contains a kernel extremely hot and biting to the taste, with a strong spicy smell. Ravensara is also, however, the name given to the bark of the clove-cinnamon tree, growing in the Brazils and Madagascar, of which the foregoing is probably the fruit.—*Comp. Descr.; Simmonds' Dict.*

RAVERTY, MAJOR H. G., of the 3d Regt. Bombay Native Infantry, author of a Grammar, Text-Book, and Dictionary of the Pukhto or Pushtu or Afghan Language, London 1860; also Thesaurus of English and Hindustani Technical Terms.

RAVI. ARAB. A reciter of poems, stories, etc. Hammad Ravi lived in the time of the khalif Walid; his memory was great. He was a debauchee; khalifs Walid and Hisham each gave him 100,000 dirhem, and Mehdi 20,000; he improvisatrized and greatly altered ancient poetry.

RAVI. Its name in Sanskrit is Airavati, in the local dialect Iraoti (the Irawadi of the Ayin Akbari), which doubtless suggested the names of Hydraotes in Arrian, and Hyarotis in Strabo. Ptolemy calls this river Adris, it is called Rawa in Bara Banghal, and is one of the five great streams from which the Panjab derives its name. It rises in Kulu, on the declivity of a mountain called Banghal, and a short distance west of the Ritanka pass, about lat. 32° 30′ N., and long. 76° E.; is formed of several impetuous streams, issuing from beneath large glaciers, at an elevation of 14,000 feet. About [illegible] miles below its source it is joined by two large [illegible]ders, the Budhil and the Nai or Duna. It leaves the hills at Shahpur. At Madhupur the head-works of the Bari Doab canal draw off a large portion of its waters. Thenceforward the river, like other Panjab streams, flows in the centre of an alluvial valley, and has been altering its course past Chumli and Bisauli. In 1870 it carried away the Tali Sahib shrine near Dera Nanak, a place of great sanctity with the Sikhs, and still threatens the town. The Ravi next passes between Sialkot and Amritsar districts. The depth is here not more than a foot in March and April, swelling in June and September to 18 or 20 feet. Entering the district of Lahore, it runs within one mile of Lahore city. Finally, it falls into the Chenab (Chinab), lat. 30° 31′ N., and long. 71° 51′ 20″ E., after a total length of about 450 miles following its windings. It receives as affluents the Nai, 20; Sana, 36; Chakki, 50 miles. About 22,000 square miles are drained. It has a tortuous course, and is fordable in most places for eight months of the year.—*Imp. Gaz.*

RAWAJA, the head-man of a Chittagong Mugh village.

RAWAL, the titular appellation of the chief priest of the temple of Badarinath in the Himalaya. He is always a Namburi Brahman from Malabar. Rawal is also a title of some Rajput princes, as the Rawal of Bhownaggar; and the Rawal title, once that of the Mewar house, is yet borne as a princely title by the Aharya prince of Dongurpur, and the Yadu prince of Jeysulmir, whose ancestors long ruled in the heart of Scythia. Rawal seems to have been titular to the Scandinavian chiefs of Scythic origin. The invader of Normandy was Raoul, corrupted to Rollon or Rollo.—*Tod's Rajasthan*, i. 213, ii. 237.

RAWAL of the Wagri, Circaetus gallicus.

RAWALA, in Marwar, the palace of the queen. Tod says (i. p. 464) the Rawala of a Hindu prince is a world within itself, and resembles the Muhammadan haram. It is the labyrinth containing the strings that move the puppets which alarm mankind. Here intrigue sits enthroned, and hence its influence radiates to the world, always at a [illegible] to trace effects to their causes.

[illegible]ALIYA, in Gujerat, thread and tape [illegible]ers.

RAWAL PINDI, lat. 33° 36′ 5″ N., and long. 72° 59′ 8″ E., in the Panjab, a large military station. Mean height of the cantonment, 1737 feet. It gives its name to a revenue district lying between lat. 33° and 34° N., and long. 71° 46′ and 73° 41′ E., with an area of 6218 square miles, and in 1868 a population of 71[illegible]1,256 souls. Its surface is everywhere cut up by mountain ranges; that on the east is known as the Murree Hills, on which a sanat[illegible]orium has been formed, and one of the La[illegible]wrence Institutions established. It is clothed with forest trees, and in some places elevated 8000 feet. Its chief river is the Indus, and its tributaries the Sohan and Haroh. The district contains many of the towns connected with the events of Alexander's expedition, and its earliest inhabitants appear to have been the Takka, a Turanian race, who held the greater part of the Sind Sagar Doab, and gave their name to the town of Takshasila, the Taxila of the ancient Greeks. Its ruins have been identified in the site of Dehra Shahan or Shah [illegible] which lie to the north of the Margala p[illegible] Since then the district became subject to [illegible] king of Magadha, and Prince Asoka was emp[illegible]yed to suppress a rebellion of the Takka. In the 11th century, the Ghakkar, a non-Aryan race, were dominant, and in the 12th century (A.D. 1193) 30,000 of them were in the Confederate Rajput forces under Pritwi Raja. In 1205, on the reverses of Shahab-ud-Din Ghori in Kharizm, the Ghakkar revolted, but were defeated, and compelled to adopt Muhammadanism, though on retiring he was surprised by a Ghakkar detachment, which swam the river, and killed him at night in his tent (A.D. 14th March 1206). They unsuccessfully revolted again in Baber's time, and again in the time of the Sikhs, and in 1849 the district fell to the British on the conquest of the Panjab. In 1843 and 1844 the country was devastated by locusts (Cal. Rev. 1871). Its revenue subdivisions are Rawal Pindi, Jhelum, Shahpur, and Gujerat. The town of Rawal Pindi is situated between the Indus and the Jhelum; population about 20,000. It is 1453 miles from Calcutta. Rawal Pindi produces gold from the washings at Attock, sandstone, limestone.—*Rob.; Schl.*

RAWANAH. HIND. An invoice, a custom-house permit or pass for a certain quantity of opium, spirits, etc.

RAWAT, also Raji, a small savage tribe in Gorakhpur, the Rohilkhand Terai, and also a wandering uncivilised tribe in Kamaon. 20 [illegible] 30 families are occupants of the forest of Kamaon, who claim to be descended from a prince of Kamaon, who was driven from his throne. Their language is dissimilar to the Hindi of Kamaon. The Rawat are considered to represent the aborigines of the district. The Rawat of Kamaon, under pretence of royal descent, abstain from offering to any individual, whatever his rank, the usual eastern salutation. The Raji and Kumaya languages are unintelligible to all but the respective races using them.—*Latham; Mr. Campbell*, 47.

RAWAT, a race of Northern India, are occupied as scavengers.

RAWAUN. Bassahir is a tributary state, giving Rs. 3945 as tribute. Rawaun, on the left bank of the Pabur, was transferred to Keonthul. The Thakurai of Kotegurh and Kumharsein were declared independent of Bassahir.

RAWLINSON, SIR HENRY CRESWICKE, K.C.B., an officer of the Bombay army, born 1810, who served there from 1826 to 1833, when he was appointed, with several other officers of his own standing, to the army of the king of Persia, in which he served until 1839. He was appointed Political Agent at Kandahar in 1840, and held that position through the first Afghan war, a proof of his wise and just rule. In 184[illegible] was Political Agent in Turkish Arabia, wh[illegible] he subsequently became Consul-General Ambassador to Persia. For his contribut[illegible] to antiquarian and scientific research he made a Fellow of the Royal Society, Hono[illegible] D.C.L. of Oxford, Chevalier of the Order Merit in Prussia, Corresponding Member of Institute of France, Honorary Member of Academy of Munich, Member of the Geograph[illegible] and Asiatic Societies of Germany, of nume[illegible] other literary and scientific associations, K[illegible] of the First Class of the Persian Order of Lion and Sun for his services in that coun[illegible] His services in Afghanistan were recognised by the bestowal of the Knighthood of the Durani Empire, and he was made a Military Companion of the Bath for his services in Kandahar. He assisted Sir J. Gardner Wilkinson in a new translation of Herodotus, by his brother, the Rev. George Rawlinson, and is author of the Comparative Geography of Afghanistan. He wrote a series of papers on Assyrian Antiquities and the cuneiform character from 1850 to 1852; on the arrow-headed character found in the ruins of Persepolis, and on bricks and stones in the ruins of Babylon and Nineveh; and the celebrated inscription near Hamadan on the Behistun was deciphered by him, and another by Professor Grotefend. His deciphering of the cuneiform inscriptions of Assyria and Babylonia in 1858 placed him in the first rank of scientific discoverers, and the eminent success of his rule at Kandahar won for him the gratitude of the people and honours from his sovereign. Between 1851 and 1861 his writings appeared on the Cuneiform Inscriptions of Western Asia; 1846, on those at Behistun; 1857, on Tiglath Pileser I., king of Assyria; on the History of Assyria and Babylonia. In 1851 and 1861 he edited new editions of Herodotus; and in 1875 he gave his views on the relations of England and Russia; Journey from Tabreez to Ghilan; Journey from Zohab to Kirmanshah; On the Ancient Geography of Mahamra; On the Persian Expedition to Khuzistan.—*Ferrier's Afghans*, p. 371; *Geo. Trans.* 1842, xii. 2, p. 112; *Royal Geo. Journal; Jour. Ro. As. Society of London; British Museum Records.*

RAY, a genus of cartilaginous fishes in which, although the skeleton is not osseous, the development of organs is so advanced that they would appear to be the highest of the class. Raja

Narinari, *Bl.*, the Aetobates narinari, *Mull.*, a fish of the Indian seas. It has a produced snout, pointed and winged-like pectoral fins, and an exceedingly long tail, armed with a strong, ser- spine, which is always broken off by the en immediately on capture, under the im- n that wounds inflicted by it are poisonous. nost deep sea fishes, the ray has a wide hical range, and occurs not only in all the cean, but also in the tropical tracts of ntic.—*Tennent's Ceylon*, p. 328.

A, in the dialect of the south of India, a a captain; a usual name amongst the race, as Jesul Raya Pillay. The plural, u, is a title taken by the Velma of the rn Circars, who claim to be Rajputs.

YAKOTTA, in lat. 12° 31′ N., and long. 78° E., in the Carnatic, 12 miles south of Saulgherri. It is 2449 feet above the sea.—*Scott.*

RAYANA. This tree (qu. Ficus religiosa) in Western India is sacred, and is dedicated by the Jains to their first Tirthankara named Reshabhanat'ha, the patron saint of Satrunjaya. His shrines have all a rayana tree overshadowing his charana or footprints.

RAYAT LAUT, a seafaring race of the Indian Archipelago, adventurous navigators. The Rayat Laut, subjects of the sea, or Orang Akkye, are unquestionably from the same stock as the Jakun. The two tribes are expert divers and fishermen, and frequently make long voyages in their fragile vessels. Otherwise they reside along with their families in their boats for months together, employed in fishing, collecting agar-agar, trepang, etc. The Rayat Laut have but faint ideas of the existence of a benignant supreme Being, and of a state of future existence. In appearance, they resemble the Jakun and Malay, allowing for the physical alteration always induced by difference of food, daily occupations, and habits, especially when continued through many generations. They are darker than the Malay, more savage and uncouth in aspect.—*Newbold's British Settlements.*

RAYAVATA, one of the 14 Hindu patriarchs who are supposed to preside over the 14 Manwantara of the calpa, and whose anniversaries are noticed in the calendar.

RAYMOND, a French officer in the service of Nizam Ali, nizam of the Dekhan. In March 1795, with 18,000 men, he met the Mahrattas at Kurdla with 130,000 horse and foot and 150 pieces of cannon, and was completely defeated. His tomb, to the east of the city, is a shrine to which annually great numbers resort, offering chaplets of flowers. The people first visit his house on the bank of the Musa river, and view his uniform, annually laid out on the day of his death, and then proceed to the tomb.

RAZAI. HIND. A counterpane quilted with cotton.

RAZAQ. ARAB. Food.

RAZI, JAV., qu. Rassi, ARAB. A ferment used in Java in the distillation of the fermented liquor called Badek.

RAZI, the literary name of Muhammad-bin-Zakariah Abu Baqr-ur-Razi, from which place he was known in Western Europe as Rhazes or Razes. He was a famous physician, born and brought up at Rai, in Irak-i-Ajami, now designated Turkish Arabia. He acquired great philological and philosophical knowledge, but until he was 30 years old, he was chiefly known as a musician. After his fortieth year, he applied himself exclusively to the study of medicine and philosophy, and studied under Ibn Zain-u-Tabari at Baghdad. He travelled to Jerusalem and Africa, and it is said also to Spain. He became the medical superintendent of an hospital at Rai, and afterwards of one at Baghdad. He died A.D. 923 or 932, at Rai or Baghdad. All his works were published in folio, A.D. 1516, and were translated by Dr. Meade into English, A.D. 1747.

RAZI-NAMA, an acquittal, literally a deed of consent or acquiescence.

RAZZIA BEGUM, known also as the Sultana Razzia, was the daughter of Shams-ud-Din Altamsh. On the death of Altamsh, his son Rukn-ud-Din was deposed after a reign of seven months, and his sister Razzia Begum raised to the throne (A.D. 1236, A.H. 634) under the title Sultana Razzia. She could read the Koran correctly; and her business talents were of so high an order, that Altamsh, when absent on his southern campaigns, twice left her in charge of his government in preference to his sons. She succeeded in sowing dissensions amongst the two factions that opposed her. She appeared daily on her throne in the usual habit of a sultan, gave audience to all comers, reformed abuses, revised the laws, decided suits of importance, and evinced all the qualities of a just and able sovereign. Ferishta says she was endowed with every princely virtue, and those who scrutinize her actions most severely will find in her no fault but that she was a woman. But she showed undue, though not criminal, partiality towards her Master of the Horse, an Abyssinian; allowed him to lift her up to her horse, and gave him the title of Amir-ul-Umra, which disgusted the nobles, as it placed him above all others. A rebellion followed, her army mutinied, and she was made prisoner, and committed to the care of Altunia, a Turki chief, while her brother Bahram was raised to the vacant throne. But she gained over Altunia, who married her, and, aided by her husband, she advanced to Dehli, but after two bloody battles they were both taken prisoners, and both were put to death. Her reign lasted 3½ years.—*Elliot's Historians; Elphin.* p. 324.

REA, a former subdivision of the rupee at Bombay; 100 rea = 1 quarter, and 4 quarters = 1 rupee.

READYMONEY. Sir Cowasjee Jahangir Readymoney, C.S.I., a highly liberal merchant of Bombay, whose gifts in charity during his life amounted to about £200,000. He died 19th July 1878.

REALGAR, red arsenic, red orpiment.

Hiung-hwang, . .	CHIN.	Tu-hiung, . . .	CHIN.
Hwang-kin-Shih,	,,	Disulphide of arsenic,	ENG.
Ming-hiung, . .	,,		

It occurs native in Yunnan, Kwei-chau, and Kansuh. It is used in soldering gold, also for the manufacture of ornamental vessels and medicine cups.—*Smith.*

REANA LUXURIANS has been introduced into the Madras Presidency. Mr. Whiteside planted the seed in clayey soil, well manured, and with water near the surface. The plants were 5 feet apart, and grew to a height of 12 feet. When half grown, the grass was eaten greedily by cattle and sheep, which fattened on it. Mr. H. T. Ross, when sub-collector of Bellary, fed a number of his own milch cows with it. He found that it doubled their yield of milk, and they were so fond of it

that they would break through any fence to get at it. The cultivation has been successful on the Neilgherries.

REANG, a mixed race or half-breed between the low Tiperah tribes and the Kuki.—*Cal. Rev.*, 1860.

REAUMURIA HYPERICOIDES is a plant of Syria and Persia, and R. vermiculata is a native of Sicily, Bombay, and Egypt. This plant resembles Salsola fruticosa. It is used at Alexandria as a remedy for the itch, being bruised and applied externally, and a decoction taken internally.

REBARI. Throughout Hindustan the Rebari rear and tend camels, and are in many places Muhammadans. In Rajputana they are a distinct tribe following Hinduism, employed entirely in rearing camels, or in stealing them, in which they evince a peculiar dexterity, uniting with the Bhatti in the practice as far as Daodpotra. When they come upon a herd grazing, the boldest and most experienced strikes his lance into the first he reaches, then dips a cloth in the blood, which at the end of his lance he thrusts close to the nose of the next, and, wheeling about, sets off at speed, followed by the whole herd, lured by the scent of blood and the example of the leader. The Rebari of Gujerat are nomade shepherds, who rear camels, sheep, and goats, and subsist by the sale of the wool and milk, and not of the animals.—*Tod; Wilson.*

RECCAN or Rakan River, on the Sumatra coast, in lat. 2° 10′ N., and long. 100° 37′ E., is about 15 miles broad at its mouth. It has at its entrance two islands; Pulo Lalang Besar, the larger, is in lat. 2° 12′ N., and long. 100° 36½′ E.; and Pulo Lalang Kecheel. Its main branch, called the Tannah Putie river, takes a S.E. direction. The mouth of the river is almost dry at low water of spring tides; the tide enters it there at a speed of 7 miles per hour, producing a bore of 30 feet at spring tides.

RECORDER, the designation of the Chief Justice of Singapore, Rangoon, Moulmein.

RED.

Lal, ...	HIND.	Deng, ...	SIAM.
Abang, ...	MALAY.	Erra, Yerra, . .	TEL.
Surkh, ...	PERS.		

Red is one of the primitive colours, of which the chief commercial varieties are fine venetian, red lead, orange and Indian red, and vermilion. The colour is esteemed sacred by several tribes, from China to Caucasus, from Tibet and Bhutan to the extremity of India, and to Ceylon.—*Ouseley's Tr.* i. p. 87.

REDANG ISLANDS, from lat. 5° 38′ N. to about lat. 6° N., on the east coast of the Malay Peninsula, in the Gulf of Siam, along which they form an extensive chain. Turtle and Kimor, or large scallops, are procurable on the N.E. side.

REDDI. TAM., TEL. In Southern India, an enterprising race of agriculturists who have migrated from their original seats near Rajamundry over the whole of Southern India, also into Maharashtra, being met with as far north as Poona, where they are considered the most thriving cultivators. The old rulers of the Telinga country were styled Reddi; and so late as 1846, Narsimma, a Reddi, on the borders of the Bellary and Kurnool collectorates, though surrounded by the Indian army, thought himself capable of opposing the British Indian Government, rebelled, and was put down by a military force. Among the Reddi of Southern India, a young woman of sixteen or twenty years of age may be married to a boy of five or six years of age. She, however, lives with some other adult male, perhaps a maternal [illegible] or cousin, but is not allowed to form a conn[illegible] with the father's relatives; occasionally it [illegible] be the boy-husband's father himself, that [illegible] woman's father-in-law. Should there be [illegible] dren from these liaisons, they are fathered [illegible] boy-husband. When the boy grows up, [illegible] is either old or past child-bearing, when [illegible] turn takes up with some other 'boy's' w[illegible] manner precisely similar to his own, and [illegible] creates children for the boy-husband. [illegible] Bummala Wanloo, TEL., people of the [illegible] caste.—*Shortt, Tr. Ethn. Soc., New Series* [illegible] p. 194; *Lubbock, Orig. Civil.* p. 55.

REDFIELD, W. C., of New York, advocated the opinion that hurricanes are great whirlwinds.

RED FISH of the Pacific Ocean is the Holocentrus ruber. A red fish eaten by Captain Cook's crew proved poisonous to some who partook of it. Red fish is a condiment of the Malay Peninsula; fish roes and sardines are made into condiments, and the species of fish used in their preparation are Alausa toli (Ikan truboh), Engraulis Brownii (Bunga ayer or badah), Dussumieria acuta (Tamban-bulat), and Clupeonia perforata (Tamban-nepes or batuh). Engraulis Brownii, *Gmelin*, inhabits the sea and the estuaries of all seas. Total length, 6 inches. In Java, Sumatra, and the Straits of Malacca, large quantities are preserved both for home consumption and exportation to China and India. The delicious condiment is famed under the denomination of red fish (Ikan merah of the Malays) or Malacca fish, and is used as a relish. At Bencoolen and Malacca, after the heads have been removed, the fishes (those of middling size are preferred) are cleansed, salted (in the proportion of one to eight parts of fish), and deposited in flat, glazed earthen vessels. In the latter they are for three days submitted to pressure by means of stones placed on thin boards or dried plantain leaves. The fishes are next freed from salt, and saturated with vinegar of cocoa palm toddy, after which are added vinegar with powdered ginger and black pepper (the latter mostly entire), and some spirits and powdered red rice. After having been kept for three days, a little more vinegar is added before placing the fishes in well-closed jars or bottles. They should be kept four or five months before being used. The expenses of a quart bottle of the condiment is about 30 cents, the selling price one Spanish dollar. Chinese settlers in the Straits prepare a similar red condiment with slices of Polynemus Indicus and P. tetradactylus, and also with prawns.—*W. T. Lewis, Esq., Penang; G. Bennett*, p. 21.

RED-HAIRED, Hang-Mao of the Chinese; British foreigners are so called.

REDIF. Padre Redif, a Christian priest, and a body of Muhammadan Mullahs, in the reign of the emperor Akbar, carried on a debate on religion before an assembly of the learned of all religions; a decided advantage, both in temper and argument, was given to the Christian. Akbar reproved the Mullahs for their violence, and expressed as his opinion that God could only be adequately worshipped by following reason, and

, viii. p. 316; *Maury*, pp. 123, 247; *Burton's* cca, i. p. 288; *Ouseley's Tr.* i. p. 163; *Ajaib-al-dan; Pliny*, lib. vi. ch. xxiii. and xxiv.; *Curi-s of Science*, p. 176; *Sharpe's Egypt*, i. p. *Collingwood's Voyage; Leonard Horner in yal Society*, 1855; *Collingwood's Naturalist.*

SPIDER, one of the plagues of the tea-n extremely small red mite that eats the tissues of old leaf, and has a marked checking the growth, especially in young This noxious insect infests the rogu tree, cadamba.

UVIUS, a genus of bug insects belonging Reduviidæ. R. serratus of India produces lectric shocks.

WOOD is a commercial term applied al timbers; one is the Cæsalpinia sappan, another red wood tree is the Adenanthera a, a large and handsome tree, and well or planting in avenues; also the Ptero-Santalinus, *Roxb.*, and the red wood of the ns is said to be the product of Pterocarpus ioides, *Roxb.*

d wood fig-tree is the Ficus racemosa.

d wood of Japan, Fa-ang, JAP., also , JAP., is a product of Coy or Kiu, in 's time belonging to the king of Siam. so obtainable in Bambilisoi, on the coast dia, and from Bimen Island, between d Timor. It was imported into Japan, Thunberg remarks, 'this wood rubbed ome lime and water yields the finest violet we could wish to see.'

red wood used in Japan for dyeing, called s a red wood of Sumatra, resembling log-It is used by the natives in tanning twine ng-nets, and appears to be the okir or major of Rumph. iii. p. 192, and fera rezinoso of Lour. Fl. C. C. p. 231.

ed wood of Mergui is the Syndesmis .

wood of Penang is in general use for Its colour is red, and its specific 00.

dye-wood occurs in the Vizianagram —*Marsden's Sumatra*, p. 95; *Thunb.* 42; *Col. Frith; Roxb.*

. . . ARAB. | Peru nanal, . . . TAM.
ru, ... HIND. | Pedda rellu, . . . TEL.

Reeds of the best quality of which pens are le are imported into India from Arabia, but erior descriptions, from Saccharum sara, abound many hills, and on the banks of rivers in India. eeds for weaving are formed of these, though sed also for pens. In Peninsular India, reeds or weavers are prepared by a class of persons, ho also practise as oculists. The materials used r reeds are strips of several descriptions of reed; r silk weavers they are made of the fine teeth the mango fish.—*Rohde's MSS.*

REEF or Shoal. Sha'b, ARAB. Darwin (Researches, p. 555) describes the lagoon islands, e encircling reefs, and the barrier reefs. Coral ands are arranged by Darwin into the atoll or lagoon island, a coral margin with a lagoon in the centre; barrier reefs, stretching along a vast extent of coast; and encircling coral reefs, which are merely fringes of coral along the margin of a shore. Von Birch is of opinion that the lagoon island is the margin of a submarine crater on which the coral animal has built its wonderful structure. The barrier reefs, according to Darwin, are due to subsidence. In a sheltered archipelago, they rarely rise to the surface. But in an open ocean, rolling waves and breakers throw up a barrier of broken coral far above the usual high water-mark.

In New Caledonia the encircling reef extends 140 miles beyond the island. At Vanikoro, the reef runs two or three miles from the shore, from which it is separated by a channel from 30 to 50 fathoms deep. Externally, the reef rises from an ocean profoundly deep.

The great barrier reef which fronts the N.E. coast of Australia for nearly 1062 miles, runs parallel to the shore, at distances ranging from 20 to 70 miles, the enclosed sea, 31,860 square miles in area, varying in depth from ten to sixty fathoms. Sir Charles Lyell and Darwin think (557) that the great depths of the marginal seas is caused by the subsidence of the land, the corals raising their structure as the lands subside.

There are innumerable coral reefs and coral islands, but Darwin has satisfactorily shown that atolls, or annular reefs, were originally fringing reefs constructed around islands that have since subsided. Coral reefs have thus been divided into three classes, according to their geological character,—the shore reefs fringe the shores of continents or islands; the encircling reefs or barrier reefs; the third, enclosing a lagoon, is called an atoll, or lagoon island, and is a ring or annular breakwater around an interior lake. In the Archipelago and the Pacific are many coral islands or atolls. An atoll differs from an encircling barrier reef only in the absence of land within its central expanse; and a barrier reef differs from a fringing reef, in being placed at a much greater distance from the land, with reference to the probable inclination of its submarine foundation, and in the presence of a deep water lagoon-like space or moat within the reef. Atolls sometimes constitute a great circular chain enclosing a deep basin, but opening by one or more deep breaches into the sea. Sometimes they surround a little island by a girdle of reefs; or form the immediate edging or border of an island or continent. Atolls occur in the Pacific, in the Chinese Seas, in the Marianne and Philippine Islands, Maldives, Laccadives, and Sunda group. —*Darwin on the Structure and Distribution of Coral Reefs; Hartwig.*

REEPERS are longitudinal sections of the palmyra palm, used for building purposes; the trunk of the tree is split into eight for reepers, and these are dressed with an adze. In Ceylon they are made of the kittool palm, and known as Nipera reepers; these are dearer than any other kind, they last in many instances for [illegible] years.—*Simmonds' Dict.*

REFUGE CITIES, or Sanctuaries, cities to which criminals and others obtain refuge. Hebron; Kedish; Shechem.

REG. PERS. Sand. Reg-i-Rawan, in the Registhan desert, the Baloo-desa of India. Reg-i-Rawan, moving sand. Reg-i-Sabz, dry soil.

REGENT BIRD, [illegible], is the melinus. It builds [illegible] in bowers. It is also satin bird and [illegible]. It is also king honey bird. Ramphorhynchus it is cephalus.

REG MAHI, a small mottled lizard, Lacerta scincus, *Linn.*, from 6 to 8 inches in length, found in the sands of Sind, and occasionally in dry tracts of the Multan division. This reptile used to be formerly in the Materia Medica of Europe as a restorative stimulant and antisyphilitic. Even some modern physicians, however, have justified the use of these animals.

REG-RAWAN, or moving sand, is a small hill in the Kohistan, forty miles north of Kābul, remarkable for a bed of sand on its southern face. This is subject to sliding movements, which occasion sonorous sounds. It is styled the Khwaja Reg-rawan. A whitish streak is observed, extending from the summit to the foot. It is mentioned by Baber. The natives say that it runs up again, and that it is never diminished; and that there is a cave at its foot where noises are heard.

Burnes describes the sounds as loud and hollow, very like those of a large drum; whilst Sultan Baber, in his Memoirs, speaks of the sounds of drums and nagarets, and the same instruments were specified by the Friar Odoric. A still more apt comparison is afforded by Captain Newbold's account of the like phenomenon in the Sinai desert, at the sand-hill known as Jabal Nakus, 'the hill of the bell.' Dr. Wallin also was told when crossing a wadi of the Sinai desert, called Hamade, near Wadi Araba, that sometimes very strange sounds, like those of kettle-drums or nakkara, were heard to rise from the earth, without any discoverable cause. Friar Odoric gives an account of a sandy hill, on which he heard the sound of invisible nakkara or drums. Mr. C. R. Markham, C.B., says the musical sounds caused by moving sand, which astonished Odoric, are heard also in the deserts of the west coast of Peru. Mrs. Markham and himself heard them when they halted amidst the *medano* or hills of light sand in the Arequipa desert. Another case was discovered by the late Hugh Miller in the island of Eigg (Cruise of the *Betsy*, quoted in Petermann's Mittheilungen, 1858, p. 405). Mr. Bollaert notices the Bramador or rumbling mountain of Tarapaca, which appears to be distinct from Mr. Markham's.—*J. G. S.* xxi. p. 104; *Yule, Cathay*, i. p. 244; *Burnes' Travels.*

REGULATION and Non-Regulation are terms employed in the administration of British India to indicate provinces and districts under different forms of laws. The Regulation Provinces, as a rule, are governed under the provisions of Acts of the Supreme Council of India, or by Acts of the British Parliament, and the administrative officers are designated judges and collectors. The Non-Regulation Provinces, again, are under the control of Commissioners, who rule in accordance with local provisions, often founded on previous decisions, and the Chief Commissioners and Commissioners are sometimes civilians and sometimes military men.

REGULUS CRISTATUS, the golden-crested wren of Europe, N. Asia, Japan, W. America, is partially migratory. It is replaced in the Himalaya by R. Himalayensis. The [illegible] proregulus (Regulus modestus, or [illegible] regulus) of Asia is very rare in [illegible] specimen obtained in Dalmatia, and [illegible] England,—but it is common in India, [illegible] allied species. See Birds.

REGUR. *Dec.* The black soil of the volcanic regions. See Soil.

REH has its origin in the decomposition of the elements of the rocks and soils under the action of air and water, and the rain-water washes out the soluble carbonates of lime, and also chlorides, and sulphates, and carbonates, which are formed into carbonate of lime, carbonate of soda, sulphate of lime, chloride of soda, sulphate of soda, sulphate of magnesia, which effloresce on the surface of the ground.

Reh is thus not a special salt, or mixture of salts, but a very variable compound. It is reasonably the most easily soluble salt in the earth water remaining in solution after the decomposition of carbonate of lime, and on evaporation. The ingredients and their relative proportions are found to vary in different places, exactly as the well waters at different spots differ in their contents, and in the same area there is no relation between the two.

Deterioration of the land irrigated from the Ganges and Jumna canals attracted serious attention in the villages along the Western Jumna canal, and its branches, about Dehli, Hissar, Rohtak, and Kurnool. In 1857, Mr. Sherer, magistrate of Aligarh, examined the tracts country deteriorated, and the picture presented by him of the suffering in some of the villages was truly deplorable. Out of 580 canal villages 59 or nearly 10 per cent. had been injured to degrees ranging from severely to partially, 3 per cent. being severely injured. The maximum appeared to be reached in Paniput, where 19 villages, or 19 per cent., were injured. Reh effloresces in several parts of the Panjab where there are no canals at all; in these parts it appears in land irrigated from wells where the water is very far from the surface. The effloresing salt consists of sulphate of soda, with a variable proportion of chloride of sodium or common salt. As far as experience goes, lands near canals, like the Hasli, in the Lahore constructed at, but not below, the ordinary of the watershed, are usually found to suffer from reh efflorescence. Generally speaking, farmers assert that fully impregnated reh is incurable and valueless. In gardens and plots, it has been found useful to dig the soil to the depth of 2 feet or so entirely, and put in fresh soil. Sluicing and irrigation has been recommended. Nitrate of lime is recommended as a probable chemical antidote for the salts of the reh. It has been known that the best remedy for reh is the saline efflorescence of old mortar on walls, or which appears on ground containing carbonate of lime and animal matter. In this substance nitrate of lime is found, and this salt would act by producing the insoluble carbonate of lime, and the sparingly soluble sulphate of lime, and the deliquescent nitrate of soda, instead of the effloresent sulphate and carbonate of soda which are the principal constituents of reh. Nitrate of lime is prepared by distilling shora or saltpetre with kahi safed, and neutralizing the acid liquor that passes over with chunam. The native cultivators, in some parts, have long been accustomed to employ chikna kullur, or earth which looks damp; this earth is found where animal remains are deposited, and usually contains nitrate of lime. The reh is composed principally

of sulphate of soda and chloride of sodium, with, in some places, carbonate of soda; the sulphate and carbonate of soda are very efflorescent salts, and melt partly in their water of crystallization at a temperature of about 98°, while they are rather sparingly soluble when the temperature falls below 60°. Hence during the hot weather the reh melts and percolates the ground to some considerable depth; but as the weather becomes cooler, crystals form in this soil and form a capillary network, upon which it travels till it arrives at the surface, where the salt gives off its water of crystallization, and falls into a dry powder by efflorescence. If to a solution of these salts, nitrate of lime be added, no change is produced by it on the chloride of sodium, but the sulphate and carbonate of soda are converted into nitrate of soda, a deliquescing salt, while the lime is changed either into the insoluble carbonate of lime, or the sparingly soluble sulphate of lime, neither of which are efflorescent or in any way injurious to vegetation.—*Powell's Handbook*, pp. 95, 112; *Records Govt. of India*, No. 42 of 1864, *Note on Reh, etc.*

REHAT, in Buddhism, a being entirely free from evil desire, and possessing supernatural powers.—*Hardy's Monachism*, p. 440.

REHMANNIA CHINENSIS. *Tatarinov.*

San-ti-whang,	CHIN.	Man-ti,	CHIN.
Sha-ti-whang,	,,	Man-yuen,	,,

A plant of the order Gesneraceæ. Its roots are sun-dried, and brought from Kwang-p'ing-fu in Peh-chi-li, from Yuen-chan-fu in Kiang-si, and very largely from Hwai-king-fu in Ho-nan. The root is deemed by the Chinese alterative and tonic.—*Smith's Mat. Med.*

REINHARD, WALTER, a native of the electorate of Treves, who came to India as a carpenter in the French navy. He took service with several native chiefs for brief periods, and then joined Gregory, an Armenian, who was in high employ under Mir Kasim, nawab of Bengal. After the fall of Monghir, he put to death all the English prisoners who had been collected at Patna. He next joined the Bharatpur chief, and from him finally went over to Najaf Khan. He died in 1778, and was buried at Agra. He was known as Sumru, and the Begum who had lived with him, and who is said to have been a Kashmir dancing girl, was recognised as his widow, and succeeded to all his Sardanha estates. In 1781 she was received into the Catholic Church, and in 1792 married M. le Vaisseau, a French adventurer. He was so unpopular that the people rebelled under Zafar Yab Khan, a son of Reinhard, and by an artifice of the Begum her husband was induced to commit suicide, and the disturbance was soon after quelled by her old servant George Thomas. In 1802, Zafar Yab Khan died, leaving a daughter, who was married to Mr. Dyce, an officer of her army. She had a son and two daughters. The son, David Ochterlony Dyce Sombre, was adopted by the Begum, and on her death in 1836 he succeeded to the estate. He married Mary Anne, daughter of Viscount St. Vincent, and died in Paris in 1851. His widow in 1862 married the Honourable George C. Weld Forester, now Baron Forester. The Begum by will left to schools and Romish churches, Rs. 3,74,400.—*Growse*, p. 41.

REJANG is the alphabet of Lemba and Pasummah on the western side of Sumatra. It consists of 23 substantive characters, formed of upright scratches or strokes, and on the whole it is more complete than either the Batak or Korinchi alphabets.

REJEEPAK, (lit.) pure veins, a term applied to Arabian horses of pure strain, many of which are bred on the Persian shore, with as much attention to preserve the original blood as imported from Arabia, as could be shown in first-rate studs in England.

RELIGION. Of the various religions in the world, according to Hassel, there are, in millions, Christians, 120; Jews, nearly 4; Muhammadans, 250; Hindus, 111; Buddhists, 315. Every religion, it has been remarked, 'even the most imperfect and degraded, has something that ought to be sacred to us, for there is in all religions a secret yearning after the true though unknown God.' Movers has illustrated the religious worship of Phœnicians and Carthaginians, from their temples; the religious idea of the Arab nomades, prior to the time of Mahomed, has been described by many; the idols and temples, the hieroglyphic inscriptions, the hieratic and demotic MSS., have afforded much information regarding the religion of Egypt. Further to the east, the monuments of Babylon and Nineveh have furnished materials for the study of the Semitic religions, and images of Bel and Nisroch have been produced, and something is now known of the religions of Mexico and Peru, and of the savage inhabitants of America, Africa, and Polynesia.

Of the religions of the S. and E. of Asia and the philosophies which take their place, the demon, and spirit, and nature worship of the ruder races is perhaps the most ancient; the monotheistic religion of the Jews, 4000 years old, may be the next, followed by the Buddhist philosophy, which seems to have been believed in since 3200 years, 850 years before Sakya gave it fresh vigour, and is the most extensive of all of them, with the Jaina faith, which is as old as that of the Buddhist.

The philosophy put forth by Kung-fu-tze or Confucius, was about 500 years before Christ, and it has been added to and altered by subsequent sages of China. The Christian religion, first established in Western Asia 19 centuries ago, and early taught in Africa, Arabia, and Central and Eastern Asia, has at present, in British India, but a comparatively small number of professors. If India and South-Eastern Asia be looked at in their religious aspects, four pôlytheist faiths will be seen,—Buddhism, the Jaina faith, Brahmanism, and Shamanism; three monotheistic faiths, viz. Jewish, Christian, and Muhammadan; a mixed faith, the Sikh, partly monotheistic, but believing in incarnations; and lastly the worship of fire as an element, by the little numerous but intellectual Parsees.

The canonical books of three of the principal religions of the ancient and modern world, viz. the Veda of the Brahman, the Zendavesta of the Zoroastrian, and the Tripitaka of the Buddhist, have disclosed the real origin of Greek and Roman, and likewise of Teutonic, Slavonic, and Celtic mythology. The Koran, and the literature connected with it, afford information regarding a Semitic religion, the doctrines of Mahomed.

Besides the Aryan and Semitic families of religion, there are in China three recognised forms of public worship,—the philosophy of Confucius, that of Tao-tze, and the religion or philosophy of Fo (Buddha).

The ancient history of India shows that it has had four great religious eras, — the *Vedic*, in which Agni, Indra, and other personifications of spiritual existences, with the worship of astral and natural phenomena, were propitiated with feasts, and invoked with the hymns of the Rig Veda, and in which maidens selected their husbands in the Swayamvara, and monarchs sacrificed the horse in the Aswa Medha. In the *Brahmanic* period, the Kshatriya feasts were converted into sacrifices for the atonement of sins against Brahmanical law, and divine worship was reduced to a system of austerities and meditations upon the Supreme Spirit as Brahma. It was in this era that the Brahmans assumed the character of a great ecclesiastical hierarchy, and established that priestly dominion which still extends over the minds and senses of the Hindus of India; 3dly, the *Buddhist* period, in which Sakya Muni appeared. And, 4thly, the *Brahmanical* revival, during which Brahmans abandoned the worship of their god Brahma, and reverted to the old national gods and heroes of the Vedic Aryans. In this era Vishnu came to be regarded as the Supreme Being, and Rama and Krishna as his incarnations, and it was accompanied and followed by a belief in a deity called Siva, whose worship, based on physiological doctrines, was earnestly inculcated by its missionaries during the 8th to the 14th century of the Christian era. Both of these sects of Brahmanism are accepted by the Hindus. But at present the largest number of the Hindus are followers of Vishnu and his wife, in some one of his several incarnations; a smaller number accepting Siva and his wife. Siva is mentioned in the book of Amos (v. 26), but when his worship was first introduced into India has not been traced. Tod supposes B.C. 900.

Since the 7th century of the Christian era, conquerors from the north-west, traders from Arabia, and zealous missionaries professing Muhammadanism, have been advancing into India, China, and the western islands of the Archipelago; and the numbers professing this faith in S. and E. Asia may now amount to about 200 millions of souls.

The Vedas of the Hindus are in Sanskrit. They do not seem to have been translated as a whole into any of the vernacular tongues of India, and there are but few Brahmans who can read and understand them, though they learn portions by heart. They are considered a revelation; and the laws of Menu, the Puranas or legendary histories of India, the Tantras, and the six orthodox Hindu systems of philosophy, all derive their authority from their agreement with the Vedas. It was the Vedas of which the Buddha Sakya Muni denied the authority. In the Vedanta philosophy, the beginning of all wisdom is said to be a desire to know God, who is the cause of the universe, and this is to be learned from the Scripture. The Nyaya philosophy acknowledges four sources of knowledge,—perception, induction, analogy, and the word or Veda. The Vaiseshika philosophy is an atomistic system, not favourably looked on by the Brahmans, nevertheless proclaims the absolute authority of the Veda. The Sankhya philosophy is atheistic; it maintains that a personal God cannot be proved, though it so far conforms as to admit the received doctrine of the Veda as evidence in addition to perception and induction. The Puranas, or old books, superseded the Veda. The Buddhist religion of Burma is likewise a philosophy. The British rulers of India have allowed the utmost religious freedom to all the races under their sway, and the Bible has never been used as a class-book in any Government school in British India. This has been denounced by earnest men as time-serving. However, the Koran and the Vedas are equally excluded; but the grant-in-aid rules of 1854 permit money allowances to every school in India where education up to a certain standard is imparted, and in these grants every Christian school can equally share. To gain a full knowledge of the Veda, the Zendavesta, the Tripitaka, of the Old Testament, the Koran, or the sacred books of China, would be the work of a long life.

Sir John Lubbock has pointed out that both in Aryan and Semitic races there have existed several minor creeds, which in process of ages have disappeared. In the Aryan race, for example, there have been the religions of Greece and Rome, Odin-worship, and Druidism. In the Semitic race, there have been the Assyrian, Phœnician, and sundry other idolatries. But in each race there has also been one great religion, which, beginning at the very dawn of history, has lasted to the present hour, namely, Vedic-Brahmanism among the Aryans, and Judaism in the Semitic race. And each of these great religions has had two vast offshoots or schisms, which also still survive, namely Zoroastrianism and Buddhism from Brahmanism, and Christianity and Islam from Judaism. Further, all six of these religions are possessed of a sacred literature, to which divine authority is attributed by their adherents, namely, among the Aryans—

The Vedas of the Brahmans.
The Zendavesta of the Zoroastrians.
The Tripitaka of the Buddhists.

And among the Semitic race—

The Old Testament of the Jews.
The New Testament of the Christians.
The Koran of Muhammadans.

Besides these Aryan and Semitic Scriptures, there only exist in the world two other ancient sacred books of any value, namely, the Kings of the Confucian Chinese, and the Tao-tze King of the Taoists of China; the Grunth of the Sikhs being a comparatively modern work.

Lastly, as if to perfect the parallel, recent calculations tend to show that at the present hour, after 4000 years of development, the great religions of the Semitic and Aryan races are almost on an equality in point of numbers—Brahmanism and Buddhism, with the small remnant of Zoroastrians, counting together (according to an authority accepted by Professor Muller) about 44 per cent. of the human race; and Judaism, Islam, and Christianity numbering nearly 45 per cent. on the same calculation.

The great bulk of the races in Southern and Eastern Asia are of the Muhammadan, the Buddhist, the Brahmanical, and Sintu religions. The Muhammadans believe in God, in a future state, in a judgment for blessing or for condemn-

Mahomed as the last and greatest of
s of God; in the Koran as a divine
in khalifas as successors of Mahomed,
y saints and shrines. They believe,
coming of a Mehdi, who is to be the
mams, and who will inaugurate an era
n, now militant, will be finally triumph-
y designate their religion Islam, salva-
l style themselves Musalmān, of the
ith. Muhammadanism is essentially a
zing religion; the craving of all its pro-
being to convert all mankind to a belief in
d in Mahomed as His prophet. But with
the essential tenet, they have many diverse
of every shade of belief, from a pure mono-
to a recognised series of incarnations still
gress. They occupy parts of Europe and
ca, much of the south of Asia, and eastwards
the Archipelago. In the south-west of the
ic continent, Persia with its 7,658,000 in-
ants is almost exclusively of the Shiah form
uhammadanism, with a mere sprinkling of
Armenian Christians, and Zoroastrian fire-
ippers. But Persia is almost alone in this
of the faith. It is enclosed on three sides
ces following the Sunni traditions,—by Arabs
e S.W. and W.; by Turks in Asia to the
and N.; with Uzbak also on its north;
ariots and Turkoman to the N.E., and Afghan
be Marrani, Baluch, and Sindi, on its east;
nd the Turkoman make the sectarian difference
n their belief a ground for considering Persia
heretical. Until the present day they raid Persian
territory, and steal and sell the captives as slaves.
Persia is to them a hostile country, a dar-ul-harb,
on which they may lawfully make war. In this
region the Muhammadan population is estimated
to be 36,000,000.

Persians, . .	7,658,000	Turkoman, . .	450,000
Arabs, . . .	5,000,000	Afghans, . .	4,000,000
Turkey in Asia,	16,357,000	Sindi, . . .	1,887,204
Khiva Uzbak, .	700,000	Baluch, . . .	409,200
Bokhariots, .	2,100,000		

In India, the British Government, a Christian power, is ruling over a population of 253,891,821 souls, in diverse religious communities. A census taken in 1881 has shown their respective numbers to be as under:—

Hindus, . .	187,937,450	Kabir Panthi, .	347,994
Muhammadans,	50,121,585	Nat worship, .	143,581
Aboriginals, Non-Aryans, . .	6,426,511	Parsee, ...	85,397
Buddhist, . .	3,418,884	Jews, ...	12,009
Christian, . .	1,862,634	Brahmo, . . .	1,147
Sikh, . . .	1,853,426	Kumbhi Patia, . .	913
Jain, . . .	1,221,896	Others and unspecified, . .	59,985
Satnami, . . .	398,409		

The non-Aryan races of India have not advanced beyond the idea of demons who scourge the human race. Many of them have totems; others are Shamanistic, and are continually finding new objects of worship in the spirits of men and women who have died a violent death, or have lived lives of turmoil. Mari Amman, or death mother, of the Tamil race, is a recently acknowledged divinity who sends smallpox. She is a compound of their Amman or village goddess and of Kali, the consort of Siva. Since cholera has swept through the land, the people of Ujjain have formed a new goddess, Maha Kala, whom they believe sends that dread disease. A great number of the non-Aryan races are recognised to be of Turanian descent. Many of them are in a servile condition, and until the present day are almost in a state of predial slavery, in some parts bought and sold with the lands. Many are illiterate, have no sacred books, and worship spirits, ancestors, idols, and shapeless stones from the river beds. But even amongst the followers of the Brahmanical Hindu faith and the Jaina sect, all of whom possess sacred books, there is found every conceivable kind of worship, from the grossest sensualism to the most exalted spiritualism, and from the worship of stocks and stones to the most sublime conceptions of the omnipresent God.

The Muhammadans are descendants of Arab, Turk, Moghul, and Persian invaders, and of converts from Hindus and aboriginal races. They are largely of the Sunni sect, but the unity of their creed and the firmness of British rule have done much to make them one body. With Brahmanism it is different. Of very varied origin, largely from a nature-worship, with a belief in mythological personages, and some of their chief gods deified princes, their beliefs are greatly diversified. Great minds are constantly arising and forming new sects or are pondering over problems, moral, social, and political. The Sikh, the Satnami, the Kabir Panthi are all recent, and the Brahmo is of the 19th century. Brahmanism is proselytizing by millions among the aboriginal races, but is loosening its grasp on many of the educated classes. The tendency is to adopt some form of philosophy as a substitute for their old traditional religions, and this seems likely to embrace the majority of the educated classes throughout India.

The most recent philosophy was originated by Ram Mohan Roy, a Brahman, and its best expounder at present (1883) is Keshab Chander Sen. The name assumed by the most prominent among them is that of Brahmo, and ramifications of this sect have spread throughout the presidencies of Bengal, Madras, and Bombay. They renounce superstition, paganism, and absurdities of all sorts. They abjure atheism and materialism; they repudiate Buddhism, Hinduism, and Muhammadanism. They regard Christianity, not as a religion to be adopted, but as one of several paths leading towards pure and abstract truth, and they look towards the Vedas and Puranas, handed down from the Aryan Hindus, as constituting another of these ways. Theirs is a theism, including faith in a Supreme Being, in the immortality of the soul, and in a future state of rewards and punishments.

Sir Alfred C. Lyall thinks that in India there will, in two or three generations, be a wide and rapid transformation of its religion; that the old gods of Hinduism will die in their new elements of intellectual light and air. Some, he says, may think that Christianity will, a second time in the world's history, step into the vacancy created, and occupy the tracts laid open by the upheaval of a whole continent to a new intellectual level. But, he says, the state of thought in Western Europe hardly encourages conjecture that India will receive from that quarter any such decisive impulse as that which overturned the decaying paganism of Greece and Rome. Christianity has not yet spread sufficiently to have become an actual power in the country, but the Brahmoists admire Christianity in the main, as supplying a pattern for human conduct.

Under Hindu law, until 1850, a change of

religion by any Hindu involved loss of property; but an Act passed in that year by the Legislative Council of British India declared that change of religion did not involve loss of property.

East of British India, Buddhism has been favourably received by great nationalities. Tribes on the Assam borders, the people of Manipur, many broken tribes amongst the hills and the valleys of the Irawadi, the Mei-kong, and other great rivers, are following spirit and nature worship. The Malays of the Archipelago are now mostly Muhammadans, and the Spanish Indies in the Philippines almost all Christian; but Ceylon is partly Buddhist, partly Hindu; and Burma, Siam, Annam, Cochin-China, Cambodia, China, and Corea are chiefly Buddhist, though China largely follows the philosophy of Confucius or the corrupted Taoist philosophy of Meng-tze.

In the temples of Confucius in China, the only object of reverence is the monumental tablet before which the devout burn incense and pray. At the entrance of their Buddhist temples are colossal figures, supposed to be warders of the place; in all other temples are numerous idols, not only of Buddha in his three attitudes of contemplation, exhortation, and repose, but of many other deities, as the god of war, the god of agriculture, and the queen of heaven.

A prominent feature of Japan society is the variety of religious beliefs. The State cult is the Sintu (Sin, the gods, and Tu, faith), an apotheosis of all great heroes and saints. The Buddhists are there the more numerous sect, but their priests had become so singularly unacquainted with the tenets of their religion, that some inquirers recently visited England to study its doctrines in the books of the public libraries. The populations dwelling in these south-east regions of Further Asia have been estimated as under:—

Assam tribes, .	200,000	Sunda Islands and Moluccas, .	28,867,000
Manipur, . .	126,000	Netherland India and part of N. Guinea, . .	27,962,000
Burma, . . .	4,000,000	N. Guinea and neighbouring Islands, . .	500,000
Siam, . . .	5,750,000	Philippines, .	6,300,000
Annam, . . .	21,000,000	Corea, . . .	8,500,000
French Cochin-China, . .	1,597,013	Japan, with the Kuriles, Loo-Choo, and Bonin Islands,	36,357,212
Cambodia, . .	890,000		
Malacca tribes,	300,000		
China proper,	350,000,000		
Eastern Turkestan, . . .			
Tibet, Manchuria, Mongolia, .	21,180,000		
Ceylon, . . .	2,606,930		

—*Census Report; Sir John Lubbock's Darwinism in Morals*, p. 250; *Frere's Antipodes*, p. 229; *Max Muller, Chips from a German Workshop*, i. p. 12; *Sir Alfred C. Lyall, K.C.B., Asiatic Studies; Sir Richard Temple in Fortnightly Review*, Jany. 1883; *Albrecht Weber's Indian Literature*. See Sacred Books.

REMBOWAH. BURM. In Arakan used as food. This description of arrow-root is prepared from the Pembanoo root, obtainable in large quantities. Price, 4 rupees per maund.—*Local Committee, Akyab.*

REMORA, or sucking fish, attaches itself to sharks. The sucker is on the back of the head. Fishermen in the Mozambique Channel are said to pass a string through the tail, and allow the fish to swim away; it attaches itself to turtle and fish, which are then pulled in.

REMUSAT, ABEL, a learned Parisian sinologue; author of Description d'un Gr[illegible] peu connu et situé entre le Japon [illegible] Mariannes.

RENAUDOT, ABBE, author of [illegible] Rélations des Indes et de la Chine, [illegible] It gives the notes of travel of Suleim[illegible] Khurdadba, two Arab merchants, w[illegible] India and China apparently in the 9th [illegible] centuries, and are the first among weste[illegible] to make mention of tea (tcha) and [illegible] They also mention arrack and rice.

RENNELL, MAJOR JAMES, author of a [illegible] of India. He was the first writer who ga[illegible] intelligible account of the countries now [illegible] British India, and has been styled the fat[illegible] Indian geography. He was the author of a [illegible] Atlas, containing Maps of the Theatre of W[illegible] Commerce on that side of Hindustan, London 1[illegible] Atlas of Bengal and Behar, London 1780–81; Description of the Roads in Bengal and B[illegible] 4to and 12mo, London 1778–99; Memoir [illegible] Map of Hindustan, with an Account of [illegible] Ganges and Brahmaputra Rivers, London [illegible] Marches of the British Armies in the Penins[illegible] India during the Campaigns of 1790 and [illegible] Geographical System of Herodotus Examine[illegible] Explained, 4to, London 1800; Geography of [illegible] dotus Examined and Explained, 2 vols., Lo[illegible] 1830; Geographical Illustrations of the Ex[illegible] tion of Cyrus and the Retreat of the Ten Tho[illegible] Greeks, with the Plates, atlas folio, 2 vols. fol[illegible] and 4to, London 1816; A Treatise on the Comparative Geography of Western Asia, 2 vols. 8vo, London 1831.

RENNET. Masr, ARAB.; Panir, Maya, HIND. The dried contents of the stomach of a calf, used for coagulating or curdling milk.—*Faulkner.*

RENUKA, daughter of king Renu, the wife of rishi Jamadagni, and mother of Parasurama; in S. India identical with the Gramma-deva, Ellammun.

REPOUSSÉ WORK in silver and gold is well made at Ahmadabad. It is beaten up first in small patterns, and holes are pierced to give effect to the pattern. At first sight, it might be mistaken for coarse filigree. Brass work of Nagpur, Jeypore, Moradabad, and in the south of the Peninsula has the body of the work in brass, and pure tin is hammered over it, leaving spaces of the ground as ornament. The white, bright tin resembles silver.

REPTILES are arranged by naturalists as the class Reptilia of the animal kingdom, and they are numerous in the south and east of Asia. The chameleons, the gecko, and others of them are interesting to all who would investigate the wonders of creation. The crocodile, the alligator, and the poisonous snakes cause great loss of human life; the marine turtles and their eggs, some of the frogs, some of the snakes, are used as food by several races; several of them, as the skinks, the iguanas, are used medicinally. The Greeks regarded snakes as good demons, and worshipped them; the emblem of their deified physician, Esculapius, is that of two snakes in congress; and from the earliest origin of Hinduism, its followers have worshipped the cobra, representing it in pictures and in sculptures with many heads as a protecting divinity overshadowing kings and deities and lingam idol. With Muhammadans, frogs, crocodiles, snakes, turtles, as also, indeed, crabs, are

not lawful food. The arrangement by naturalists of the reptiles of the South and East of Asia is as under :—

First Sub-class — Reptilia Proper.

The Order of Tortoises—Chelonia.

I. Land Tortoises—Testudinidæ.

Testudo elegans, *Schopff*, Peninsula of India, Ceylon.
T. Horsfieldii, *Gray*, Afghanistan.
T. elongata, *Blyth*, Cambodia, Arakan, Mergui.

II. Fresh-water Tortoises—Emydidæ.

Manouria emys, *M. and Schl.*, Penang, Arakan, Tenasserim.
Cuora Amboinensis, *Daud.*, Eastern India.
C. flavomarginata, *Gray*, China, Formosa.
C. trifasciata, *Gray*, China.
Cyclemys Oldhami, *Gray*, Mergui, Cambodia.
Pyxidea Mouhotii, *Gray*, Cochin-China.
Notochelys platynota, *Gray*, Singapore.
Geoemyda spinosa, *Gray*, Tenasserim, Pegu.
G. grandis, *Gray*, Cambodia.
Emys ocellata, *D. and B.*, Tenasserim, Pegu.
E. Bealii, *Gray*, Southern China.
E. Thurgi, *Gray*, Bengal, Penang.
E. mutica, *Cantor*, Chusan.
E. nigricans, *Gray*, Southern China.
E. Sinensis, *Gray*, Canton, Formosa.
E. crassicollis, *Gray*, Mergui, Malay Peninsula, Cambodia.
E. Reevesii, *Gray*, Cochin-China, Southern China.
E. trijuga, *Schweigg*, Peninsula of India, Ceylon.
E. macrocephala, *Gray*, Siam, Cambodia.
E. Hamiltonii, *Gray*, Lower Ganges.
Pangshura tecta, *Gray*.
P. tentoria, *Gray*, Dekhan, Indus.
P. flaviventer, *Gthr.*, Bengal?
P. Smithii, *Gray*, Panjab?
Batagur baska, *Gray*, Ganges, Irawadi, Penang.
B. lineatus, *Gray*, Nepal, Moulmein.
B. Ellioti, *Gray*, Kistna river.
B. affinis, *Cantor*, Malay Peninsula.
B. dhongoka, *Gray*, Nepal, Assam.
Platysternum megacephalum, *Gray*, China, Pegu.

III. Fresh-water Turtles—Trionycidæ.

Emyda granosa, *Schopff*, Hindustan, Sikkim, Bengal.
E. Ceylonensis, *Gray*, Ceylon.
E. vittata, *Peters*, Goa.
Trionyx Sinensis, *Weigm.*, China, Chusan, Formosa.
T. Gangeticus, *Cuv.*, Ganges, Penang.
T. Javanicus, *Schweigg*, Ganges, Dekhan, Penang.
T. ornatus, *Gray*, Siam, Cambodia.
T. subplanus, *Schweigg*, Singapore, Penang.
T. Guntheri, *Gray*.
Chitra Indica, *Gray*, Ganges, Malay Peninsula.

IV. Marine Turtles—Chelonidæ.

Caouana olivacea, *Eschsch*, Coasts.
Chelonia virgata, *Flem.*, Coasts.
Caretta squamata, *L.*, Coasts.
Dermatochelys coriacea, *L.*, Coasts.

The Order of Lizards—Sauria.

I. Crocodiles—Crocodilidæ.

Crocodilus palustris, *Less.*, Ganges, Peninsula of India, Ceylon.
C. Siamensis, *Schneid.*, Siam, Cambodia.
C. porosus, *Schneid.*, all rivers.
C. Pondicerianus, *Gray*, Pondicherry.
Gavialis Gangeticus, *Gm.*, Ganges.

II. Water Lizards—Varanidæ.

Varanus flavescens, *Gray*, Ganges, Indus, Penang.
V. dracæna, *L.*, from Bengal to Ceylon.
V. lunatus, *Gray*.
V. nebulosus, *Gray*, Bengal, Siam.
Hydrosaurus salvator, *Laur.*, China, Siam, Ceylon.

III. Land Lizards—Lacertidæ.

Tachydromus sexlineatus, *Daud.*, Rangoon.
T. meridionalis, *Gthr.*, Southern China.
T. septentrionalis, *Gthr.*, Northern China.
Cabrita Leschenaultii, *Edw.*, Coromandel.
Ophiops Jerdoni, *Blyth*, Mhow.

REPTILES.

Acanthodactylus Cantoris, *Gthr.*, Ramnuggur.
A. Neilgherrensis, *Jerdon*, Kunur.

IV. Cordyles—Zonuridæ.

Pseudopus gracilis, *Gray*, Khassya.

V. Skinks—Scincidæ.

Tropidophorus microlepis, *Gthr.*, Chartaboum.
T. Cochin-Chinensis, *Cuv.*, Cochin-China.
T. aspris Berdmorreii, *Blyth*, Mergui.
Euprepes Chinensis, *Gray*, China.
E. rufescens, *Shaw*, from Afghanistan to China.
E. monticola, *Gthr.*, Sikkim.
E. olivaceus, *Gray*, Malay Peninsula.
E. macularius, *Blyth*, Rungpur?
E. trilineatus, *Gray*, Carnatic.
Mabouia quadrilineata, *Blyth*, Hong-Kong.
M. Chinensis, *Gray*, China.
M. maculata, *Blyth*, Assam.
Eumeces bilineatus, *Gray*, Neilgherries.
E. Himalayanus, *Gthr.*, Himalayas.
E. Schlegelii, *Gthr.*, Sikkim.
E. modestus, *Gthr.*, Ningpo.
E. Reevesii, *Gray*, China.
E. ladacensis, *Gthr.*, Tibet.
E. formosus, *Blyth*, Mirzapore, Waziabad.
E. Indicus, *Gray*, Sikkim.
E. Taprobanensis, *Kelaart*, Ceylon.
E. chalcides, *L.*, Penang, Siam, Hong-Kong.
E. Siamensis, *Gthr.*, Siam.
E. Bowringii, *Gthr.*, Hong-Kong.
E. albopunctatus, *Gray*, Nellore, Mergui.
E. Hardwickii, *Gray*, Peninsula of India.
E. punctatus, *E.*, Peninsula of India.
E. isodactylus, *Gthr.*, Cambodia.
Hagria Vosmærii, *Gray*, Bengal.
Chiamela lineata, *Gray*.
C. anguis melanosticta, *Merr.*, Coromandel.

VI. Acontiads—Acontiadidæ.

Acontias Layardi, *Kelaart*, Colombo.
Nessia Burtonii, *Gray*, Ceylon.
N. monodactyla, *Gray*, Ceylon.

VII. Sand Lizards—Sepsidæ.

Sphenocephalus tridactylus, *Blyth*, Afghanistan.

VIII. Geckos—Geckotidæ.

Gecko guttatus, *Daud.*, from Southern India to China.
G. stentor, *Cantor*, Penang.
G. Smithii, *Gray*, Prince of Wales' Island.
G. monarchus, *D. and B.*, Malay Peninsula, Ceylon.
G. Japonicus, *D. and B.*, China, Chusan.
G. Swinhonis, *Gthr.*, Northern China.
G. subpalmatus, *Gthr.*, Chikiang.
Ptychozoon homalocephalum, *Creveldt*, Penang, Singapore.
Hemidactylus triedrus, *Daud.*, Ceylon, Pen. of India.
H. maculatus, *D. and B.*, from Ceylon to China.
H. Sykesii, *Gthr.*, Dekhan.
H. frenatus, *D. and B.*, from Ceylon to Siam.
H. Leschenaultii, *D. and B.*, Madras.
H. punctatus, *Jerdon*, Tellicherry.
H. coctæi, *D. and B.*, Penang, Bombay, Ceylon.
H. leiurus Berdmorreii, *Blyth*, Mergui.
Peripia Peronii, *D. and B.*, Penang, Ceylon.
P. Cantoris, *Gthr.*, Penang.
Nycteridium Schneideri, *Shaw*, Ceylon, Bengal, Assam, Siam, Penang.
Phelsuma Andamanense, *Blyth*, Andaman Islands.
Gymnodactylus triedrus, *Gthr.*, Ceylon.
G. pulchellus, *Gray*, Penang, Singapore.
G. frænatus, *Gthr.*, Ceylon.
G. Kandianus, *Kelaart*, Ceylon.
G. Mysoriensis, *Jerdon*, Bangalore.
G. Indicus, *Gray*, Neilgherries.
G. Malabaricus, *Jerdon*, Malabar.
G. littoralis, *Jerdon*, Malabar.
G. Dekhanensis, *Gthr.*, Dekhan.
G. variegatus, *Blyth*, Moulmein.
G. naultinus fasciolatus, *Blyth*, Subathu.
Pentadactylus Borneensis, *Gthr.*, Borneo.
P. felinus, *Gthr.*, Singapore.
P. Duvaucelii, *D. and B.*, Bengal.
Puellula rubida, *Blyth*, Andaman Islands.
Eublepharis Hardwickii, *Gray*, Peninsula of India.

REPTILES.

IX. Agames—Agamidæ.

Draco volans, L., Penang, Singapore.
D. reticulatus, *Gthr.*, Philippine Islands.
D. Timorensis, *Kuhl*, Timor.
D. cornutus, *Gthr.*, Borneo.
D. fimbriatus, *Kuhl*, Java.
D. maculatus, *Gray*, Siam, Penang, Tenasserim.
D. spilopterus, *Wiegm.*, Manilla.
D. Dussumieri, *D. and B.*, Peninsula of India.
D. quinquefasciatus, *Gray*, Penang.
D. tæniopterus, *Gthr.*, Siam, Tenasserim.
D. hæmatopogon, *Boie*, Java.
D. bimaculatus, *Gthr.*, Philippine Islands.
D. lineatus, *Daud.*, Amboyna, Celebes.
D. rostratus, *Gthr.*, Borneo?
Otocryptis bivittata, *Wiegm.*, Ceylon.
Lyriocephalus scutatus, *L.*, Ceylon.
Ceratophora Stoddartii, *Gray*, Ceylon.
C. Tennentii, *Gthr.*, Ceylon.
C. aspera, *Gthr.*, Ceylon.
Cophotis Ceylanica, *Peters*, Ceylon.
Japalura variegata, *Gray*, Sikkim.
J. Swinhonis, *Gray*, Formosa.
J. polygonata, *Hallowell*, Loo-Choo.
Sitana Pondiceriana, *Cuv.*, Western India.
S. minor, *Gthr.*, Madras, Ceylon.
Dilophyrus grandis, *Gray*, Rangoon.
Bronchocela cristatella, *Kuhl*, Malay Peninsula.
B. Smaragdina, *Gthr.*, Cambodia.
B. jubata, *D. and B.*, Pondicherry.
Calotes versicolor, *Daud.*, Ceylon, continent of India.
C. nemoricola, *Jerdon*, Neilgherries.
C. mystaceus, *D. and B.*, Pegu, Siam, Mergui, Ceylon.
C. Rouxii, *D. and B.*
C. ophiomachus, *Merr.*, Ceylon, Southern India.
C. platyceps, *Blyth*, Cherra Punji.
C. nigrilabris, *Peters*, Ceylon.
C. emma, *Gray*, Mergui.
C. maria, *Gray*, Himalayas.
Salea Horsfieldii, *Gray*, Neilgherries, Ceylon.
Oriocalotes minor, *Gray*, Himalayas.
Acanthosaura armata, *Gray*, Eastern India.
A. capra, *Gthr.*, Chartaboum.
A. coronata, *Gthr.*, Chartaboum.
Oriotiaris Ellioti, *Gthr.*, Sikkim.
Tiaris tiara subcristata, *Blyth*, Port Blair.
Physignathus Cochin-Chinensis, *Cuv.*, Cochin-China.
P. mentager, *Gthr.*, Chartaboum.
Liolepis guttatus, *Cuv.*, Eastern India, China.
Uromastix Hardwickii, *Gray*, Hindustan.
Charasia dorsalis, *Gray*, Southern India.
Stellio tuberculatus, *Gray*, N. Hindustan, Himalaya.
Trapelus megalonyx, *Gthr.*, Afghanistan.
Phrynocephalus Tickelii, *Gray*, Afghanistan.
P. caudivolvulus, *Pall.*, Tibet.
P. brachysaura ornata, *Blyth*, Sagur.

FAMILY OF CHAMELEONS—CHAMÆLEONIDÆ.

Chamæleo vulgaris, *Daud.*, Pen. of India, Ceylon.

THE ORDER OF SNAKES—OPHIDIA.

First Sub-order. Innocuous Snakes.

I. Blind Snakes—Typhlopidæ.

Typhlina lineata, *Boie*, Penang, Hong-Kong.
Typhlops nigro-albus, *D. and B.*, Penang, Singapore.
T. Horsfieldii, *Gray*, Khassya, Assam, Tenasserim, Cochin-China.
T. bothriorhynchus, *Gthr.*, Penang.
T. striolatus, *Peters*, Bengal.
T. Siamensis, *Gthr.*, Siam.
T. Braminus, *Daud.*, Indian Continent, Ceylon.
T. pammeces (tenuis), *Gthr.*, Madras.
T. mirus, *Jan.*, Ceylon.
Onychocephalus acutus, *D. and B.*, Pen. of India.

II. Short-tails—Tortricidæ.

Cylindrophis rufus, *Laur.*, Cambodia, Singapore, Tranquebar.
C. maculatus, *L.*, Ceylon.

III. Xenopeltides—Xenopeltidæ.

Xenopeltis unicolor, *Reinw.*, Malay Peninsula, Cambodia.

IV. Rough-tails—Uropeltidæ.

Rhinophis oxyrhynchus, *Schneid.*, Ceylon.
R. punctatus, *Mull.*, Ceylon.
R. Philippinus, *Cuv.*, Ceylon.
R. Trevelyanus, *Kelaart*, Ceylon.
R. sanguineus, *Beddome*, Wynad.
R. Blythii, *Kelaart*, Ceylon.
R. Pulneyensis, *Beddome*, Pulney Hills.
Uropeltis grandis, *Kelaart*, Ceylon.
Silybura macrolepis, *Peters*, Peninsula of India.
S. Beddomii, *Gthr.*, Peninsula of India.
S. ocellata, *Beddome*, Neilgherries.
S. Ellioti, *Gray*, Madras, Dekhan.
S. bicatenata, *Gthr.*, Dekkan.
S. Shorttii, *Beddome*, Shevaroy Hills.
S. brevis, *Gthr.*, Animallay Hills, Neilgherries.
Plectrurus Perrotetii, *D. and B.*, Madras, Neilgherries.
P. Guntheri, *Beddome*, Neilgherries.
Melanophidium Wynadense, *Beddome*, Wynad.

V. Dwarf Snakes—Calamaridæ.

Calamaria Siamensis, *Gthr.*, Siam, Cochin-China.
C. quadrimaculata, *D. and B.*, Java.
C. albiventer, *Gray*, Penang.
C. nigro-alba, *Gthr.*, Penang.
C. leucocephala, *D. and B.*
C. catenata, *Blyth*, Assam.
C. reticulata, *Blyth*, Assam.
Macrocalamus lateralis, *Gthr.*
Oxycalamus longiceps, *Cantor*, Penang.
Geophis microcephalus, *Gthr.*, Madras.
G. (Platypteryx Perrotetii), *D. and B.*, Neilgherries.
Aspidura brachyorrhos, *Boie*, Ceylon.
A. Copii, *Gthr.*
A. trachyprocta, *Cope*, Ceylon.
Haplocercus Ceylonensis, *Gthr.*, Ceylon.

VI. Oligodontes—Oligodontidæ.

Oligodon subgriseus, Peninsula of India.
O. spilonotus, *Gthr.*, Madras.
O. Ellioti, *Gthr.*, Madras.
O. subpunctatus, *D. and B.*, Malabar coast.
O. spinipunctatus, *Jan.*
O. fasciatus, *Gthr.*, Dekhan.
O. sublineatus, Ceylon.
O. affinis, *Gthr.*, Animallay Hills.
O. Templetonii, *Gthr.*, Ceylon.
O. modestus, *Gthr.*
O. dorsalis, *Gray*, Afghanistan?
O. brevicauda, *Gthr.*, Animallay Hills.
Simotes venustus, *Jerdon*, Peninsula of India.
S. Russellii, *Daud.*, Ceylon, Pen. of India, Himalayas.
S. binotatus, *D. and B.*, Peninsula of India.
S. albiventer, *Gthr.*, Ceylon.
S. signatus, *Gthr.*, Singapore.
S. cinereus, *Gthr.*, Cambodia.
S. Swinhonis, *Gthr.*, Amoy.
S. tæniatus, *Gthr.*, Cambodia, Bankok.
S. trilineatus, *D. and B.*
S. punctulatus, *Gray*, Himalayas.
S. Labuanensis, *Gthr.*, Borneo.
S. bicatenatus, *Gthr.*
S. albocinctus, *Cantor*, Assam.
S. fasciolatus, *Gthr.*, Pachebone.
S. Cochin-Chinensis, *Gthr.*, Lao Mountains.
S. trinotatus, *D. and B.*, Penang, China.

VII. Colubrides—Colubridæ.

Ablabes baliodirus, *Boie*, Penang.
A. tenuiceps, *Blyth*, Nepal, Darjiling.
A. fuscus, *Blyth*, Himalayas.
A. Rappii, *Gthr.*, Himalayas.
A. bicolor, *Blyth*, Khassya.
A. olivaceus, *Beddome*, Neilgherries.
A. sagittarius, *Cantor*, Penang, Bengal, Himalayas.
A. Humberti, *Jan.*, Madras, Ceylon.
A. collaris, *Gray*, Khassya, Nepal.
A. melanocephalus, *Gray*, Malacca.
Cyclophis major, *Gthr.*, China.
C. frænatus, *Gthr.*, Afghanistan.
C. calamaria, *Gthr.*, Ceylon, Peninsula of India.
C. nasalis, *Gthr.*
C. monticola, *Cantor*, Assam.
Odontomus nympha, *Daud.*, Vellore.
O. semifasciatus, *Gthr.*
O. gracilis, *Gthr.*, Madras Presidency.
Nymphophidium maculatum, *Gthr.*
Elachistodon Westermanni, *Reinh.*

Coronella orientalis, *Gthr.*
Coluber rufodorsatus, *Cantor*, China.
C. mandarinus, *Cantor*, Chusan.
C. porphyraceus, *Cantor*, Khassya, Assam.
Elaphis dione, *Pall.*, Northern China.
E. sauromates, *Pall.*, Ningpo.
E. tæniurus, *Cope*, China, Siam.
Compsosoma radiatum, *Reinw.*, Eastern India.
C. melanurum, *Schleg.*, Bengal, China.
C. reticulare, *Cantor*, Himalayas, Assam.
C. Hodgsonii, *Gthr.*, Himalayas.
Cynophis Helena, *Daud.*, Ceylon, Madras.
C. Malabaricus, *Jerdon*, Peninsula of India.
Ptyas mucosus, *L.*, all over the continent, Ceylon.
P. korros, *Reinw.*, Eastern India.
Xenelaphis hexahonotus, *Cantor*, Arakan, Penang, Singapore.
Zamenis diadema, *Schleg.*, Afghanistan, Sind.
Z. ventrimaculatus, *Gray*, Western India.
Z. gracilis, *Gthr.*, Dekhan, Sind.
Z. fasciolatus, *Shaw*, Peninsula of India, Bengal, Province Wellesley.
Zaocys fuscus, *Gthr.*, Borneo.
Z. carinatus, *Gthr.*, Borneo.
Z. dhumnades, *Cantor*, Chusan, Ningpo.
Z. nigromarginatus, *Blyth*, Himalayas.
Herpetodryas Sieboldii, *Gthr.*, Sikkim.
Tropidonotus quincunciatus, *Schleg.*, all over India.
T. annularis, *Hollowell*, China.
T. trianguligerus, *Reinw.*, Penang.
T. macrophthalmus, *Gthr.*, Himalayas.
T. dorsalis, *Gthr.*, Chikiang.
T. macrops, *Blyth*, Darjiling.
T. platyceps, *Blyth*, Himalayas.
T. subminiatus, *Reinw.*, Eastern India.
T. Himalayanus, *Gthr.*, Himalayas.
T. angusticeps, *Blyth*, Assam, Arakan.
T. stolatus, *L.*, all over the Indian continent.
T. monticola, *Jerdon*, Animallay Hills.
T. junceus, *Cantor*, Penang, Chikiang.
T. Ceylonensis, *Gthr.*, Ceylon.
T. Beddomii, *Gthr.*, Neilgherries.
T. nigrocinctus, *Blyth*, Pegu? Tenasserim.
T. flavipunctatus, *Hollow.*, Hong-Kong.
T. zebrinus, *Blyth*, Mergui.
T. tigrinus, *Boie*, Northern China.
T. leucomelas, *Gthr.*, Penang.
T. plumbicolor, *Cantor*, Madras Presidency.
Atretium schistosum, *Daud.*, Ceylon, Malay Penin.
Xenochrophis cerasogaster, *Cantor*, Malay Peninsula, Bengal, Assam, Khassya.
Prymnomiodon chalceus, *Cope*, Siam.

VIII. Fresh-water Snakes—Homalopsidæ.

Fordonia unicolor, *Gray*, Penang.
Cantorio elongata, *Gthr.*, Singapore.
Cerberus rhynchops, *Schneid.*, from Ceylon to Siam.
Hypsirhina plumbea, *Boie*, Eastern India.
H. enhydris, *Schneid.*, Bengal, Eastern India.
H. Jagorii, *Peters*, Siam.
H. Bennettii, *Gray*, China.
H. Chinensis, *Gray*, China.
Ferania Sieboldii, *Schleg.*, Bengal, Province Wellesley.
Homalopsis buccata, *L.*, Malay Peninsula, Cambodia.
Hipistes hydrinus, *Cant.*, Penang.
Herpeton tentaculatum, *Lacep.*, Siam.

IX. Desert Snakes—Psammophidæ.

Psammophis condanarus, *Merr.*, Peninsula of Indian.
Psammodynastes pulverulentus, *Boie*, Eastern India.

X. Tree Snakes—Dendrophidæ.

Gonyosoma oxycephalum, *Boie*, Penang, Tenasserim.
G. gramineum, *Gthr.*, Khassya.
G. frænatum, *Gray*, Khassya.
Phyllophis carinata, *Gthr.*, China.
Dendrophis picta, *Gm.*, all over India.
D. caudolineata, *Gray*, Penang, Singapore.
Chrysopelea ornata, *Shaw*, all over India.
C. rubescens, *Gray*.

XI. Whip Snakes—Dryiophidæ.

Tropidococcyx Perrotetii, *D. and B.*, North Canara.
Tragops prasinus, *Reinw.*, Eastern India.
T. dispar, *Gthr.*, Animallay mountains.
T. fronticinctus, *Gthr.*

REPTILES.

Passerita mycterizans, *L.*, Ceylon, Peninsula of India.
P. purpurascens, *Gthr.*, Ceylon.

XII. Dipsades—Dipsadidæ.

Dipsas cynodon, *Cuv.*, Malay Peninsula.
D. Forsteni, *D. and B.*, Animallay mountains.
D. boops, *Gthr.*, Bengal.
D. dendrophila, *Reinw.*, Malay Peninsula.
D. bubalina, *Klein.*, Assam, China?
D. multimaculata, *Schleg.*, Bengal, Eastern India.
D. trigonata, *Schneid.*, Peninsula of India, Bengal.
D. multifasciata, *Blyth*, Subathu.
D. gokool, *Gray*, Penang, Bengal.
D. Ceylonensis, *Gthr.*, Ceylon.

XIII. Lycodontes—Lycodontidæ.

Lycodon aulicus, *L.*, Ceylon and continent of India.
L. Laoensis, *Gthr.*, Cochin-China.
L. striatus, *Shaw*, Peninsula of India.
L. Animallensis, *Gthr.*, Animallay mountains.
L. rufozonatus, *Cant.*, Chusan.
Tetragonosoma effrene, *Cant.*, Penang.
T. atropurpureum, *Cant.*, Mergui.
Leptorhytaon jara, *Shaw*, Pen. of India, Bengal, Assam.
Ophites subcinctus, *Boie*, Penang.
O. albofuscus, *D. and B.*, coast of Malabar.
Cercaspis carinata, *Kuhl*, Ceylon.

XIV. Blunt-heads—Amblycephalidæ.

Amblycephalus boa, *Kuhl*, Penang.
Pareas carinata, *Reinw.*, Cochin-China.
P. monticola, *Cant.*, Assam.
P. lævis, *Kuhl*, Cochin-China, Khassya.

XV. Rock Snakes—Pythonidæ.

Python reticulatus, *Schneid.*, Malay Peninsula.
P. molurus, *L.*, Peninsula of India, Bengal, Nepal.

XVI. Sand Snakes—Erycidæ.

Gongylophis conicus, *Schneid.*, Pen. of India, Sikkim.
Cursoria elegans, *Gray*, Afghanistan.
Eryx Johnii, *Russell*, Pen. of India, Panjab, Sikkim.

XVII. Wart Snakes—Acrochordidæ.

Acrochordus Javanicus, *Hornst.*, Penang, Singapore.
Chersydrus granulatus, *Schneid.*, eastern coasts of S. India, Malay Peninsula.

Second Sub-order. Venomous Colubrine Snakes.

I. Terrestrial—Elapidæ.

Naja tripudians, *Merr.*, over nearly entire India.
Ophiophagus elaps, *Schleg.*, over nearly entire India.
Bungarus cæruleus, *Schneid.*, Peninsula of India, Bengal, Assam.
B. fasciatus, *Schneid.*, continent of India.
B. Ceylonicus, *Gthr.*, Ceylon.
B. semifasciatus, *Kühd.*, China, Formosa.
Xenurelaps bungaroides, *Cantor*, Assam.
Megærophis flaviceps, *Reinh.*, Penang.
Callophis bivirgatus, *Boie*, Malay Peninsula.
C. intestinalis, *Laur.*, Malay Peninsula.
C. gracilis, *Gray*, Panang and Singapore.
C. Macclellandii, *Reinh.*, Himalayas, Nepal, Assam.
C. annularis, *Gthr.*
C. trimaculatus, *Daud.*, Tenasserim, Bengal.
C. maculiceps, *Gthr.*, Malay Peninsula.
C. nigrescens, *Gthr.*, Neilgherries.

II. Sea Snakes—Hydrophidæ.

Platurus scutatus, *Laur.*, Indian Ocean, Pacific.
P. Fischeri, *Jan.*, Indian Ocean.
Aipysurus anguillæformis, *Schmidt*, Australia seas.
A. lævis, *Lacep.*, Northern Australia.
A. fuscus, *Tschudi*, Australia.
Disteria doliata, *Laceps.*
Acalyptus superciliosus, *D. and B.*, S.W. Pacific.
Hydrophis Jerdonii, *Gray*, Madras, Penang.
H. Stokesii, *Gray*, Northern Australia.
H. major, *Shaw*, Indian Ocean.
H. robusta, *Gthr.*, Indian Ocean.
H. Belcheri, *Gray*, New Guinea.
H. cærulescens, *Shaw*, Indian Ocean.
H. aspera, *Gray*, Singapore.
H. spiralis, *Shaw*, Indian Ocean.
H. cyanocincta, *Daud.*, Indian Ocean.
H. melanosoma, *Gthr.*
H. subcincta, *Gray*, Indian Ocean.

REPTILES.

H. nigrocincta, *Daud.*, Bengal.
H. elegans, *Gray*, Australia.
H. torquata, *Gthr.*, Penang.
H. chloris, *Daud.*, Madras, Bengal, Penang.
H. Lindsayii, *Gray*, China, Siam, Malabar.
H. atriceps, *Gthr.*, Siam.
H. latifasciata, *Gthr.*, Mergui.
H. coronata, *Gthr.*, Bengal.
H. diadema, *Gthr.*
H. gracilis, *Shaw*, Madras, Java.
H. fasciata, *Schneid.*, Vizagapatam.
H. Cantoris, *Gthr.*, Penang.
H. lapemoides, *Gray*, Ceylon, Madras.
H. longiceps, *Gthr.*, Indian Ocean.
H. stricticollis, *Gthr.*, Indian Ocean.
H. ornata, *Gray*, Indian Ocean.
H. Ellioti, *Gthr.*, Siam, Madras, Ceylon.
H. pachycercus, *Fisch.*, East Indian Archipelago.
H. viperina, *Schmidt*, Madras, Java.
H. ocellata, *Gray*, Australia.
H. anomala, *Schmidt*, Samarang.
H. curta, *Shaw*, Madras.
H. Hardwickii, *Gray*, Penang.
H. loreata, *Gray*, Borneo, Philippines.
Enhydrina Bengalensis, *Gray*, Indian Ocean.
Pelamis bicolor, *Schneid.*, Indian and Pacific Ocean.

Third Sub-order. Viperine Snakes.

I. Pit Vipers—Crotalidæ.

Trimeresurus gramineus, *Shaw*, E. parts of continent.
T. erythrurus, *Cant.*, China, Bengal, Siam, Java.
T. carinatus, *Gray*, Sikkim, Bengal, Rangoon.
T. purpureus, *Gray*, Penang, Singapore.
P. Animallensis, *Gthr.*, Animallay Hills.
T. monticola, *Gthr.*, Nepal, Sikkim.
T. Wagleri, *Schleg.*, Malay Peninsula.
T. strigatus, *Gray*, Neilgherries, Dekhan.
T. trigonocephalus, *Merr.*, Ceylon.
T. microsquamalus, *Cant.*, Assam.
Peltopelor macrolepis, *Beddome*, Animallay Hills.
Calloselasma rhodostoma, *Reinw.*, Siam.
Halys Blomhoffii, *Boie*, Japan, Formosa.
H. Pallasii, *Gthr.*, Tartary.
H. Himalayanus, *Gthr.*, Tibet.
H. Ellioti, *Jerdon*, Neigherries.
Hypnale nepa, *Laur.*, Ceylon, Southern India.

II. Vipers—Viperidæ.

Daboia Russellii, *Shaw*, Ceylon, S. India, Himalayas.
Echis carinata, *Schneid.*, Southern India.

SECOND SUB-CLASS—BATRACHIANS.

THE ORDER OF TAILLESS BATRACHIANS—BATRACHIA SALIENTA.

Oxyglossus lima, *Tschudi*, Siam, Cambodia, China.
Dicroglossus Adolfi, *Gthr.*, Himalayas.
Rana Kuhlii, *Schleg.*, Ceylon, Ningpo.
R. hexadactyla, *Less.*, Ceylon, Madras.
R. cyanophlyctis, *Schneid.*, Ceylon, Southern India, Lower Bengal.
R. tigrina, *Daud.*, Sikkim, Nepal.
R. Liebigii, *Gthr.*, all over India.
R. esculenta, *L.*, China.
R. sylvatica, *Lecomte*, Ningpo.
R. gracilis, *Wiegm.*, from Madras to Southern China.
Hoplobatrachus Ceylanicus, *Peters*, Ceylon.
Pyxicephalus breviceps, *Schneid.*, S. India, Himalayas.
P. rufescens, *Jerdon*, coast of Malabar.
Megalophrys montana, *Kuhl*, Penang, Ceylon.
Xenophrys monticola, *Gthr.*, Khassya, Sikkim.
Cacopus systoma, *Schneid.*, Carnatic.
C. globulosus, *Gthr.*, Russelconda.
Diplopelma ornatum, *D. and B.*, S. India, Ceylon.
D. pulchrum, *Hollow.*, Siam, China.
Bufo vulgaris, *Laur.*, China, Himalayas.
B. calamita, *Laur.*, Tibet.
B. Kelaartii, *Gthr.*, Southern Ceylon.
B. galeatus, *Gthr.*, Cambodia.
B. melanostictus, *Schneid.*, all over India.
B. asper, *Schleg.*, Mergui.
Hylorana macrodactyla, *Gthr.*, Hong-Kong.
H. erythræa, *Schleg.*, Malay Penin., south coast of Siam.
H. macularia, *Blyth*, Ceylon.
H. Malabarica, *D. and B.*, coast of Malabar.
H. temporalis, *Gthr.*, Ceylon.
Polypedates maculatus, *Gray*, all over the continent of India and Ceylon.
P. quadrilineatus, *Wiegm.*, Penang, Singapore.
P. microtympanum, *Gthr.*, Ceylon.
P. pleurostictus, *Gthr.*, Madras Presidency.
P. reticulatus, *Gthr.*, Ceylon.
P. eques, *Gthr.*, Ceylon.
P. Afghana, *Gthr.*, Afghanistan.
Ixalus variabilis, *Gthr.*, Ceylon.
I. temporalis, *Gthr.*, Ceylon.
I. femoralis, *Gthr.*, Ceylon.
I. leucorhinus, *Martens*, Ceylon.
I. schmardanus, *Kelaart*, Ceylon.
Rhacophorus maximus, *Gthr.*, Nepal, Sikkim, Afghanistan.
Hyla Chinensis, *Gthr.*, Southern China, Formosa.
Callula pulchra, *Gray*, Ceylon, Eastern India, China.
C. obscura, *Gray*, Ceylon.
Bombinator Sikkimensis, *Blyth*, Sikkim.

THE ORDER OF TAILED BATRACHIANS—BATRACHIA GRADIENTIA.

Cynops Chinensis, *Gray*, Ningpo.
Plethodon persimilis, *Gray*, Siam.

THE ORDER OF BURROWING BATRACHIANS—BATRACHIA APODA.

Epicrium glutinosum, *L.*, Ceylon, Southern India, Khassya, Siam, Tenasserim.
E. monochroum, *Blkr.*, Singapore.
Cœcilia oxyura, *D. and B.*, Malabar coast.

The reptiles of Southern and Eastern Asia have been described by Dr. Gunther in a volume published by the Ray Society, from information obtained from the museums in London, and from drawings and descriptions by Sir W. Elliot, Mr. B. H. Hodgson, Sir A. Smith, Sir J. E. Tennent, Captain Beddome, and Mr. L. S. Dillwyn; and the labours of Mr. Blyth, Drs. Jerdon, Kelaart, Cantor, Mason, Hooker, Shortt, Ewart, and Sir Joseph Fayrer have also been great. Notices will be given here of the more important species.

Reptiles are oviparous or ovo-viviparous vertebrate animals, with red, cold blood, with three cavities of the heart, breathing by lungs either during the whole period, or at least in the later stages of their growth. They are naked; but frequently the skin shows scale-like folds, or is tubercular, or forms osseous scutes.

The first sub-class, or Reptilia proper, have only one ventricle of the heart, incompletely divided; two atria; never possessing branchiæ at any period of life. One occipital condyle. Skin with scale-like folds, or tubercular, or forming osseous scutes. This sub-class comprises the order of tortoises (Chelonia), that of the lizards (Sauria), and that of the snakes (Ophidia).

The order of *tortoises*, or *Chelonia*, are reptiles with the bones of the thorax united into a carapace. The family Testudinidæ are the land tortoises, but only one species, Testudo elegans, the starred tortoise, occurs in India.

Emys, the Pond Tortoises, Terrapens, a genus of the Emydidæ, or fresh-water tortoises. The species of this genus inhabit all the temperate and tropical regions, except Australia. Formerly (between the latest geological and the historical periods) the genus had even a still greater geographical range than now, a species in a semi-fossil state being found in England and in other European countries, where it is extinct at present. The species undergo great changes in external appearance with age. The Terrapens abound in still waters and tanks in the southern parts of India; perfectly motionless, they rest on the

water, with the shell and the snout raised above its surface, suddenly disappearing at the approach of danger, and darting away with the swiftness of a fish. Their pointed claws enable them to crawl easily over slippery and steep places, and to dig little holes for a small number of elongate ovate, hard-shelled eggs, which in some species require as long a period as from 18 to 20 months before they are hatched. They are chiefly carnivorous, and the flatter the shell, the broader the interdigital web, the more denticulated the jaws, the more aquatic and carnivorous are the habits of the pond tortoises. The food of the carnivorous species consists of water insects, frogs, small fishes, small aquatic birds, and mammals; whilst, on the other hand, they are persecuted by crocodiles and large fishes, and the young and eggs are eaten by numerous other animals. They are not used as food by man, the flesh of most species having a very disagreeable smell, which is also perceptible when first taken out of the water in a net or by a hook baited with meat. Pegu, Sitang, Schwe Gyn, Tenasserim. 7½ inches long.

Batagur baska, the Batagur, another of the Emydidæ of India, is found in the Ganges and Irawadi, abounds at the mouth of the Hoogly; great numbers are brought to Calcutta, where they are eaten by particular castes, and are even kept for sale in tanks. Dr. Cantor caught one in the sea off Penang, with a small hook baited with a shrimp.

Emyda Ceylonensis, *Gray, Shield, Rept.* p. 64, tab. 29 A., is one of the Trionycidæ, or fresh-water turtles. Generally distributed in the lower parts of Ceylon, found in lakes and tanks. Several were kept alive for months in a tub filled with fresh water, fed freely on animal food, and also on bread and boiled rice. A large female laid three eggs, globular, about 1 inch in diameter, with a hard calcareous shell. This and Emys trijuga are put into the wells to act the part of a scavenger. Shell, in fresh specimens, smooth; in drying, the granular surface of the bony shell is apparent.

Trionyx Gangeticus, *Cuv., Regne, Anim.*, is found in the Ganges and its tributaries, upwards to Nepal; at Penang, in rivers and on the sea-coast. It is of fierce habits, defending itself desperately by biting, and emitting, when excited, a low, hoarse, cackling sound. It appears to be far less numerous at Penang than T. Javanicus and Chitra Indica. Shell 23 inches long.

The great Seychelles tortoise is miscalled Tr. Indica by Gmelin, but under that name Mr. Gray unites no fewer than seven of the supposed species admitted by MM. Dumeril and Bibron. According to Dr. Schlegel, the Indian tortoise, probably indigenous to Madagascar and the neighbouring isles, has been acclimated in the Gallapagos Isles, in California, and on several other points on the western coast of South America. But Blyth had been assured, on good authority, that numerous specimens kept in gardens in the Mauritius, have all been brought from the Seychelles Islands in the first instance, that they are still commonly brought from those islands to the Mauritius, and thence we believe the few in India have been imported. The largest seen in India measures 4 feet 4 inches in length over the curve of the carapace, or 3 feet 5 inches in a straight line; transversely 4 feet 2 inches over the high arch of carapace, or in a diameter line 2 feet 2 inches high; when not raised upon the legs, *i.e.* height of shell, 20½ inches; when walking, the shell is lifted fully 6 inches from the ground, if not more; circumference of hind foot, 17½ inches.

Chitra Indica, *Gray, Shield, Rept.* p. 70. Grows to a very large size, and, like the Trionyx, is eaten by the natives of S. Asia, particularly the Chinese. Found in the Ganges and in its tributaries, upwards into Nepal; frequent in the estuaries of the Malayan Peninsula, and said to be found in the Philippine Islands. Specimens weigh 240 pounds; they are very powerful, and of ferocious habits. Shell measures 37 inches.

The fourth family, or Chelonidæ, are Marine Turtles. Marine turtles are at once distinguished by long, compressed, fin-shaped, non-retractile feet, the toes being enclosed in a common skin, out of which only one or two claws project. The carapace is broad and much depressed, so that when these animals are on shore and are turned over on their backs, they cannot regain their natural position. They are thoroughly marine animals; their pinnate feet and their light shells render them the best swimmers in the class of reptiles; they sometimes live hundreds of miles distant from shore, to which they periodically return, in order to deposit from 100 to 250 soft-shelled eggs, which are buried in the sand. The food of some species consists exclusively of algæ; others subsist upon fish and mollusca. They are found in all the intertropical seas; sometimes they travel far into the temperate regions. The flesh and eggs of all the species are edible, although the Indian turtles are much less appreciated in this respect than those of the Atlantic. At certain seasons, the flesh of Chelonia virgata acquires poisonous qualities, and instances of death have been ascribed to its use.

Caouana, *Gray*, has 15 vertebral and costal shields, which are thin and not imbricate. The genus is carnivorous, eating fishes, mollusca, and crustacea; comprises an Atlantic species, the loggerhead, which does not appear to extend into the Indian Ocean; and C. olivacea, confined to the East Indies.

Caouana olivacea, Indian loggerhead. This species is distinguished from its Atlantic congener by the presence of only a single small claw to each of its feet. It is abundant at the mouth of the Hoogly, found in the Bay of Bengal, on the coasts of Malabar and Penang, and in the seas of the Philippine Islands and of China. Its flesh, though relished by the Chinese, is unpalatable to Europeans.

Chelonia, *Flem., Gray, Shield, Rept.* p. 74. Herbivorous, feeding on algæ. Species of Chelonia extend over nearly all the seas between the tropics. Ch. maculosa occurs on the Malabar coast.

Chelonia virgata, the Indian turtle or green turtle, is found on all the coasts of the East Indies. It is at all seasons plentifully taken in fishing-stakes in the Straits of Malacca; in size it equals the Atlantic turtle, which it rivals in flavour. About December and January the female lands to deposit her eggs in the sandy beach of some sequestered island, and then the fishermen watch during the moonlight nights to 'turn turtles.' The eggs are of a spherical shape, about 1 inch in diameter, covered by a soft semi-transparent membrane of a pale-yellow colour. The

expert eye of the fisherman baffles the pains with which the turtle conceals her eggs, and prodigious numbers are disinterred. They are very rich-flavoured, like marrow, and will keep for weeks although exposed to the air. The flesh of this species is sometimes found to be poisonous.

Caretta squamata, hawk-bill turtle, or caret. The hawk-bill turtle, so named from its rather elongated and compressed, curved upper jaw, does not attain to the same size as the other turtles; a shell 2 feet long is considered as extraordinarily large. It is found throughout the Eastern Archipelago, is plentiful only on parts of the coasts of Ceylon (Hambangtotte, Matura), of the Maldives, of Celebes, etc. As, however, turtles always resort to the locality where they were born, or where they have resorted to propagate their kind, and as their capture is very profitable, they become scarcer and scarcer at places where they are known to have been abundant formerly. Some specimens sell in Ceylon for as much as £4, the price depending on the quality of the shell. If taken from the animal when decomposition has set in, the colour of the shell becomes clouded and milky, and hence the cruel expedient is resorted to of supending the turtle over fire till heat makes the shields start from the bony part of the carapace, after which the creature is permitted to escape to the water, where they live; but reproduction of the epidermal shields to a great extent is improbable. At Celebes, whence the finest tortoise-shell is exported to China, the natives kill the turtle by blows on the head, and immerse the shell in boiling water to detach the plates; dry heat is only resorted to by the unskilful.

Dermatochelys coriacea. This turtle, although scarce, appears to be spread throughout almost all the seas of the tropical and temperate regions, having been found in the Mediterranean, on the south coast of England, in the West Indies, at the Cape of Good Hope, on the coasts of the United States, in Chili, in Japan, and in India. A female was caught on the coast of Tenasserim, of entire length 6 feet 2½ inches.

In the *Sauria*, or order of *lizards*, the integuments are with scale-like folds, or osseous scutes, or granular. The greater portion of the saurians are easily distinguished from the other orders of reptiles by their elongate form, by their moveable thorax covered with skin, by the presence of legs, and by their general integuments, which are either folded into scales, or granular, or tubercular, or shielded. Still there are many saurians which at a superficial glance might easily be taken for members of the order of snakes, and there is a gradual transition between both these orders. Many lizards have several layers of cells loaded with several pigments; the animal spreads or compresses these layers by more or less inflating its lungs, whereby the changes in the coloration are effected. Saurians are oviparous; a few ovo-viviparous. They have been divided by naturalists into many families.

The first family comprise the *Crocodiles*, or Crocodilidæ. Fresh-water saurians are found between the tropics wherever the country is watered by sufficiently large rivers or lakes. The most conspicuous characters of the crocodiles refer to their thoroughly aquatic life; but these characters are combined with an extremely powerful development of those organs which render the crocodiles the most formidable of all the carnivorous fresh-water animals. The back, the tail, and the belly are protected by a dermal armour composed of quadrangular shields, which are arranged in regular longitudinal and transverse series. A considerable proportion of the food of the crocodile is fish, the proverbial swiftness of which is of little avail when pursued by these reptiles. They fall an easy prey, especially to the young animals; the active old animals, requiring a greater quantity of food, attack every large animal which accidentally approaches them, and, in overpowering it, the whole of their powerful organization is called into requisition. Seizing the victim between their capacious jaws, and fastening their long, pointed, conical teeth into its flesh, they draw it, in one moment, by their weight and with a stroke of the tail, below the water, and drown it. Their gullet, however, is much too narrow to allow of the passage of the entire body of the victim; and their teeth being adapted for seizing and holding fast only, and not for biting, they are obliged to mangle the carcase, tearing off single pieces by sudden strong jerks. This is performed chiefly by lateral motions of the head and front part of the body; and the bones of the head of the crocodile are much more firmly united with one another, and the processes of the cervical vertebræ much more developed, than in any other saurian. Indian crocodiles inhabit rivers and estuaries, also the sea-coasts, and in calm weather may be seen floating at a distance of two or three miles from shore. Those inhabiting small inland waters which are dried up during a drought, are compelled to wander about in search of water, in which alone they can procure their food; they do this during the night. Some of them, however, especially large individuals, bury themselves in the mud, as many fresh-water tortoises and fish do, and remain in a state of torpor below the hard crust during the time of the drought. It is during that period shortly after they have been released from the state of an enforced fasting, that they are most formidable. A man seized by a crocodile has only one way of saving his life, if not his limb, namely, to force his fingers into the eyes of the beast, which immediately lets go its victim,—a practice equally known to the Indian of South America, to the Negro of Africa, and to the Hindu. It is not difficult to catch a single depredator by a hook baited with flesh or entrails, and made fast by a bunch of strong, thin cords, which it cannot gnaw asunder, as they sink into the spaces between the teeth. It is not easy to kill them on the spot, except by a ball sent through the eye into the brain, or through the neck to the spinal cord. Of course a severe injury to any of the vital parts will prove fatal to them, but not before days or weeks have elapsed. All the crocodiles are oviparous; the eggs have a hard shell, and resemble in size and shape those of a goose; from 20 to 60 are deposited in a hollow near the banks, and slightly covered over with mould or sand. The young crocodiles are of a rather rapid growth. One hatched at Madras in 8 years increased to the length of 8 or 9 feet, and was so powerful as to destroy a full-grown buck antelope, which had come to drink water at the tank to which it usually resorted. Alligators are

found only in the New World, but the British in India almost universally apply this name to the Indian crocodiles. Crocodiles are found in America, Africa, Asia, and Australia.

In rivers a single crocodile will often appropriate to himself a limited district, which, if it happen to be in the vicinity of a village, will soon be perceived in the loss of the grazing cattle. Instances are on record of Malays who, to avenge the loss of a relative, have watched the crocodile, and, by diving from below, plunged a kris into its heart. The eggs are white, the shell hard, of a cylindrical form, upwards of 3 inches in length, and about 1½ inch in diameter.

Crocodiles are numerous in all the tide-water streams of Burma. During a two hours' pull up a small river, Mr. Mason once counted 14 sunning themselves on the mud banks. They often carry off the natives; and a single animal, emboldened by his successes, will usurp dominion over a particular portion of a river, where he becomes the terror of every boat's crew that passes. The steersman occupies the most dangerous position, for the crocodile's mode of attack is to glide up silently to the bow or stern of a boat, then turn suddenly, when with one stroke of his powerful tail, close to the top of the boat, he sweeps into the water whoever is within its reach, and the stunned victim becomes an easy prey. A Karen chief, with whom Mr. Mason was acquainted, perished in this way at a point in the river Gaing which had previously been known as the demesne of one of these river monarchs. Persons sleeping on their boats moored to the shore, have sometimes awoke in the jaws of these monsters, and one carried off a Burman from the back of a buffalo that he was riding across a small stream, under the very shadow of the walls of Tavoy.

Crocodilus porosus, *Schn.* This, the larger and fiercer of the two crocodiles, is found in various localities both on the east and west coasts of the Peninsula of India.

Gavialis Gangeticus, the gavial or nakoo. The length of the snout equals that of 9 or 10 of the dorsal shields. Old male specimens have a large cartilaginous hump on the extremity of the snout. Ælian noticed that the Ganges is inhabited by crocodiles which have a horn on the end of the snout, perforated by the nostrils, and containing a small cavity for the reception of air, so that the males are enabled to remain under water for a longer time than the females. The gavial attains to a length of 20 feet. The correct term is garial.

The family of the Water Lizards are the *Varanidæ*. The family contains the largest species of lizards; the greater part of them live in the neighbourhood of large rivers, and are excellent swimmers, their long, compressed tail serving as a propeller; they are carnivorous, feeding on all different water animals and on the eggs of birds, and likewise on those of other large reptiles. Their movements on land are not much less rapid than in the water. Several species climb trees; they are active during a part of the night. They are found in tropical Africa, Asia, and Australia.

Varanus Bengalensis. The Karen are extravagantly fond of their flesh; they steal up the trees with a noose at the end of a bamboo, and often noose them while leaping for the water, or catch them in the boat, which is brought under the tree. The head of this species, the natives say, is venomous, and they discard it altogether; but the flesh of the other parts, which smells most odiously, is deemed by the Karens much preferable to fowls.

Varanus dracæna, common water lizard. A most common species in all British India, Bengal, Nepal, Southern India, and Ceylon. It is called in India the Iguana, is found in great abundance in all the maritime provinces of Ceylon, rarely in the higher Kandyan districts. This species of the water lizards can climb well both trees and walls, and it is popularly believed that thieves make use of it to effect an entrance into a building or over a wall, by allowing their guana to get hold by its fore-claws of the window-sill or wall, and pulling themselves up by it. It is eaten by the natives, who consider it highly nourishing and aphrodisiac, and many Europeans use it for soup, imagining it allied to the West Indian guana. It can always be procured in the Madras market.

Varanus salvator, *Laurenti.* During the day it is commonly observed in the branches of trees overhanging rivers, preying upon birds and their eggs and smaller lizards, and when disturbed, it throws itself from a considerable height into the water. When attacked on level ground, it attempts its escape by running, if possible towards the water. Its quickness, however, is not so great as to prevent a man from overtaking it, when it will courageously defend itself with teeth and claws, and by strokes of the tail. The lowest castes of Hindus capture these lizards commonly by digging them out of their burrows on the banks of rivers, for the sake of their flesh, which by these people is greatly relished. Some individuals attain to nearly 7 feet in length, but the majority are smaller.

Hydrosaurus salvator, *Gray*, ocellated water lizard, is an inhabitant of the Archipelago, East Indian continent, China, Siam, Ceylon. It is very numerous in hilly and marshy localities of the Malayan Peninsula. It is commonly, during the day, observed in the branches of trees overhanging rivers, preying upon birds and their eggs and smaller lizards, and when disturbed it throws itself from a considerable height into the water. It will courageously defend itself with teeth and claws and by strokes of the tail. Low castes in India dig them out of their burrows on the banks of rivers, their flesh being greatly relished. Some attain to nearly 7 feet in length.

The fifth family comprises the Skinks, or *Scincidæ*. The species of this family are exceedingly numerous, and inhabit almost every part of the tropical regions, some extending into the temperate zones. They are thoroughly land lizards, preferring dry ground, and hiding themselves in the sand, under stones, etc. None of them enter the water. They do not attain any considerable size.

Euprepes Chinensis. This is one of the most common and most widely-spread lizards of the East Indies. It occurs in almost every part of the continent as well as of the Archipelago, from Afghanistan to China and the Philippine Islands; it is even said to inhabit the Sandwich Islands. It is not found beyond an elevation of 8000 feet. Cantor says that it is exceedingly numerous in

the hills and valleys of the Malayan countries. They may be seen basking in the sun, in bamboo hedges, or on trees; and they fearlessly enter houses in pursuit of insects, in which they display great agility. The female deposits 6 to 12 yellowish-white, oval, cylindrical eggs, half an inch in length.

The eighth family are the Geckos, or Geckotidæ. The limbs are stout, of moderate length, with at least four of the toes well developed. They are found in almost every part between and near the tropics, frequenting houses, rocks, and trees; and some of the species are so numerous around and within human dwellings, that they are most familiar objects to the inhabitants. All the Indian species, with the exception of Eublepharis, are able to run up and along the surface of a wall or of any other perpendicular object, the lower surface of their toes being provided with a series of moveable plates or discs, by the aid of which they adhere to the surface over which they pass. No gecko has imbricate scales on the back. The geckos do not attain to any considerable size, the largest species being from 10 to 14 inches long. They are carnivorous animals, destroying insects, moths, and even the younger and weaker members of their own species. Geckos have even been seen devouring their own tail. They are of fierce habits, fighting between themselves, particularly when one has caught a larger insect than he is able to swallow at once. They make a spring at their victim. Their greediness has developed some intellectual faculties in the house geckos; accustomed to be fed at a certain time with rice, etc., these little lizards will punctually make their appearance, and fearlessly take proffered food. Another peculiarity of the geckos is that they are endowed with voice. In Gecko guttatus it is a shrill cry, sounding like 'to-kee;' in Gecko monarchus it resembles the monosyllable 'tok,' repeated six or eight times with increased celerity; in Hemidactylus frænatus it is a sharp, quick call, like 'chic, chic, chit,' etc. They have several vernacular names in imitation of these sounds, as Too-kai, To-kee, Cheecha, Gokee, Keko, Gecko.

Gecko monarchus, *Gray, Lizards*, p. 161, possesses the power of changing its ground colour in a greater degree than any other gecko. It is very numerous at Penang, swarming at night in rooms. They are pugnacious among themselves, two or more sometimes fighting for an insect.

Ptychozoon homalocephalum, the flying gecko, attains to a length of 7 inches, of which the tail takes one-half. It is found chiefly in Java and in a few other islands of the Eastern Archipelago. Penang, Singapore, and the island of Ramree appear to be the only other places where it has hitherto been found in India. The expansions of the skin have the same purpose as the wings of the dragons and of the flying squirrels. In leaping, these membranes are expanded by the pressure of the air from below, and act as a parachute. When the gecko is at rest, they are kept in close contact with the body by muscles attached to their interior surface. Like other geckos, they have in some degree the power of changing the ground colour from a darker to a lighter shade.

Hemidactylus coctœi, the common gecko or small gecko. The spider of the English Bible, Proverbs xxx. 28, was undoubtedly a small gecko represented by this species, and the word was so rendered in the Syriac version made in the 2d century, and in the Vulgate Latin made in the 4th century. Jerome translated, 'Stellio manibus nititur, Et moratur in ædibus regis,' into

> 'The gecko taketh hold with her hands,
> And dwelleth in kings' palaces.'

Hemidactylus frænatus is the cheecha of Ceylon. It scarcely ever exceeds the length of 4 to 5 inches, and is one of the most common house geckos; seen soon after sunset in search of prey, which consists of flies and other insects. It does not reject boiled rice and crumbs of bread, always returning to the spot where it has been thus before fed. It is also frequently met with on trees and on rocks. The female lays three or four eggs, in crevices of old walls or in the hollows of trees. This small species is of fierce habits, like several other Geckonidæ, destroying its own species.

The ninth family are the Agames, or *Agamidæ*. The agames are land lizards, spread over almost every part of the Old World and of Australia, being much less numerous in the temperate parts than in the tropical, — some with a compressed body, and with a long, more or less compressed tail, live on trees or bushes; whilst others, with a depressed body, and with a shorter tail, inhabit rocks or plains. The most slender and the most gaily-coloured forms belong to the former division, the heavier ones, with duller colours, to the latter. They do not attain to any considerable size, and none of the Indian species exceed a foot in length, the tail not included. The greater part are insectivorous, but many feed on vegetables (seeds, fruits, leaves), as well as on animals.

Draco, *Linn.*, the dragons, a genus of the Agamidæ, have a semicircular membrane, supported by the five or six posterior (false) ribs, which are much prolonged, forming a sort of wing or parachute on each side of the body. A vertical appendage is suspended from the middle of the throat; a smaller horizontal fold of the skin on each side of the gular appendage. The dragons are entirely confined to the East Indies; they are more numerous in the Archipelago than on the continent; they have not yet been found in Ceylon. The character by which they are at once recognised is the peculiar additional apparatus for locomotion formed by the much-prolonged five or six hind ribs, which are connected by a broad expansible fold of the skin, the whole forming a sub-semicircular wing on each side of the body. The dragons are tree lizards, and in jumping from branch to branch they are supported in the air by their expanded parachutes, which are laid backwards at the sides of the animal while it is sitting or merely running. If the hind extremities of a dragon were cut off, it would lie helpless on the ground; but it would still move with great velocity if it were merely deprived of its wings. The locomotion of the dragons is a series of leaps, and not a continuous running; they are the anoles of the Old World. The transcendent beauty of the colour of Draco volans baffles description. As the lizard lies in the shade along the trunk of a tree, its colours, at a distance, appear like a mixture of brown and grey, and render it scarcely distinguishable from the bark. Thus it remains,

with no signs of life, except the restless eyes, watching passing insects, which, suddenly expanding its wings, it seizes with a sometimes considerable unerring leap.

Sitana ponticeriana, *Cuv.* This common ground lizard is distributed over all India, but is rare in the wooded districts, frequenting the open country, field, and low copses. On the approach of danger, it runs with great rapidity, tail erect, and conceals itself in any crack in the ground or hole, or under a stone or bush. Notwithstanding its activity, it is the common prey of harriers, buzzards, hawks, and eagles.

Calotes are true tree lizards, some having the tail rather compressed at the base. C. versicolor is the blood-sucker. The ground colour is generally a light-brownish olive, but the lizard can change it to bright red, to black, and to a mixture of both. The bright changeable colours are peculiar to the male during the breeding season, in the months of May and June, and it then may be seen seated on a hedge or bush, with the tail and limbs black, head and neck yellow picked out with red, and the rest of the body red. This is one of the most common lizards, extending from Afghanistan over the whole continent of India to Ceylon and China; not extending into the temperate zone of the Himalaya. Ceylonese specimens are generally somewhat larger; one of them measured 16 inches, the tail taking 11 inches. It is found in hedges and trees. The name of blood-sucker, in the opinion of Kelaart, was given from the occasional reddish hue of the throat and neck.

A tenth family are Chameleons, or *Chamæleonidæ*. Africa is inhabited by numerous species; they extend to the northern shores of the Mediterranean and into South-Western Asia, into Hindustan and Northern Ceylon. The inflexibility of the neck is compensated by the wonderful structure of the eyes, which are so prominent that more than one-half of the ball stands out of the head; and not only can they be moved in any direction, but each has an action independent of the other, — one eye may be looking forward, whilst an object behind the animal is examined with the other. The faculty of changing colour possessed by the chameleons, although common to numerous other lizards, has become proverbial, and is so much developed that one side may assume a colour different from that of the other. They are oviparous, depositing under leaves from ten to twelve oval eggs with calcareous shells. The species have been left together in one genus; only one species is found in British India.

Most of the Indian specimens are of a green colour, uniform, or irregularly spotted and banded with dark green or brown; whilst in African species the ground colour is greyish, olive, yellowish, or brownish. This, however, does not appear to amount to a specific difference. In the Peninsula of India and northern parts of Ceylon it attains to a length of 10 inches, the tail taking more than one-half.

The *Ophidia* comprise the order of Snakes. There is no sharp boundary line between the order of saurians and that of snakes. Certain ophidians remind us, by several characters, of the saurian type; such as the snakes forming the first four families, which are distinguished by polished, closely-adherent, rounded, sub-equal scales, much resembling the smooth scales of some scincoids. A peculiar mobility of the jaw-bones enables snakes to extend the gape in an extraordinary degree, and to work their prey down through the collapsed pharynx. The Pythonidæ and Erycidæ have rudiments of hind limbs. Generally the snakes are provided with numerous teeth, which are elongate, conical, thin, and pointed like a needle, and more or less bent backwards. Non-venomous snakes' teeth are either entirely smooth, or only the last of the maxillary series is provided with a faint longitudinal groove, which is not intended to convey a poisonous saliva into a wound, as the saliva of these snakes has never been proved to be poisonous; the groove appears to increase the strength of the tooth. The poisonous snakes are armed with a long canaliculated tooth in front of the upper jaw; the channel terminates in a small slit at the extremity of the tooth, and is in connection with a duct which carries the poisonous fluid from a large gland to the tooth. At the moment the snake opens its mouth to bite, these muscles compress the gland, and force its contents through the excretory duct into the channel of the venom-tooth, whence it is injected into the wound. The structure of the venom-tooth is not the same in all poisonous snakes; in some it is fixed to the maxillary bone, which is as long, or nearly as long, as in the non-venomous snakes, and generally bears one or more ordinary teeth on its hinder portion. The poisonous snakes with such a dentition have externally a mor striking resemblance to the non-venomou ents, and on this account they are desig as venomous colubrine snakes, forming second sub-order of snakes (cobra, bungarus sea-snakes, etc.). In the other venomous s kes, the third sub-order, the maxillary bone is extremely short, and does not bear any teeth except an exceedingly long fang, with a perfectly closed, externally invisible, channel in its interior. Although this tooth also is fixed to the bone, the bone itself is very mobile, so that the tooth, which is laid backwards when at rest, can be erected the moment the animal prepares to strike. This tooth, like all the other teeth, is not only occasionally lost, but appears to be shed at regular intervals. The greater part of the snakes are oviparous, the eggs having an oblong form, and a soft, leathery shell. The pythons alone incubate their eggs, whilst all the other oviparous snakes leave them to the heat of the place where they have been deposited. Other snakes (the fresh-water and poisonous species) are viviparous, the embryos being developed in the oviduct of the mother. There may be distinguished—

Burrowing snakes, living under ground, only occasionally appearing above the surface.

Ground snakes live above ground, and only occasionally climb bushes or enter the water.

Tree snakes, or species passing the greater part of their life on bushes and trees, which they climb with the greatest facility.

Fresh-water snakes, distinguished by the position of the nostrils, which are placed on the top of the snout, and by a tapering tail. They inhabit fresh waters, and are excellent swimmers and divers.

Sea-snakes, distinguished by a strongly compressed tail, and by the position of the nostrils,

which are placed as in the last group. They live in the sea only, occasionally approaching the land, feed on marine fish, are viviparous and venomous.

Tropical India surpasses every other part of the globe in the number of ophidian forms.

The degree of danger from a bite by a poisonous snake depends but little on the species which has inflicted the wound, but rather on the bulk of the individual, on the quantity of its poison, on the temperature, and on the place of the wound. If a large blood-vessel be pierced by the fang, the poison is carried instantaneously into the mass of the blood, and sudden death is almost always the result. Although it is always possible to recognise the venomous nature of a snake from external characters only, yet this requires such a knowledge of snakes as can be attained only by a special study of them. The wound itself speaks for or against the venomous nature of a snake which has bitten. When there are numerous punctured wounds disposed in two lines, the snake is not poisonous. If the wound is on some part of the hand, arm, or foot, one or two ligatures should be made as tightly as possible at a short distance above the wound, to prevent the absorption of the poison. The ligature is left until the proper means are taken to destroy the virus in the wound, and until medicine is taken internally, or until great pain or swelling necessitate its removal. Punctured wounds should be enlarged by incisions at least as deep as the wounds, to cause a free efflux of the poisoned blood, and to facilitate its removal by sucking. The wounds should be sucked either by the patient himself or by another person whose mouth is free from any abrasion or wound; cupping-glasses answer the same purpose in cases where they can be applied. The wound should be washed with ammonia, and its vicinity rubbed with it. Cauterization with a red-hot iron, or with sulphuric acid, butter of antimony, nitrate of silver, etc., are of great advantage, if done before the virus has spread far beyond the place of the bite. Internally, ammonia should be taken in large doses,—one, two, or three wine-glasses of the eau-de-luce. Brandy may be taken at short intervals. Dr. Shortt believes that ammonia is useless, and has strong faith in liquor potassæ. To prevent a complete collapse, it is necessary to use these strong excitants, and to repeat them until the alarming symptoms are allayed. It would be a great risk in such a case to trust to the remedies of a snake-charmer.

The *Colubridæ* family comprises the greater part of the non-venomous snakes, namely, all those which do not present any striking character either in their general habit, in the shields of the head, in the dentition, or in any other part of their organization. They have numerous teeth in the jaws and on the palate, but no fangs in front or in the middle of the maxillary. Numerous species of Coluber, *sp.*, *Linn.*, are found in North America, Europe, and Asia; those in British India belong to the northern parts of this region, scarcely extending southwards into the tropical region.

Ptyas mucosus, *Cope*, is the Indian rat snake. It is light brownish-olive, scales with darker margins, is one of the most common species on the continent and in Ceylon, and appears to occur everywhere; it is scarce in the Archipelago, as its occurrence has been recorded in Java only; on the other hand, it is not rare in Chusan and Formosa. In the Himalaya it ascends to only 5240 feet above the level of the sea. It is a powerful snake, attaining to a length of 7 feet, the tail being one-third, or rather more. Its food consists of mammals, birds, and frogs; it frequently enters the dwellings of man, in search of mice, rats, and young fowls. It is of fierce habits, always ready to bite, and old specimens brought to Europe never become tame. Cantor says that it utters, when irritated, a peculiar diminuendo sound, not unlike that produced by a gently struck tuning-fork.

Tropidonotus junceus, *Cantor*, inhabits Penang, and, like most of the Asiatic species of this genus, is of fierce habits.

Tropidonotus quincunciatus and T. umbratus. The former is the most widely-spread species of the East Indies, ranging from Mesopotamia into the southern parts of China, and inhabiting most of the islands of the western half of the Archipelago. It abounds near rivers and pools, feeding on frogs and fishes; it attains to a length of 3 feet, and is of fierce habits. The ground colour of the upper parts is generally greyish or brownish-olive.

Tropidonotus macrophthalmus. This species may be at once distinguished by its large eye, and by its dilatable neck, the scales of which show an arrangement very similar to that of a cobra, for which it is frequently taken. Found in Khassya and Sikkim,—in the latter country at an elevation of 4000 feet. Attains to 39 inches, the tail measuring 7 inches.

Tropidonotus stolatus, *Boie*, *Isis*. This is perhaps the most common species of snake on the East Indian continent, ranging from Ceylon through the Peninsula, along the southern slope of the Himalayas to Southern China (Formosa); it is scarcer in the Malayan Peninsula and the northern parts of Siam, and appears to be entirely absent in the Archipelago. It is of very gentle habits, feeding on small frogs; it attains to a length of 2 feet, but generally smaller.

Another family are Fresh-water Snakes, the *Homalopsidæ*. All the Indian fresh-water snakes of this family have a grooved fang at the hinder extremity of the maxillary bone. They are aquatic, and are only occasionally found on the beach; several of them even enter the sea, and in several points of their organization approach the truly marine snakes, with which they have been associated in Gray's system. They may easily be recognised by the position of the nostrils on the top of the snout, which enables them to breathe by raising but a very small part of their head out of the water; it is the same arrangement as that in the crocodiles, sea-snakes, and other aquatic animals. Many have a distinctly prehensile tail, by means of which they hold on to projecting objects. Their food consists entirely of fish, and, in a few species, of crustacea also. All of them appear to be viviparous, and the act of parturition is performed in the water. They do not grow to any considerable size, are of a gentle disposition, and their bite would be by no means dangerous. They will not feed in captivity, and therefore die after a short time.

Psammodynastes pulverulentus, *Gunth.*, is one of the family *Psammophidæ* or Desert Snakes.

This one has a very repulsive aspect; its dark, undefined colours, short and thick head, and swollen lips, caused by large hidden fangs, give it the appearance of a venomous snake.

The tenth family are Tree Snakes, or *Dendrophidæ*. They are diurnal species, living in trees, and feeding chiefly on tree lizards; they are found in all the tropical regions.

The Whip Snakes, or *Dryophidæ*, are the eleventh family. Asiatic species have a long fang-like tooth in the middle of the maxillary, and all provided with a posterior grooved tooth.

The twelfth family are the Dipsades, or *Dipsadidæ*. All the Indian species with a grooved fang behind; and several, moreover, with fangs in front. The Indian dipsades are nocturnal tree snakes, with a vertical pupil, a short, broad head, and compressed, elongate body.

The thirteenth family are Lycodontes, or *Lycodontidæ*. Lycodon aulicus is one of the most common snakes of the Indian continent and Ceylon; it does not extend northwards to China, and becomes scarcer on the coasts of the south-eastern parts of India. It occurs in only a few of the islands—in the Philippines and in Timor.

The *Amblycephalidæ*, or Blunt-heads, is the fourteenth. Amblycephalus boa is one of this family. The head of this singular snake resembles much that of a mastiff, the lips being arched and tumid; it climbs with great facility, frequenting the roofs of the huts of the natives in pursuit of its food, which consists of insects. It belongs properly to the fauna of the Archipelago, inhabiting Java, Borneo, and the Philippine Islands. Cantor found it at Penang. It does not appear to be common anywhere. It readily bites; and attains to a length of 3 feet, the tail being one-third.

Rock Snakes, or *Pythonidæ*, are a fifteenth family. The rock snakes are found in the hottest parts of Africa, Asia, the East Indian Archipelago, and Australia. They climb as well as they swim; most of them prefer the neighbourhood of water. This family contains the largest snakes. Only one genus, the python, is found in British India.

Python reticulatus and P. molurus, two species of Indian rock snakes, are among the largest of living reptiles. Of snakes, only their African congeners and the American Eunectes murinus can be placed beside them. Their dimensions and their strength, however, have been much exaggerated; specimens of 18 to 20 feet in length are very rare, although isolated statements of the occurrence of individuals which measured 30 feet are on record and worthy of credit. Rock snakes from 15 to 20 feet long have the thickness of a man's thigh, and will easily overpower a small deer, a sheep, or a good-sized dog. The rock snakes must attain to a considerable age. A Python reticulatus lived in the menagerie of the Zoological Society of London for 15 years; when brought to England it was about 11 feet long, and in ten years it had attained to a length of 21 feet, after which no further growth could be observed. The males remain smaller than the females. The rock snakes will propagate in captivity,—the Indian P. molurus having bred in Paris, and the African P. sebæ in London. In both cases the eggs were incubated by the mother, and in the former successfully hatched.

Python reticulatus, *Gray*. It often takes up its abode in outhouses, preying at night, and is thus useful in destroying vermin, although plunder is occasionally committed in poultry yards. When kept in captivity, it is of importance to supply it with a small tank of water, in which it will frequently remain for days. Individuals of 16 feet in length are not of rare occurrence, and some about 30 feet long are on record. This species of the pythons of South-Eastern Asia is very numerous in the Malayan hills and valleys, feeding upon quadrupeds and birds. Dr. Montgomerie had seen in George Town, Penang, a young one which the inhabitants suffered to retain unmolested possession of the rice stores, in order to secure them against the ravages of rats.

Python molurus, *Gray*. The ground colour is light greyish-brown. This python, commonly known under the name of rock snake, and by some misnamed boa, is almost peculiar to the continent of India. Common in the Southern Peninsula and in Bengal, it extends northwards into the sal forest at the foot of the Himalaya, and probably to Southern China.

The Herpetodryas oxycephalus of Reinwardt has in a remarkable degree the power of laterally compressing the neck and the anterior part of the body, when the greyish-blue skin becomes visible between the separated scales. In such state of excitement, it raises nearly the anterior third vertically from the ground, continues fixed during several seconds with vibrating tongue, and bites. It then throws its [illegible], to rise to a renewed attack.

The seventeen[illegible]mily are Wart Snakes, *Acrochordidæ*.

Chersydrus gra[illegible]tus is found in the rivers and on the sea-co[illegible] of numerous islands of the Archipelago, exte[illegible]ng to New Guinea and the Philippines. It inhabits also the eastern coasts of Southern India and the Malayan Peninsula, and sometimes it may be seen three or four miles distant from the shore. It is not venomous, as has been stated by writers.

The terrestrial family of Elapides, or *Elapidæ*, are venomous colubrine snakes; the fang is grooved, with a foramen at its extremity; one or two small ordinary teeth at a short distance behind it.

Naja tripudians, *Merr.*, has eight varieties, forming but one species, which is widely spread all over the E. Indies. Its chief enemies are the jungle-fowl, which destroy the young brood, and the herpestes or ichneumons, which will attack and master the largest cobra. In districts where the cobras or other venomous snakes have too much increased in number, the most efficient way of destroying them is to protect their natural enemies. The cobra is the most common venomous snake of the East Indies.

Ophiophagus elaps. This remarkable snake is easily recognised by the large shields surrounding the occipitals. Although rather rare, it has a very wide geographical range: in almost every part of the Indian continent, the Andaman Islands, Java, Sumatra, Borneo, the Philippine Islands, and, according to Dumeril, also in New Guinea. It is one of the largest and most deadly venomous snakes, attaining to a length of more than 12 feet, of which the tail is about one-fifth. It inhabits hollow trees, and is sometimes found resting between the branches; it feeds on other snakes.

Bungarus species are not numerous in the Malayan countries, but B. candidus and B. fasciatus are of no uncommon occurrence in Bengal and on the Coromandel coast, where, however, it should be observed, a class of the natives ('serpent charmers') earn a livelihood by capturing and exhibiting serpents; this craft is unknown among the Malays. B. flaviceps, B. candidus, and B. fasciatus, like the rest of the venomous serpents, are very ferocious when attacked, but unprovokedly they are not known to attack man; on the contrary, when met in the jungle, they attempt to escape. When trod upon, or struck, their rage is instantly excited; in self-defence they will even turn from their retreat, and then their habitual sluggishness is roused to furious activity. Preparing to attack, the head is, by a short curve of the neck, brought closely to the body, and drawn far backwards, when, suddenly darting the anterior part of the body obliquely upwards, they bite. The height of the place where the wound is inflicted of course depends on the length of the serpent, which is capable of darting nearly the anterior half of the body. Notwithstanding the circular pupil, they appear to shun the light, hiding the head under the folds of the body; and they are singularly uncertain in their movements, often suddenly jerking the head or tail without any apparent object. Like all serpents of tropical Asia, they seldom expose themselves to the sun; when during the day they leave their hiding-places, they select [illegible] The genus Bungarus is terrestrial, feedi[illegible]s, mice, serpents (Col. mucosus, *Linn.*), [illegible]oads. Like other venomous serpents, when venom has been inflicted on their prey, they disengage it from the fangs, sheath and place them as horizontally as possible, in order that they may offer no resistance to the introduction into the mouth of the lifeless prey, which is now seized head-foremost. The innocuous serpents bite or strangle their prey, which, when life is extinct, is either swallowed at once, or, if it happen to have been killed in a position likely to render the deglutition difficult, is often disengaged from between the teeth, and seized a second time by the head. In captivity these serpents refuse food, but greedily lap up and swallow water. A fowl, four minutes after it had been bitten on the inner side of the thigh by a Bungarus fasciatus, fell on the wounded side, and was shortly after seized with slight purging. The eyes were half closed, the pupils alternately dilated and contracted, immobile. In 17 minutes slight spasms occurred, under which the bird expired 43 minutes after it had been wounded. Another fowl, wounded in the same place as the former, by the same serpent, but after an interval of seven hours, expired under similar symptoms, only more violent spasms, in the course of 28 minutes. Venom taken from another serpent, the fangs of which had been extracted, was inoculated by a lancet-incision in the right thigh; four minutes after, the fowl was seized with trembling, fell, and remained lying on the wounded side, with the eyes closed, but it gradually recovered, and rose, apparently recovered, 30 minutes after the inoculation of the venom. Other fowls were killed by different serpents of this species in 20 to 31 minutes. Fowls bitten by Bungarus candidus expired under similar symptoms, within 30 to 45 minutes; dogs from within 1 hour 10 minutes to 2 hours, under symptoms noted in Russell's Experiments. The venom of Naja lutescens, *Laurenti*, was carefully obtained, so as to avoid any admixture of saliva, by compressing the venomous glands. It issued from the lower aperture of the fangs in viscid drops of a syrupy consistency, and was received as it fell from the fangs in platina capsules. The serpents operated upon were an adult cobra di capello, Naja lutescens, *Laurenti*, and one of its varieties, Naja kaoutdia, *Belanger*. In every instance the venom readily changed the blue of litmus to red, and restored the bright yellow to turmeric paper that had been reddened by the application of caustic alkali,—an unequivocal proof of acidity. When left to spontaneous evaporation, it dried into a varnish resembling mucilage, or the glair of an egg, cracking in all directions; and on being heated, it deposited an abundant coagulum, apparently albuminous. In either instance, when redissolved it retained its acid property.

What the nature of this acid may be, it was impossible to determine from the small quantity operated upon; nor was Dr. Cantor prepared to say that the poison itself is an acid, although, if it be not so, it is certainly associated with one. The poison itself probably consists of some compound, which would be wholly disorganized under any attempts at detection by chemical means.

The *Hydrophidæ* are a family of Sea-snakes. The sea-snakes are inhabitants of the tropical parts of the Indian and Pacific Oceans, extending from the coast of Madagascar to the Isthmus of Panama; they are most numerous in the East Indian Archipelago, and in the seas between Southern China and North Australia, being represented on the outskirts of the geographical range we have mentioned by only one species, and that the most common, viz. Pelamis bicolor. The most striking feature in the organization of the sea-snakes is their elevated and compressed tail, the processes of the caudal vertebræ being much prolonged and styliform. The food of the sea-snakes consists entirely of small fish; all the species are viviparous, bringing forth, without leaving the sea, from four to nine young ones. They have very formidable and very numerous enemies in the sea eagles (Haliætus), in the sharks, and other large raptorial fishes. There is no other group of reptiles, the species of which are so little known, and the synonymy of which is so confused, as that of the sea serpents. Our present knowledge of the geographical distribution of most of the species is extremely vague.

The *Crotalidæ* are a family of Pit Vipers. The pit vipers are found only in Asia and America, those of the New World surpassing the Asiatic species in size, and therefore they are much more dangerous.

The *Trimeresures* are Tree Snakes, as is indicated by their prehensile tail and by their green or variegated coloration. In general they are sluggish, not attempting to move out of the way; and as they very closely resemble the branch on which they rest, they are frequently not perceived until they prepare to dart, vibrating the tail and uttering a faint hissing sound, or until they have bitten the disturber of their rest. The bite of larger specimens, from 2 to 3 feet long, is more dangerous and has occasionally proved fatal. When roused,

these snakes are extremely fierce, striking at everything within their reach; and Cantor says that in the extreme of fury they will fix the fangs in their own bodies.

Trigonocephalus Sumatranus, *Raffles*. In Malayan countries this variety is not of so rare occurrence as the species appears to be in Sumatra. Tr. puniceus is in general sluggish, but when roused is of ferocious habits; Tr. gramineus, Tr. Sumatranus, and Tr. puniceus resemble the genus Bungarus; their mode of attack is also similar; like Vipera Russellii, *Shaw*, when it prepares to dart, they vibrate the prehensile tail, and utter a faint hissing sound. As the pupil is vertically contracted by the light, they frequently miss their aim, and, like Bungarus, Naja, Vipera Russellii, and Hydrus, in the extreme of fury they will fix the fangs in their own bodies. In Bengal, most terrestrial serpents keep to the water during the hot season, but the rains send them abroad in search of dry localities. Although this genus has venomous organs as highly developed as Crotalus or Vipera, the effects produced by wounds of two species at least appear to be less dangerous.

Hydrus schistosus is incredibly numerous in the Bay of Bengal, at Penang, and Singapore, far more so than any known terrestrial serpent. The fishing-nets are hardly ever worked but that one or more are among the contents. The large individuals are very ferocious; the young ones are less so. Fortunately for the fishermen, the light blinds these serpents, which when out of their proper element become very sluggish and soon expire. This accounts for the safety of the class of men whose daily calling brings them in immediate contact with animals the wound of which is fatal. The fishermen in the Straits of Malacca are aware of their danger, and therefore take care to avoid or destroy these reptiles while landing the fishes. The Malays denominate them Ular Laut, *i.e.* serpents of the sea; among which, however, the innocuous Acrochordus granulatus, *Schneider*, is also comprised as an inhabitant of the coasts.

The incantation of serpents has usually been attributed to the power of music, and a late writer remarks that 'it is so strange that many have denied the fact, while others have asserted it to be a deception.' The general belief, however, 'is that serpents are extremely sensitive of impressions from musical notes or modulations, under the influence of which they wreathe their bodies from feelings of pleasure, while to these graceful contortions and undulating movements, the charmer, who plays on a pipe or some simple instrument, adapts the time.' This is the common theory,—that serpents are rendered docile by music; but Mr. Mason has seen the cobra dance in imitation of its Burmese master, while he sat upon his haunches before it, making the motions with his body and hands that he wished the snakes to imitate, and which it did perfectly without any music whatever, or any other sound except an occasional authoritative hay! A pair of cobras kept perfect time with their master, while no sounds were uttered, and allowed him to handle them as he wished. At his command they danced, and at his command they lay gracefully down as if asleep. The Burmese usually put a wild one, which they secure when half or two-thirds grown, with a practised tame one. These will dance and wreathe themselves at their master's pleasure. Sometimes darting at him, but at that moment he straightens himself up, with his eyes fastened upon the snake's eyes, and in a gruff voice commands them to perform. Following his motions, they stand almost upright with their hoods dilated and their colours all in play as they dance; now swift, now slow, now approaching, now receding; and he has seen the younger in his receding movements give unequivocal tokens of desiring to make his exit, but on hearing his master's call he turned again, though evidently with more reluctance than the old actors. The power of effecting all this is certainly attributable neither to magic nor music. It must, he thinks, be ascribed to fear, and to a very simple principle, the power of imitation,—a power possessed by different animals in different degrees. Serpents are by no means the least docile of the animal kingdom; nor are cobras the most intractable of serpents, the cobra and the bungarus being the favourites with the snake-charmers.

A large python, usually called a boa, is not uncommon in Tenasserim. Mr. Mason had seen the head of one that was killed by a drove of hogs, whose whole length measured 18 feet, and the natives say they grow much larger. The Karens have an apothegm that the largest python can swallow a full-grown buck rusa or sambur deer, horns and all, without inconvenience. They are often seen coiled up among the branches of trees on the banks of st[illegible] the interior, where they are frequently [illegible] by Karens, who regard them as valuabl[illegible] He has seen a Karen seize one 9 feet l[illegible] the tail in the water, and with the aid of h[illegible] ociates succeed in capturing him.

Hypnale nepa[illegible] found in Ceylon, but also in the Peninsula of Southern India, the Animallay mountains. The carawala is much dreaded, although its bite is but exceptionally fatal to man, and in such cases death does not occur before the lapse of some days.

The Vipers, or *Viperidæ*, inhabit the Old World and Australia, and are thoroughly terrestrial snakes.

Daboia Russellii is a native of Ceylon and of the Peninsula of India, the Animallay mountains, Waltair, Bombay, and Almora (5500 feet elevation), the Himalayas, in Kulu, at 3400 feet. Length 50 inches, tail measuring 7 inches; it is thoroughly terrestrial, feeding chiefly on mice. It is one of the most common venomous snakes, and, on account of its size and nocturnal habits, more dangerous than the Trimeresures and Hypnales. The far-famed, dreaded Cobra monil, or Cobra manilla of some, seems merely the young of this species. The old orthography is monil, which simply means a chain or necklace; and whoever looks at the markings of this snake, especially of the young one, must be struck with the resemblance thereof to a necklace.

Vipera echis, *Schlegel;* V. noratta, *Shaw, Russell*. Kuttavyrien, Tam. This little snake is very common in the Carnatic. Jerdon doubts that its bite would prove fatal to man. A dog bitten by one recovered. Of all the venomous land-snakes met with in Southern India, the only ones at all common are the cobra, the chain viper (Vipera Russellii), the Bungarus candidus, and the little Vipera echis. Most of the others

are peculiar to the forests of India. Trigonocephali are not usually fatal. Jerdon had known several cases of bites by Trigonocephalus Malabaricus and Tr. nepa, and none proved fatal.

Batrachians are a sub-class of reptiles. Moisture is as necessary for batrachians as food and air, hence they are found only in damp places or in the neighbourhood of water. When they dive, the lungs are emptied, and the respiration remains interrupted for one or two hours, after which time the animal is compelled to rise to the surface in order to breathe. Many batrachians live at some distance from water; all, however, as far as is known at present, enter it at the season of propagation. The males have also generally a distinctly more slender form than the females. The eggs are impregnated the moment they are deposited by the female in the water. The young ones, or tadpoles, have a thick ovate body without legs, terminating in a long, strong, compressed tail, which serves as an organ of locomotion in the water. The development is about a hundred days in the European Rana temporaria, but several years elapse before the young perfect batrachian attains its full size. None are poisonous.

REPTONIA BUXIFOLIA. *St.* Gurgura, Gurgara, Garar of Salt Range. The wood is small, but hard, fine-grained, and useful. It is common in the Trans-Indus districts. Exclusively a Panjab wood.—*Stewart.*

RESERVOIRS are common in many parts of India, and where water [illegible] from the surface, usually a bold flight of [illegible] to 40 feet wide leads down to the water. [illegible] are in the form of tanks, and of wells [illegible]n as baories or baolies.

RESIDENCY, in British India, a Political Agency at a native court; the political officer holding it is styled the Resident. In Netherland India, a province.

RESINS.

Ratinij, ...	ARAB.	Gugal, ...	HIND.
Samgh, Sanawbar,	,,	Ral, Rala, . . .	,,
Sung-chi, . . .	CHIN.	Gugalam, . . .	TAM.
Sung-hiang, . . .	,,	Gugalamu, . . .	TEL.
Doona, Dammar, .	HIND.		

Gums and resins are exported from India to a considerable extent, but cutch (catechu) and gambier, alike in quantity and value, far exceed those of other kinds.

	1880-81.	1881-82.	1882-83.
Cutch and gambier, .	320,756 cwt.	198,897 cwt.	246,506 cwt.
Other sorts, . . .	899 ,,	1,841 ,,	1,722 ,,
Cutch and gambier, .	Rs. 42,66,415	Rs. 25,30,840	Rs. 30,52,434
Other sorts, . . .	,, 11,814 ,,	15,056 ,,	14,371

These products are very abundant throughout the East Indies, and are largely utilized by the people, but they are carelessly collected and packed, and are presented to European commerce in unattractive forms. Also, in the course of trade, cutch and gambier, rosin, pitch, tar, and dammer, are imported into India and re-exported. Since the second edition of the Cyclopædia of India was published, Mr. E. J. Atkinson, in 1876, described the gums and gum-resins of the N.W. Provinces of India, and Dr. M. C. Cooke of the Indian Office in 1874 reported on all those of British India, referring several times to this Cyclopædia. He classed them as gums, gum-resins, true resins, and oleo-resins, but in commercial returns these substances are usually placed under one heading.

i. Gums, trees yielding them.

a. True gums.

Acacia Arabica, *Willd.*
A. catechu, *Linn.*
A. ferruginea, *D.C.*
A. leucophlæa, *Willd.*
A. modesta, *Wall.*
A. speciosa, *Willd.*
A. sundra, *D.C.*
A. vera, *Willd.*
Adenanthera pavonina, *L.*
Ægle marmelos, *Corr.*
Amygdalus Persica, *Linn.*
Anacardium occidentale, *L.*
Andersonia, *sp.?*
Anona squamosa, *L.?*
Armeniaca vulgaris, *P.*
Artocarpus integrifolia, *L.*
Azadirachta Indica, *Juss.*
Barleria prionitis, *Linn.*
Bassia longifolia, *Linn.*
Bauhinia emarginata, *Roxb.*
B. parviflora, *Ham.*
B. retusa, *Wall.*
B. Vahlii, *W. and A.*
Borassus flabelliformis, *L.*
Buchanania latifolia, *Roxb.*
Calyptranthes caryophyllæfolia, *Willde.*
Careya arborea, *Roxb.*
Cathartocarpus fistulata, *Pers.*
Cedrela toona, *Roxb.*
Celtis orientalis, *Linn.*
Chickrassia tabularis, *Juss.*
Citrus decumana, *Linn.*
C. limetta, *Risso.*
C. medica, *Linn.*
Cocos nucifera, *Linn.*
Conocarpus latifolius, *Roxb.*
Cordia Rothii, *Rœm.*
Elæodendron paniculatum, *W. and A.*
Elate sylvestris, *Linn.*
Emblica officinalis, *Gært.*
Erythrina Indica, *W. and A.*
Feronia elephantum, *W. and A.*
Garuga pinnata, *Roxb.*
Gossypium herbaceum, *L.*
Grislea tomentosa, *Roxb.*
Gyrocarpus Jacquini, *Roxb.*
Heritiera littoralis, *Dry.*
Jatropha curcas, *Linn.*
Melia azedarach, *L.*
M. sempervirens, *L.*
Michelia champaca, *L.*
Mimusops elengi, *Linn.*
M. kaki, *W.*
Morus Indica, *Willd.*
Nerium suaveolens, —?
Odina wodier, *W. and A.*
Poinciana elata, *W. and A.*
P. regia, *Bojer.*
Pongamia glabra, *Vent.*
Prosopis spicigera, *L.*
Prunus domestica, *Linn.*
P. puddum, *Roxb.*
Punica granatum, *Linn.*
Sapindus acuminatus, *Wall*
S. emarginatus, *W. and A.*
Schleichera trijuga, *Willd.?*
Semecarpus anacardium, *L.*
Soymida febrifuga, *Juss.*
Spondias mangifera, *P.*
Swietenia chloroxylon, *R.*
S. mahogani, *L.*
Tamarindus Indica, *Linn.*
Tamarix divica, *Roxb.*
Terminalia arjuna, *W. and A.*
T. belerica, *Roxb.*
T. catappa, *L.*
T. tomentosa, *W. and A.*
Thespesia populnea, *Cor.*
Tricosanthes cucumerina, *L.?*
Vachellia farnesiana, *W. and A.*
Wrightia antidysenterica, *Br.*
W. tinctoria, *Br.*
Zizyphus flexuosa, *Wall.*
Z. jujuba, *Lam.*

b. Pseudo-gums.

Ailantus excelsa, *Roxb.*
Cochlospermum gossypium, *D.C.*
Cycas circinalis, *Linn.*
Eriodendron anfractuosum, *W. and Arn.*
Grevillea robusta, *Cunn.*
Macaranga Indica, *W.*
M. tomentosa, *W.*
Moringa pterygosperma, *Gærtn.*
Opuntia rubescens, *Salm.*
Salmalia Malabarica, *W. and A.*
Sterculia urens, balanghas, campanulata, colorata, fœtida, and populifolia.
Uvaria tomentosa, *Roxb.*

c. Astringent gums.

Agati grandiflora, *Dees.*
Butea frondosa, *Roxb.*
B. parviflora, *Roxb.*
B. superba, *Roxb.*
Calyptranthes caryophyllæfolia, *Willde.*
Mucherus? Salmalia Malabarica?
PterocarpusIndicus, *Willd.*
P. marsupium, *Roxb.*

ii. Gum-Resins.

a. Emulsive gum-resins.

Gamboge plants.
Garcinia cambogia, *Desr.*
G. cowa, *Roxb.*
G. Griffithii, *And.*
G. mangostana, *Linn.*
G. morella, *Desr.*
G. pictoria, *Roxb.*
G. pedunculata, *Roxb.*
G. Travancorica, *Bedd.*
G. Wightii, *And.*
G. xanthochymus, *Hooker.*

b. Fœtid gum-resins.

Dorema ammoniacum, *Don.*
D. aureum, *Stocks.*
Ferula galbaniflua, *Buhse.*
F. hooshee, *Royle.*
F. orientalis, *Linn.*
F. Persica, *Willde.*
F. alliacea, *Boiss.*
F. Lehmanni, *Boiss.*
Galbanum Persian.
Gardenia lucida, *Roxb.*
G. gummifera, *Roxb.*
Narthex asafœtida, *Falc.*
Opoponax chironium, *Koch*
Sagapenum ferula, *sp.?*
Sarcocolla, —?

c. Fragrant gum-resins.

Balsamodendron mukul, *Hooker.*
B. myrrha, *Ehr.*
B. Roxburghii, *Arn.*
B. pubescens, *Stocks.*
Boswellia Bhau-dajiana, *Birdw.*
B. Carteri, *Birdw.*
B. Frereana, *Birdw.*

B. thurifera, *Coleb.*
Calamus draco, *Willde.?*
Dracæna draco, *Linn.?*
Mangifera Indica, *Linn.*
Myrrh.
Nagdana.
Olibanum.
Pterocarpus draco, *Linn.?*
Styrax benzoin, *Dryand.*
Terminalia angustifolia, *W. and A.*

iii. True Resins.

a. Copalline resins.

Canarium Bengalense, *R.*
C. strictum, *Roxb.*
Copal.
Dammara orientalis, *Lam.*
Dammar daging, rose dammer.
Dammer of Andamans.
Dammer of Borneo.
D. or Salangan putih, white dammer.
D. hitam or black dammer.
Diospyros glutinosa, *Roxb.*
Hopea micrantha, *Hook.*
H. odorata, *Roxb.*
H. parviflora, *Bedd.*
Pistacia Cabulica, *Stocks.*
P. Khinjuk, *Stocks.*
P. lentiscus, *Linn.*
Poon-yet or Pwai-gnet.
Shorea robusta, *Roxb.*
S. sericea, *Dyer.*
S. tumbuggaia, *Roxb.*
Trachylobium Mozambicense, *Peters.*
Vateria acuminata, *Heyne.*
V. Indica, *L.*
Vatica lanceæfolia, *Blume.*
V. Roxburghiana, *Wight.*

b. Elemi or soft resins.

Ailantus Malabarica, *D.C.*
Calophyllum calaba, *Jacq.*
C. inophyllum, *L.*
C. other species.
Canarium commune, *Linn.*
Cassia auriculata, *Linn.*
Dammar kejie.
Gutta Runghas.
Kunnee.
Maeshaksee.

iv. Oleo-Resins.

a. Balsams.

Balsamodendron Berryii, *Arn.*
Chloroxylon Swietenia, *W. and A.*
Dipterocarpus alatus, *Roxb.*
D. incanus, *Roxb.*
D. tuberculatus.
D. turbinatus, *Gært.*
Dryobalanops camphora, *Coleb.*
Hardwickia pinnata, *Roxb.*
Liquidambar altingia, *Bl.*
L. orientale, *Miller.*
Melaleuca minor, *Smith.*
Mesua ferrea, *Linn.*
Mohal balsam of Cachar.
Melanorrhœa usitatissima, *Wall.*
Odina wodier, *Roxb.*
Rhus succedanea, *D.C.*
R. vernicifera, *D.C.*
Semecarpus anacardium, *Linn.*
S. Travancorica, *Bedd.*

b. Natural varnishes.

Buchanania latifolia, *W. and A.*
Holigarna longifolia, *Roxb.*

c. Turpentine and tar.

Abies Smithiana, *Loudon.*
Cedrus.
Pinus excelsa, *Wall.*
P. Gerardiana, *Wall.*
P. Khassyana, *Brandis.*
P. Latteri, *Mason.*
P. longifolia, *Roxb.*
P. Massoniana, *Sieb. and Zuch.*
Sethia Indica, *W. and A.*
Tectona grandis, *Roxb.*

The gums of the East Indies have already been noticed under that head, and the following remarks will be restricted to a notice of the chief commercial resins.

Resinous substances are found in greater or less abundance in most plants. Many of the resins of commerce exude naturally from fissures in the bark or in the wood, or they are obtained from incisions made in the stems of certain trees and shrubs. As they exude they are commonly mixed with an essential oil, which either evaporates on coming in contact with the air, or is resinified by the action of oxygen. Such mixtures of volatile or essential oil with resins are sometimes called balsams. When gum is mixed with resins, another class of substances is produced, called gum-resins.

Resins soluble in spirit of turpentine are used for the most part in preparing dyes, varnishes, lacquers, sealing-wax, etc.

The rosin or common resin of Europe is obtained as a residuary matter in the process for obtaining oil of turpentine,—an oleo-resin by distillation of American turpentine with water.

Ammoniacum is the product of Dorema ammoniacum, *Don*, and an identical gum-resin is obtained from D. aureum, *Stocks*, of Sind.

Asafœtida is from the Narthex asafœtida, Ferula alliacea, *Boiss.*, F. Lehmanni, *Boiss.*, and it is said the F. Persica, *Willde.* It is used medicinally and as a condiment.

Balm of Gilead is an oleo-resin from the Balsamodendron Berryi, *Arnott*, a tree of N. Africa and Arabia, and is called by the Arabs Balsam Israeli. It is of syrupy consistence, limpid, and yellowish, but thickens and solidifies by age. It is used in surgery, but is rarely found pure. Mr. J. A. Murray says it is a product of B. Gileadense, *Kunth.*, and calls it Ood-i-Balisan and balsam of Mecca.

Myrrh, yielded by the Balsamodendron myrrha, *Ehr.*, of Africa and Arabia. The commercial varieties are Turkey myrrh, myrrh in tears, East Indian myrrh, and East Aden myrrh. B. Roxburghii, *Arn.*, of India, is supposed by Dr. Royle to yield part of the myrrh of commerce.

Googul of the bazars of India, the b'dellium of commerce, is obtained from Balsamodendron mukul, *Hooker*, also from the Balsamodendron pubescens, *Stocks*, and from the Boswellia glabra.

Ganda feroza, from Boswellia thurifera, is largely used as an application to indolent ulcers and wounds, and supposed to form the chief ingredient of Wroughton's ointment. Mr. J. A. Murray says it is produced from Boswellia papyrifera, *Hoch.*, gives it as names Luban and Ood, and says it is frankincense and olibanum.

Benzoin, the Ood or Luban of the Indian bazars, is obtained from the Styrax benzoin, *Dryand*, a tree of Borneo, Java, Siam, and Sumatra, in the form of tears, lumps, and translucent masses. That of Siam appears to be superior in fragrance to the Sumatra product, although both possess a delightful aroma.

Copals are known as soft Indian copal and oriental copal, also East[illegible]n copal, Bombay anime, East Indian a[illegible]d gum anime. These are names of the t[illegible]he Trachylobium Mozambicense, *Peters*, [illegible]rows in Madagascar, on the E. coast of Afric[illegible]n Zanzibar, and is known also as Hymenæa M[illegible]icensis, *Kleine*. It is a large tree, its average [illegible]gh is 30 feet, with 5 to 6 feet of girth, but canoes [illegible] feet long have been hollowed out of a single stem. The value of the copal exported from Zanzibar in 1863-64 amounted to 163,353 dollars, about six pounds being sold for one Austrian dollar. Nearly all of it was sent to British India, Great Britain, and Hamburg. The Arabs and Africans recognise two kinds, viz. the raw copal (copal vert of the French market), and called Sandarusiza miti, 'tree copal,' or chikaji, corrupted by Zanzibar merchants to 'jackass' copal. This chikaji is either picked from the tree or is found shallowly embedded in the loose soil. This is the only kind in Zanzibar island. And 'true or ripe copal,' called Sandarusi, the product of vast extinct forests, and found at depths beyond atmospheric influences, and has, like amber and similar gum-resins, been bituminized in all its purity.

Dammer.—The most important of all the solid resins produced in the East Indies are those which are included under the general Malay name of Dammer. The dammers are obtained from trees of the genera Vateria, Canarium, Shorea, and Vatica. Vateria and Canarium yield by far the largest part (if not the whole) of the dammers produced on the western coast of the Peninsula, whilst the Shorea and Vatica trees yield the greater part of that collected in the northern and eastern districts, and those of Further India and the Archipelago are chiefly from species of Canarium.

White Dammer of the western coast of India, called also Piney resin, is from the Vateria Indica. It is the Doopada resin of Mysore, and the Payanee or Piney of the Malabar people. Dupa maram, CAN.; Safed damar, HIND.; Vellai kundrikum, TAM.; Payanee, MALABAR; Piney maram, TAM.; Chadacula, TAM. This is a very large and stately tree, a native of Malabar and Mysore. The young shoots, and all tender parts except the leaves, are covered with fine stellate pubescence. The Piney resin occurs of all shades of colour between pale green

and deep yellow; the finest pieces are called kahruba or amber, and are sold as amber in the bazars of Bengal. Candles are made of this resin in Malabar, which diffuse, in burning, an agreeable fragrance, give a fine clear light, with little smoke, and consume the wick without snuffing.

One variety of it is the *Compact Piney Resin*, or first sort white dammer of the western coast, and occurs in large lumps of all shapes, and varying in colour on the outside from a bright orange to a dull yellow, bearing evident marks of having adhered to the bark of the tree. It has a shining vitreous fracture, is very hard, and bears a great resemblance to amber. Its colour (internally) is of all shades, from a light green to a light yellow, the green tint predominating in the generality of specimens. It is more soluble in alcohol than black dammer, and burns with less smoke and a more agreeable odour. It is easily distinguishable from all other Indian resins by its superior hardness, its colour, and amber-like appearance.

A second variety, the *Cellular Piney Resin*, or second sort white dammer of the western coast, occurs either in small lumps or in large masses, generally of a shining appearance and balsamic smell, and has a very cellular structure, which is attributable partly to the mode of collection, and partly to the age of the tree. Notches being cut in the trunk of the tree sloping inwards and downwards, the resin collects in the cavity, and is either permitted to dry on the spot, or is collected and dried by the application of heat. It is of all shades, from light green to light yellow or white, and is usually translucent. Specimens are sometimes seen in which, from the desiccation having been irregularly conducted, the resin is more opaque, of a dull green colour, and full of air-bubbles, presenting the appearance of having undergone [illegible] fermentation. This kind of resin may be recognised by its cellular appearance and balsamic smell; this latter, however, which is of course due to the volatile oil it contains, is gradually lost by long keeping or constant exposure to the air. In splitting open old and decayed trees, portions of a dark-coloured resin are often found, having the solid consistence of the first variety, but the inferior quality of the second. The inspissated juice of the Vateria Indica tree is used for mixing with beeswax in making candles. In Malabar, the fresh resin is called piney varnish. It is of a light grey colour, with a strong balsamic odour. The resin which first exudes is called Chengilium (this is white); that which flows subsequently is termed Coongilium (darker than the above), and when dried it is called dammer (black). The Vateria lanceæfolia of the Khassya mountains and Assam yields a similar resin, which is used as incense. V. acuminata yields the piney resin of Ceylon.

The dammers of the northern and eastern districts are from the sal tree, Shorea robusta, and other species. Shorea robusta is a native of Morung, the Palghat mountains, and Northern Circars. The sal tree of Northern India and its resins is called Guggilam in Telugu, and Tala-gotso in Uriya. It is the Rala, Doona, and Gugulam of Indian commerce, and occurs in brittle, stalactitic pieces. Shorea robusta yields abundance of dammer, the superior kinds of which are efficient substitutes for the pine resin of the European pharmacopœia. It occurs perfectly transparent and colourless, but in the bazars the colour ranges from pale amber to dark brown. It is devoid of taste and smell. Sp. gr. 1·097 to 1·123, easily fusible, partially soluble in alcohol (83·1 per 1000), almost entirely in ether, perfectly in oil of turpentine and the fixed oils; sulphuric acid dissolves and gives it a red colour. Two parts of colourless dammer and 2½ parts of oil of turpentine, make the best varnish for lithographic drawings. This occurs in sticks much resembling in shape the black dammer, but differing widely in colour and consistency. In colour it varies from a light yellow to a dark brown, the two colours being frequently blended in the same lump, and giving it the appearance of having a regular 'grain.' It is friable, and differs from the white dammer of the western coast in its inferior hardness, its opacity, and its peculiar form, and from the black dammer in its colour. There are extensive tracts of shorea forest in the Gumsur and Cuttack provinces. The Khond and Uriya races living in and near these jungles, wound trees in several places; the resin issues, and is collected when sufficiently solid. The dammer collected from the decayed parts of the tree is of a dark colour. The Khond and Uriya races make the leaves into plates, from which they eat their food, and also roll up tobacco in them to smoke like a cheroot. In time of famine, the above tribes live on a soup made from the fruit of this tree.

Shorea tumbuggaia grows on the western coast, but does not appear to produce much, if indeed any, of the resin collected for sale.

Poon-yet and *Pwai-ngyet* dammer of Burma is found on several different trees, sometimes also in a hollow among rocks, sometimes in the ground, and occasionally even in the hollow post of an old house, amongst them the Dipterocarpus lævis and Hopea odorata. The Rev. C. S. Parish says it is a combination of various gums and resins, probably also of oils gathered by the Trigona læviceps bee, and built up and moulded very much as wax is moulded, except that the wax formed by the honey bee is in cells of perfect and uniform symmetry, while the cells of Pwai-ngyet have no regular form. When it builds its nest in the hollow of a tree, the aperture is lined with Pwai-ngyet, and its rim is sometimes prolonged to a somewhat flattened trumpet-mouth shape, of a perpendicular diameter a foot or so, and 3 or 4 inches of transverse diameter. From 19 lbs. to 38 lbs. are obtained from one nest. Some of it is very like the dammer of the Hopea odorata. For caulking it is mixed with earth-oil or petroleum. One kind which this bee collects is very like the resin of Bursera acuminata, a tree of Canara.

Canarium Bengalense is a native of Sylhet and the adjacent mountainous countries, also Malabar, Tinnevelly, and Courtallum. It flowers in May and June, yields a large quantity of very pure, clear, amber-coloured resin, which soon becomes hard and brittle, and is not unlike copal. In the Calcutta bazar it sells at 2 to 3 rupees per maund of 86 lbs. C. nigrum, *Roxb.*, of the Amboyna and Molucca islands, yields a reddish, soft, viscid substance from wounds in its bark. C. strictum, *Roxb.*, of the alpine forest of Courtallum and Tinnevelly, is regularly rented for its dammer. When adhering to the tree it has a bright shining black appearance. From this the tree is called the black dammer tree, to distinguish it from the white dammer tree, Vateria Indica. The Canarium strictum is the Carpoo coongilium of Ainslie, the Dammara nigra legitima of Rumphius, and the Canari of the Malays. Its resin occurs in large stalactitic-shaped masses, of a bright shining black colour when adhering to the tree and viewed from a distance, but translucent and of a deep reddish-brown when held in thin laminæ between the eye and the light. It is perfectly homogeneous, and has a vitreous fracture. Its shape appears to be due to the fact of the balsam having exuded in a very fluid state, and trickled down the trunk of the tree, where it gradually hardens by exposure to the sun, the fresh resin continuing to flow over that already hardened, gives rise to the stalactitic appearance of the huge lumps of resin, the outside of which much resembles the guttering of wax caused by placing a lighted candle in a draught. It is insoluble in cold, but partially soluble in boiling alcohol on the addition of camphor; when powdered it is readily soluble in oil of turpentine. Powdered and burnt on the fire, it emits a most resinous smell, and burns with more smoke, than white dammer. The size of the lumps of this resin, together with its colour and the peculiarity of shape already mentioned, suffice to distinguish it from other Indian resins. Mr. Brown of Trevandrum says the black dammer of Canarium strictum seems to be a great favourite of several species of insects, especially of one resembling a bee, called

by the hill-men Kalliada, which lives in holes in the ground.

Under the names of elemi, also E. Indian elemi and Manilla elemi, a concrete resinous exudation is imported into Great Britain from Manilla. It is said to be from the Canarium commune, but this is doubtful. It is of a yellowish white colour.

Others of the dammers are obtained from the Hopea micrantha, yielding the Damar mata kuching and Damar batu of the Malays, and H. odorata, yielding the Thengan-tsi of the Burmese, the last named greatly resembling the E. I. dammer from Dammara orientalis.

Dammara orientalis, a huge tree of the Archipelago, has been designated by seven names by different botanists, viz. Abies dammara, *Poir.*; Agathis dammara, *Rich.*; Ag. loranthifolia, *Salisb.*; Dammara alba, *Rumph.*; Dammara loranthifolia, *Spach.*; Pinus dammara, *Lamb.*; and P. Sumatrana, *Hort. Belv.* It yields the Damar puteh (white) and Damar katu of the Malays. It hangs from the tree like icicles, and is sold in Great Britain as East Indian dammer, to be used by varnish makers. Externally it is whitish from the powder; below that, it is of a straw colour or pale amber.

Cassia auriculata gum is prized in India for its medicinal value.

Camphor and *Camphor Oil* of commerce are obtained from the Dryobalanops camphora of Sumatra and Borneo. The oil is employed in rheumatism and as a varnish.

Dragon's blood, in lump and in reed, is used as a pigment. It is supposed to be derived from Calamus draco of S. China, Java, Sumatra, and perhaps of Burma.

Galbanum is a product of the Ferula galbaniflua, *Buhse*, a plant of Persia, but other species are also indicated as yielding both it and sagapenum.

Gamboge.—Several of the Garcinia yield the gamboge of commerce, but G. morella, pictoria, and Wightii, of the best qualities, and the most abundantly.

Gardenia.—The Dika malli or Kumbi pisin of India, a resin valuable in native surgery, is from the G. gummifera and G. lucida.

Garjan oils, from the Dipterocarpus alatus, D. incanus, and D. turbinatus, are known also as wood-oils. They are large trees, natives of Burma and the islands in the Straits of Malacca. At the end of the dry season, in March or April, several deep incisions are made with an axe into the trunk of the tree, and a good-sized piece scooped out. Fire is placed into the cavity, and is kept burning till the oil begins to run. This when allowed to rest, separates into two layers, the upper consisting of a clear chesnut-coloured liquid balsam, and the lower, which is a flocculent deposit of the more solid resin, of a light ash colour. They are much used as natural varnishes for in-door work, but when dry are very brittle, and require constant renewal. The wood-oil of the D. tuberculatus, a tree of Chittagong and Burma, is known to the Burmese by the name of Eng.

Doona Zeylanica, Thwaites, yields Doona dammer. In colour and appearance it much resembles pine resin.

Kub, the resin of the Diospyros glutinosa, is used for caulking boats and canoes.

Hardwickia.—The dark red balsam of the Hardwickia pinnata is exactly like copaiba in appearance and properties. It is a tree of the Travancore Ghats and of S. Canara.

Liquidambar genus has two species, L. altingia and L. orientale, both of them furnishing useful balsamic products. That of the former, a tree of Tenasserim and the Archipelago, is the Rose Maloes of commerce, the Rasa-mala of the Javanese, a fragrant balsamic fluid. It is obtained by putting fire around the tree. The L. orientale of Anatolia and Asia Minor yields the liquid storax, an oleo-resin which is imported into India. It is not the storax of the ancients. Its liquid storax is obtained by pressing the inner bark. The outer bark is burned as a perfume.

Melanorrhœa usitatissima of Manipur and Burma yields a valuable natural varnish, which is extensively used.

The black varnish of Ceylon is from a species of Semecarpus. It is equal to the black varnish of China for lacquering.

Olibanum, also known as Luban, has been shown by Dr. (Sir George) Birdwood to be a product of Boswellia Carterii, B. Bhau-Dajiana, and B. Frereana. Indian olibanum is from B. thurifera, and its varieties glabra and serrata. The Nagdana [illegible] one of the Burseraceæ, yields also a luban [illegible] bazars. B. thurifera, *Coleb.*, of the Con[illegible] hills, S. Konkan, Belgaum, and Bundelkhand, is a gum-resin used as a grateful incense, but is used in medicine for its stimulant, astringent, and diaphoretic properties.

Turpentine of good quality is obtained by incisions in the trunk of the Pinus longifolia of the Himalayas. It is the Ganda-baroza of Indian commerce. It is used medicinally, internally, and oil of turpentine is extracted from it. Tar is obtained by burning chips of the wood. Tar is obtained also from chips of Pinus excelsa and of Cedrus deodara. Pinus Massoniana of Burma and Japan yields a crude turpentine.

The oleo-resin from the Cedrus deodara is the Kelon-ka-tel of the natives of Northern India.

Sarcocolla has been by some supposed to be a product of Penæa mucronata, but others think it is from an umbelliferous plant.

Ceylon fishermen pay their boats' bottoms with a tar obtained by the smothered combustion of chips of the Sethia Indica, a tree of S. India and Ceylon.

REUNION, formerly called Bourbon, an island in the Indian Ocean, discovered in 1545 by Mascarenhas, a Portuguese. It is 49 or 50 miles long, and 27 broad. Its highest peak, a volcano, [illegible] des Neiges mountain, [illegible]0,334 [illegible] Bernard, 9743 [illegible] feet high[illegible] lat. 20° 5[illegible]

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India, at the close of the 18th and beginning of the 19th century, Sir Thomas Munro reported at length on the land revenue; and in Northern India, reports on the settlement of the land revenue in the North-Western Provinces, under the thirty years' regulation IX. of 1833, were drawn up by many of whom obtained a name for themselves as administrators. Thomason reported on the settlement of Azimgarh, Edward Thornton on Saharunpur and Muzaffarnagar, H. M. Elliot on Meerut, John Thornton on Aligarh, R. Money on Moradabad, R. H. P. Clarke on Rudaon, W. J. Conolly on Bareilly, J. W. Muir on Shahjahanpur, G. F. Edmonstone on Minpuri, C. G. Mansel on Agra, M. R. Gubbins on Etawa, H. Rose and W. Muir on Cawnpur, R. Montgomery on Allahabad, and E. A. Reade on Gorakhpur. Garhwal and Kamaon were reported on by J. H. Batten, Dehra Doon by A. Ross, Hamirpur by C. Allen, and the Calpee Parganas by W. Muir. Traces remain of the office of lord of a thousand villages, described in Menu as the head of the Hindu revenue system, but chiefly in the Dekhan and other southern parts. These are called in Maharashtra, Sir-Desmukh, their districts are called Sirkar or Prant, and their hereditary register is the Sir-Despandi. Below the pargana division is the lordship of ten or twenty towns, called Naikwari, Tarraf, etc., and the chain ends with individual villages.

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RHAMNEÆ. *Lindl.* The buckthorn tribe of plants, comprising the genera Zizyphus, Berchemia, Sageretia, Ventilago, Rhamnus, Scutia, Hovenia, Colubrina, Gouania, Apteron, Helinus, Smythea. Hovenia dulcis, *Thunb.*, is cultivated in the Himalayas for its edible fruit, and it has a light-coloured wood. Ventilago maderaspatana, *Gært.*, is valued for the red dye obtained from its root, and for the fibre of its bark. The genus Rhamnus furnishes both woods and dyes, and fruits and timber are obtained from Zizyphus. Several species of rhamnus grow in the Himalaya and China. In Europe the juices of the unripe fruits of Rhamnus infectorius, catharticus, and virgatus, known as Turkey or French berries, are used for dyeing leather yellow. When mixed with lime and evaporated to dryness, it forms the colour called sap-green. M. Rondot's Notice du Vert de Chine contains specimens of calico and silk dyed with green, and engravings of two plants, Rhamnus utilis and Rhamnus chlorophorus, from which it is derived. These plants were new to European cultivators; they are, however, allies of the Rhamnus theezans, which has long been known as a tree from which the poorest class of Chinese pluck the leaves to use as a substitute for tea. The colour of the dyed silk is remarkably bright, a blue green,—one of that class of colours which increase in brilliance in the light. It contains, in fact, some immediate principle which can only be developed by light, and it was a nice task for chemists to discover what this is. M. Persoz says that light will have to be more and more regarded as an industrial agent; and of the Chinese green he remarks that it is sui generis, containing neither yellow nor blue. By experiments made at Lyons, it appears that six species of the European rhamnus will yield a green dye. See Dyes.

Rhamnus chlorophorus, *Lindley*, a superior green pigment, called Lo Kao, is prepared from the bark.

The bark of R. utilis, also from China, is similarly employed. It is particularly used for silk.—*Von Mueller.*

Rhamnus incanus, *Roxb.*, a tree of the Moluccas, with small, greenish-yellow flowers.—*Roxb.* i. p. 603.

Rhamnus nabeca, *Forsk.* The fruit, called Nebek, is eaten, and the leaves are used for the purpose of washing dead bodies.—*Burton's Mecca*, ii. p. 105.

Rhamnus pauciflora and R. staddo in Abyssinia, yield an ardent spirit.

Rhamnus Persicus, *Boiss.*

Sherawane, . . PUSHTU.	Kukai, Wurak, TR.-INDUS
Jalidar, . RAVI, SUTLEJ.	Nikki Kander, Nar, ,,

A common shrub at 2000 to 5000 feet on th Salt Range and the low hills beyond the Indu Its small black fruit is said to be sweet, but wh eaten in excess to affect the head.

Rhamnus purpureus, *Royle.*

Kari, Tadru, . CHENAB.	Kunje, Tunde, . . RA
Memarari, . . . ,,	Tunana, Madana, . ,
Bal, Sinjal, . . JHELUM.	Chaterni, . . SUTL

This small tree is common up to near the Ind at from 4500 to 9500 feet. In Hazara its fruit used as a purgative.—*Dr. J. L. Stewart*, p. 42.

Rhamnus utilis, affording a green dye in Chi

Rhamnus virgatus, *Roxb.* i. p. 604.

Reteon, Sindrol, . BEAS.	Nar, Tadru, Dadur, KA
Mamral, . . . CHENAB.	Muttu, Romusk, SUTL
Phipni, Dadru, JHELUM.	Niar, Chattr, . . ,,
Tudur, Seta pajja, ,,	

A small tree of Kaghan, common on all the Panjab rivers up to near the Indus at from 4000 to 9500 feet; grows along the Himalaya and on the Neilgherries. Fruit bitter; and when eaten, causes diarrhœa.—*Voigt; Cleghorn.*

Rhamnus Wightii, *W. and A.*, is the Rugt-orar of Bombay.

RHAPIS FLABELLIFORMIS. *Ait., Linn.* Exceedingly slender palm of China and Japan, rising to a few feet in height. It is excellent for decoration.—*Von Mueller.*

RHAZES, the literary name of Muhammad-ibn-Zakaria, Razi.

RHEA ZYA STRICTA. *Dne.*

—, ...	HIND.	Gandera, . .	TR.-INDUS.
. .	SUTLEJ, RAVI.	Ganera, . .	,,

Grows all over the hill-sides at Attock; fruit boiled to boils.—*Powell; Stewart.*

RHE, Rhei, Re, or Rey, the Rhages of the Apocrypha. Its ruins are a few miles south of the city of Teheran. They cover a vast extent of ground, and have supplied materials for the modern capital of Persia. The scriptural accounts of the Rhe, Rhei, or Rhages, during the captivity of the Jews in this part of the Babylonian empire, appear prove that Rhei was a very considerable city at least two hundred years before the Jews' appearance. All oriental writers agree upon its antiquity, and it is called 'the mother of cities.' It was once a very large place, the capital of the Dail (the hills), and very rich and flourishing. A.D. 906, Rhages was taken by Ismail, founder of the Samanee dynasty. It ceased now to be a city of empire, and in A.D. 967 became the capital of the house of Shemgur, a race of petty princes who maintained a kind of independence, while the dynasties of Saman and Dilemee divided the empire of Persia. In A.D. 1027, Rhages was the last conquest of Mahmud of Ghazni.—*Porter's Trav.* p. 357; *Markham's Embassy*, p. 99; *Smith's Dict.*; *Malcolm's Persia*; *Ferrier's Journeys.*

RHEA of Assam, China grass.

Bora, Gamb,	BENG.	Rami, ...	MALAY.
Bonoa, . .	,,	Sidziafi,	MARIAN ISLANDS.
. . . .	BURM.	Poah, ...	NEPAL.
Ma, Tchou-ma,	CHIN.	Calooee .	of SUMATRA.
China grass, . . .	ENG.	Keperit, Kapierit,	SUNDA.

The plant yielding this valuable fibre is the Urtica nivea, *Linn.*, the Urtica tenacissima, *Roxb.*, the Boehmeria nivea of later botanists, and the Ortie blanche sans dards de la Chine of French writers. The specific names characterize the snow-white, strong fibre, and the non-stinging nettle. It seems to be also known as the Boehmeria sanguinea, from the circumstance that though when growing the back of the leaf is white, with green veins, at maturity it assumes a reddish-brown hue. It is a native of Assam and of China, seemingly also of Japan, Java, and Borneo, and from it the China grass fibre is obtained, called in China Chu-ma or Tchou-ma. The preparation of the fibre is tedious, and is what causes the difficulty of sending the fibre at a cheap rate to market.

In 1869, the Government of India offered two prizes, of £5000 and £2000, for the best and second best machines for cleaning the fibre, but only £1500 was awarded for an inferior one. In 1872, out of thirty-two machines entered, only two were actually brought forward, and one of these was withdrawn. The remaining machine, belonging to Mr. J. Greig, jun., of Edinburgh, was worked during a period of three weeks before Colonel Hyde, the judge, in the presence of the owner, who had brought it to Saharunpur in person. The conditions were that the machine should turn out a ton of fibre at an expense not exceeding £15, including all items, such as interest, wear and tear, etc., and that the prepared fibre should be equal in value to at least £50 per ton in the English market. The machine was valued at £200. There are now two machines and two processes that claim to treat green fibre successfully. The cultivation of rhea has been successfully introduced into the south of France, Algeria, and the Southern States of America.

In the native process, Major Hannay writes, 'when the stalks have become brown for about 6 inches above the roots, the top is seized with the left hand, and the leaves are stripped off by passing the right hand to the ground, near which the stalk is cut. The outer bark has first to be scraped off with a blunt-edged knife, when the exposed fibre still attached to the woody part of the stalk is exposed to the hot sun to dry. On the third morning, after being exposed to the dew for several hours, the fibre is drawn off. This is done by breaking the woody stalk right through towards the thicker end, and then separating the fibre therefrom, drawing it off slowly towards the small end, and repeating the process as often as necessary, though much of the fibre remains, and may be taken off at a second breaking. The fibres are carefully washed. The hanks of fibre now require to be separately twisted at the upper end, and tied up in bundles. When the threads are required for spinning, they are prepared by drawing the single hanks several times with a blunt-edged tip of bamboo held in the right hand, when they are easily opened out to the required fineness with the fingers and thumb nails.' Dr. M'Gowan of Ningpo states that in China the last cutting is made in September, from which the finest cloth is made, the first being inferior, coarse, and hard. On being cut, the leaves are carefully taken off on the spot, the stalks taken to the house and soaked in water for an hour. In cold weather the water should be tepid. After this the plant is broken in the middle, by which the fibrous portion is loosened and raised from the stalk. Into the interstice thus made, the operator thrusts the finger nails, and separates the fibre from the centre to one extremity and then to the other. The stripping process is very easy. The next process is scraping the hemp, to facilitate which the fibre is first soaked in water. The strips of hemp are drawn over the blade of a small knife or scraper from within outwards, and, being pressed upon by the thumb, the fibrous portion of one surface, and the mucilaginous part of the other, are thus taken off. The hemp is then wiped dry, and the whitest selected for fine cloth. It is afterwards bleached.

The following directions for peeling the Chu-ma or Tchou-ma in China, are translated from the Chinese. When the stems are all got in, they are split longitudinally with knives of iron or of bamboo. The bark is first removed, then the lower layer (which is white, and covered with a shrivelled pellicle which comes off by itself) is scraped off with a knife. The interior fibres are then seen; they are to be removed and softened

in boiling water. If the Tchou-ma be peeled in winter, the stems must be previously steeped in tepid water, in order that they may be the more easily split. The first layer of Tchou-ma is coarse and hard, and is only good for making common materials; the second is a little more supple and fine; the third, which is the best, is used for making extremely fine light articles.

In China, this plant is of great value, in the Southern States of N. America the plant has flourished, but the 1880 Report on the Calcutta Botanic Garden doubts whether rhea fibre can be produced cheaply in that part of India.

In China, fields of rhea are said to last, with care and manure, for 80 to 100 years. It grows with the greatest vigour in damp warm climates. In the islands of the Indian Archipelago it is cultivated under shade. It requires a light but fertile soil, but it must be well drained. It is propagated from the separated roots, from layers, slips, or cuttings; in this way five cuttings of grown stems can be expected in the year after planting; from seed, no crop can be expected before the third year.

M. Favier describes the plant as giving out several stems, of which the number increases in proportion to the development of the root, which forms a kind of tuft or bush. The stems are woody, and have the appearance of thick, strong rods, the height varying from 5 to 12 feet. The roots, slips, or layers should be planted 18 inches apart, and after the first crop the alternate rows should be transplanted into new fields, leaving the remainder, about 3500 plants per acre, to spread and cover the ground. The yield in Java is said to be 44 stems per year from each stool, taken in four cuttings. Each stem in its green state weighs about 1 lb.; 100 lbs. weight of green stems yields 5 lbs. of a raw fibre or filament, which, by Muspratt's analysis, as quoted by M. Favier, contains 66 per cent. of pure cellulose. In the official reports to the India Office, with native hand treatment the crop is said to be 1000 lbs. of raw fibre per acre, taken in four cuttings. M. Favier states that in Algeria 1400 lbs. of fibrous thongs was the crop per acre, as calculated by Mr. Hardy, ex-Director of the Botanical Gardens there; while in the south of France as much as 1600 lbs. of filament have been obtained to the acre.

Mr. P. L. Simmonds, in 1873 (Journal, xxi. p. 762), stated that the crop gathered in Jamaica amounted to 300 lbs. per acre at each cutting, and that there had been five cuttings in the year, making the yield three-fourths of a ton per acre per year. While Mr. Bainbridge, in the discussion on Mr. L. Wray's paper, in 1869, stated that the result of his own experience in Assam was 750 lbs. green nettles, which gave 45 lbs. weight of fibre in each of three cuttings, making only 135 lbs. per acre per year (Journal, xix. p. 453). The yield appears to depend on soil, climate, and treatment. The properties of the rhea fibre place it in the first position among vegetable fibres; it is second to none in strength, while the fineness or attenuation of the fibre places it before flax, and it is equalled only by the pine-apple fibre. It can be used for any textile purpose, having been mixed with cotton, wool, and silk to advantage; it is in special demand for sailcloth, table napery, curtains, and tapestry; but from the very limited supply as yet available, the applications of this beautiful fibre are yet in their infancy.

Ban rhea, or Bun rhea, or Bon rhea is th
jungle rhea of the Lepcha of Nepal, and is sup
posed by some to be the Dom rhea or Chin
nettle in an uncultivated or wild state. But o
this there is no proof, and it is more than p
bable that it is a distinct species of Boehm
possessed of many of the same properties
ramee or rhea nettle. It grows very com
all the Assam province, but it is cultivated
by the hill tribes on the west of Yunnan
a small extent by the Singpho and D
tribes of the North-Eastern Frontier of In
be fabricated into a coarse cloth, but chie
nets. A five-inch rope of rhea fibre and
of Bon rhea each broke within a few pound
each other, after sustaining a weight of more t
nine tons. It is reported to be all that can
desired for either canvas or lines, and
requires to be known to be generally used
that purpose. The Bon rhea thrives best in
vicinity of water or of running streams.
unmolested, it grows into a tree, but by pr
management of it any quantity of young sh
can be obtained; and as the divided roots of
plant afford numerous shoots, it can be propag
by slips as well as by the seed. This fib
about 5 feet in length, brown in colour, st
and flexible.—*Roxb.; Voigt; Royle's Fib. Pl
Dr. M'Gowan; Theophile Moerman on R
1874; Dickson's Fibre Plants; Cal. Bot. G
Report*, 1880; *Society of Arts Jo.* See
Musa.

RHEA AMERICANA, the ostrich of the
World, is abundant in the pampas of La Plata
the adjoining states of South America, whe
forms one of the most characteristic features o
scenery. It differs essentially from the true os
of the deserts of the Old World in its sma
stature, and in having three toes instead of
Its habits in a state of nature have bee
described by Mr. Darwin and other natu
There are now known three distinct spec
this form of Struthious birds.

RHEEDE. Henry Van Rheede was Gov
of the Dutch Possessions in Malabar. The
Malabaricus, a botanical work in 12 vols.
was undertaken at his suggestion. The spe
were collected in 1674 and 1675 by Brahmans
and sent to Cochin, where drawings of them were
executed by Mathæus, a Carmelite missionary
corresponding descriptions were at the same tim
made in the Malabar language, which were after
wards translated into Portuguese by Emanu
Carneiro, a Cochin interpreter, and from that in
Latin by Hermann Van Douep, the secretary
the city of Cochin; the whole was under t
superintendence of Casearius, a missionary the
The work was published at Amsterdam betwe
1686 and 1703, in 12 volumes folio, with 7
plates, and was edited by Commelyn, who add
occasional remarks on the plants.—*Wight's P
dromus Floræ*, i. p. 7; *H. et Th.* p. 45.

RHEMBA, in Hindu mythology, one of Indr
court, who corresponds with Venus, the godde
of beauty. Rhemba was produced from the fro
of the churned ocean.

RHENIUS, an eminent Protestant missiona
who arrived in A.D. 1813, and laboured in the Tam

speaking parts of the Peninsula of India during the early part of the 19th century. In 1815 he engaged in revising the version by Fabricius of the Bible, and in 1816 completed his translation of the New Testament, completing a second revision 1827, and a third revision in 1831. He revised the translation by Fabricius of the Old ment, and died A.D. 1837.

EUM, a genus of plants belonging to the l order Polygonaceæ. Several species grow N.W. Himalaya, and the roots of some of ecies, known as rhubarb, are valuable in ne. One species grows in Kaghan, where nown under the name of Chotial. R. cap-, *Fischer*, is a plant of the Altai; R. com-um, *Linn.*, grows in Tartary and China; R. sinervium, *Fischer*, has heart-shaped leaves; leucorrhizon, *Pallas*, a plant of Tartary, is posed to yield some of the best rhubarb of merce; R. palmatum, *Linn.*, grows near the t wall of China and in the Himalaya; R. onticum, *L.*, grows north of the Caspian; R. s is the Riwash of Persia; R. spiciforme, le, grows in Kanawar and in the N.W. alaya; R. undulatum, *Lam.*, is a plant of a and Siberia; R. Webbianum, *Royle*, grows ,000 feet on the Chur mountain. Dr. J. L. art says that at least two species of rhubarb frequent in parts of the Panjab Himalaya, 6200 to 14,000 feet, R. Moorcroftianum ring still higher, from 15,000 to 17,000 feet. officinal ribas of the Panjab drug-sellers con- of the dried stalks from Kābul, which may y be produced by the Rivas, or R. ribes, ., a native of Carmel, also Eastern Persia, the Hindu Kush. In Afghanistan the plant ways wild, and appears to grow abundantly any parts. When green, the leaf-stalks are d riwash, and when blanched by heaping up es and gravel round them, are called chukri; n fresh (in which state they are sometimes ught to Peshawur in spring), they are eaten er raw or cooked, and they are also dried for to be eaten with other food, and are some- s made into a preserve. The root is imported Afghanistan and India, to be used as a tive. It is stated by Moorcroft that the a of Garhwal apply the powdered root to ds and bruises, and that they use it with cordifolia and potash for dyeing red. R. modi, *Wall.*, R. Moorcroftianum, *Meisn.*, R. spiciforme, *Royle*, yield the officinal rhubarb root. The genus has many useful plants.

Rheum australe, *Don.*

R. emodi, *Wall.* | R. Webbiana, *Royle.*

A plant of the N.W. Himalaya up to 16,000 eet. It is less active as a purgative, and ore spongy in texture. Honigberger mentions at it vegetates in wild luxuriance on the shmir mountains, is considered as one of the st rhubarbs, notwithstanding the coarse appear- ce of its exterior, and it can be had fresh and eap in any quantity, and at any time.

Rheum Moorcroftianum, *Meisn.*, was found by oorcroft near the Niti pass in the Himalaya at elevation of 12,000 feet. The root yields valuable medicine (chukri), while the leaf-stalks e agreeably acid and cooling; 'tror' are eaten a vegetable.

Rheum officinale, *Boullen*, W. China and E. bet, Turkey.

Rheum palmatum, *L.*, rhubarb.

Khagi, ... ARAB.	Chukri, Ribas, . . PANJ.
Ta-rok-tsha, . . . BURM.	Variatu kalang, . TAM.
Rewand Chini, . . HIND.	

The stalks are extensively eaten in Kābul. The root is used by Europeans as a stomachic and astringent in small doses, and as a purgative in larger ones, especially in dyspepsia and strumous affections. A variety from the Tanqut country yields the Kiakhta or Kan-su rhubarb of Maximowicz.

Rheum rhaponticum, *Linn.*, R. tataricum, *L.f.*, and R. undulatus, *Linn.*; their acidulous leaves and unexpanded flower mass are used for culinary purposes.—*Powell; Honigb.; Cleghorn, Report; Stewart; Royle's Ill.; Moorcroft's Tr.; Von Mueller.* See Rhubarb.

RHI of the Byansi or Hiunra, an avalanche.

RHINACANTHUS COMMUNIS. *Nees.*

Justicia nasuta, *Roxb.*

Jui pani, Jui pona, BENG.	Pul-colli, . . . MALEAL.
Tong-pang-chong, . CHIN.	Puekolli, . . . ,,
Palek julu, . . . HIND.	Naga mulli, . . . TAM.
Kabutar ka-jahr, . ,,	Pilkolu, ... TEL.

Grows throughout British India, where it is used as a remedy in snake-bite, and the root as an excitant. A tincture of the fibrous root is used in ringworm.—*O'Sh.; Riddell; Irvine.*

RHIND, a great race of 44 clans dwelling in Gandava in Baluchistan. They are not of the Brahui stock, and their traditions allege that they immigrated ages ago from Damascus and Aleppo. Their language is the Jetki, in common with that of the other inhabitants of Cutch Gandava, and Mard-i-Rhind means a brave man. Gandava is a great level tract, inhabited by three very distinctly marked races, the Jet or Jat, the Rhind, including the Maghazzi, and the Brahui. The Jat seem the original race, and they occupy the centre of the province. The Rhind, with their lawless subtribes the Jakrani, Dumki, Bugti, and Murree, are a more recent intrusive race dwelling on the skirts. The Doda, a division of the widely dispersed great Murree tribe, have, for the last three centuries, occupied the hill ranges east of the plain of Cutchi. The Murree are a brave race, and have long been distinguished as daring depredators. Harand and Dajil, in Cutch Gandava, but bordering on the Indus, are inhabited by the Gurchani tribe of Rhind, and have the Mazari on their south. The Rhind of Cutch Gandava are of the Utanzai division. The Rhind clans reside as under:—

Utanzai, at Suran.	Homorari, at Tambu.
Dumki, at Lehri.	Pushkh, at Johan.
Jakrani, at Lehri.	Jamali, at Rojan.
Doda Murree, at Kahan.	Kallui, at Lup.
Mandarari, at Rodbar.	Kuchik, at Kirta.
Bugti, hills E. of Lehrat.	Pugh, at Kajuri.
Sing Soloh, at Teriki.	

The Dumki, Jakrani, Bugti, and Doda Murree were always distinguished by their rebellious and predatory habits; they indulged these in attacks on the British armies west of the Indus. The Murree tribe is considerable, and inhabit the eastern hills of Cutch Gandava, and a peaceful and obedient portion of the tribe are in the hills west of the province below Jell. A large portion are at Adam Murree, on the S.E. frontier of Sind. The Murree of Cutch Gandava were notorious for their lawless habits, and for making frequent inroads on the plains. They and the Maghazzi seem to have

emigrated from Makran to Cutch Gandava at different periods, and to have become incorporated with the Jat cultivators. The minor Rhind tribes residing in the north-eastern hills of Saharawan are the—

Kallui, at Lup.	Mandarari, at Rodbar.
Kuchik, at Kirta.	Pugh, at Kajuri.
Pushkh, at Johan.	

The Gurchani inhabit Harand, and south of these are the predatory but nearly independent Mazari tribe. The Maghazzi are subdivided into four principal families or clans, of which the Butani of Jell are the most important, and give the chief or sirdar to the whole. They boast of being able to muster 2000 fighting men, and between them and the Rhind a blood-feud long existed. The Maghazzi and Rhind are alike addicted to the use of ardent spirits, opium, and bhang. The Bugti are on the west bank of the Indus near Shikarpur in the east of Lehrat.

RHINIDÆ, a family of fishes. Rhina squatina, *L.*, occurs in all seas.

RHINOBATIDÆ, a family of fishes, as under:

Rhynchobatus ancylostomus, *Bl.*, *Schn.*, E. Indies.
R. Djeddensis, *Forsk.*, Red Sea, Indian Ocean, Archipelago.
Rhinobatus thouini, *Lacep.*, Archipelago.
R. spinosus, *Gthr.*
R. halavi, *Forsk.*, China, Red Sea.
R. granulatus, *Cuv.*, E. Indies, Archipelago, Australia.
R. Philippi, *M. and H.*
R. obtusus, *M. and H.*, E. Indies.
R. Schlegelii, *M. and H.*, Japan and China Seas.
R. Banksii, *M. and H.*, Australia.
R. columnæ, *M. and H.*, Indian and Atlantic Ocean, Mediterranean.
R. Blochii, *M. and H.*, Cape.
R. brevirostris, *M. and H.*, S. Australia.
Trygonorhina fasciata, *M. and H.*, Australia.

RHINOCEROS, a genus of mammals belonging to the family Rhinocerotidæ, of which four or five species occur in Africa and in the East Indies,—R. Indicus, the great Indian rhinoceros; R. Sondaicus, the lesser Indian rhinoceros; and R. Sumatranus of Assam, Sandoway, and Sumatra. The rhinoceros was in Sind and the Panjab at least as late as Jordanus' time, and in Peshawur province 200 years later, to the time of Baber. The rhinoceros has been found fossil in Ava and Perim. Rhinoceros' hide is made into shields, sword handles, and ramrods, and its horn into goblets and drinking cups. Mr. Blyth has identified the two-horned rhinoceros of the Tenasserim Provinces with Rh. Crossii, *Gray*, and he refers the species to Rh. Sumatranus, auctorum, which attains a development of horn hitherto unsuspected. The skull of a one-horned rhinoceros shot by Dr. Hook near Tavoy Point, where there is a small isolated colony of the species, is that of Rh. Indicus and not Rh. Sondaicus. Seemingly all the species of rhinoceros attack the watch-fires of travellers. Fine horns of the Asiatic two-horned rhinoceros are difficult to procure, as they are bought up at extravagant prices by the Chinese, who call them Si-koh and Si-niu-koh, and their skins Si-pi. The inhabitants of the forests of Chantaburi chase wild beasts with firearms and nets; but they attack the rhinoceros armed with solid bamboos, of which one end has been hardened by exposure to the fire and sharpened. By loud cries and clapping their hands, they invite the animal to meet them, which he is wont to do by rushing violently upon them, opening and closing his wide mouth they attack him in front, and drive the bamboo violently into his throat with surprising dexterity taking flight on all sides. The animal, in it agony, throws itself on the ground, and, becomin exhausted by the effusion of blood and the extre ity of its suffering, it soon becomes the of its courageous assailants. In their h expeditions, all the passages to a distri closed with nets, and, fire being applied jungle, the wild animals are destroyed a seek to escape. The hairy-eared rhinocero Rhinoceros lasiotis. A nearly adult femal men, 'Begum,' as she is called, was c near Chittagong, in British Burma, by officers employed in the Kheddah department the capture of elephants. In January 1872 was brought to England by Mr. W. Jamra well-known dealer in living animals, and chased by the Zoological Society for the su £1250. The skin of the rhinoceros is made in jelly by the Chinese.

Rhinoceros horn is the Si-koh and Si- koh of the Chinese. Cups are made of the h which are imported from India, Cochin-C Siam, Sumatra, Sze-chuen, Kwei-chau, and suh. The black and pointed horns are esteemed.

Rhinoceros Indicus, *Cuv.*, *Blyth.*

R. unicornis, *L.*	R. Asiaticus, *Blum*
R. inermis, *Lep.*	
Gor, ... ASSAM.	Ganda, Genra, . .
Genda, Gonda, . HIND.	

The unwieldy great Indian rhinoceros, or s horned rhinoceros, has one horn; it is foun the forest swamps and dense jungles at the of the Himalaya, in the Terai from Rohilkhan the Nepal Terai and Sikkim Terai from Bhut Nepal, but is most abundant in Assam and Bhutan Doar. Its length is from 9 to 12 and its height 4½ to 5 feet; horn occasiona feet. It is herbivorous.

Rhinoceros Sondaicus, *Sol.*, *Müller*, *Blyth.*

R. Javanicus, *F. Cuv.*	Lesser Indian rhinocer
Warak, ... JAV.	Badak, ... M

This species has one horn, and is 7 or 8 long, and 3½ to 3¾ feet high. It inhabit Bengal Sunderbuns in the forest tract al Mahanadi river, and extending northwards t wards Midnapur and on the northern edge of the Rajmahal Hills near the Ganges. It occurs also abundantly in Burma and through the Malaya Peninsula to Java and Borneo.

Rhinoceros Sumatranus, *Raffles.* R. Suma trensis, *Cuv.* The Sumatran rhinoceros is n confined to that island, but occurs in the Ind Chinese territories, in Assam, and from Sandowa in lat. 23° N., to Sumatra. It has two horns. I Oldham, while with the embassy to Ava, shot o which attacked his watch-fire.—*Blyth in J. B. Soc.; Jerdon's Mammals; Horsfield*, p. 19 *Wallace's Archipelago; Ibn Batuta*, iii. p. 10 *Baber*, pp. 292, 316; *Journ. Asiat. Soc.* i. tom. p. 201; *Petis de la Croix, Timur*, p. 158; *Yu Cathay*, i. p. 194; *Bowring's Siam*, i. p. 26; *Gra P. Z. S.* 1854; *Phil. Tran.*, 1793; *Smith's Ch Mat. Med.*

RHINOLOPHUS, a genus of bats of the su family Rhinolophinæ. Several species occur

the East Indies. Drs. Jerdon, Kelaart, and Horsfield mention the following :—

R. affinis, *var.* rubidus, *Kel.*, Ceylon.
R. brevitarsus, *Blyth*, Darjiling.
R. fulvidus.
R. macrotis, *Blyth*, Nepal, Mussoori.
R. mitratus, *Blyth*, Central India, Mussoori.
R. Pearsoni, *Horsf.*, Darjiling, Mussoori.
R. per-niger, *Hodgs.*, Malabar, Himalaya?
R. Rouxi, *Blyth*, all India.
R. sub-badius, *Hodgs.*, Nepal, Himalaya.
R. tragatus, *Hodgs.*, Nepal, Mussoori.

These bats are said to hang with their body rolled up in their wings like a mantle. Their nose is furnished with a complicated apparatus, consisting of a cordate or semi-orbicular leaf.

RHINOPOMA HARDWICKII, *Gray, Blyth*, long-tailed leaf bat, is found over almost all lia, in Burma and Malayana, in old ruins, caves, clefts of rocks.—*Jerdon.*

RHIO, a Dutch settlement on the eastern side the Malay Peninsula, was obtained by them ut the year 1817, from the king of Johore, for onthly payment of 4000 guilders. Rhio Island, dering the Straits of Rhio, is about eight or miles in circumference, and being separated n the mainland of Bintang by Rhio Strait, a narrow channel, appears to form part of it. town of Rhio stands on its north-west point, was formerly a port of great trade, and seems to enjoy a considerable traffic by small els. The little trade enjoyed by the settlement iefly with Java, several native vessels arriving ually from that island, which bring rice for upply of the inhabitants, gambier being taken xchange. The population in 1882 was 87,767, hom 22,925 were Chinese.

HIPIDURA ALBOFRONTATA, one of the catchers of India. In habits it resembles the ad-tailed species, but the clearness of the ite on its body and forehead suffices to disguish it from the broad-tailed fly-catcher. Rh. coventris is plentiful in gardens and wooded alities. It is not shy for its size, but is bold fearless, and will attack birds much larger itself. The song of the male consists of a loud and pleasing notes, uttered while the creature is dancing along the branch with nd wings expanded like a fan.—*Adams.*

IZOPHORACEÆ, *Lindl.*, the Rhizophoreæ angrove tribe of plants, consists of trees, rarely shrubs, natives of salt swamps and marshes of the tropics, where they root in the mud, forming dense, most unhealthy, jungles down to the very edge of the ocean. The mangrove tribe comprises the genera Rhizophora, Ceriops, Kandelia, Bruguiera, Carallia, Anisophyllea, Gynocroches, Weihea, and Blepharistemma. The coasts of the Bay of Bengal and of the Indian islands, also the mouths of the Indus, abound in mangrove. The bark has been used for tanning purposes, for which it is probably more suitable than for cordage. The bark of Kandelia Rheedii is used by the Tavoy women in dyeing red, but Mason thinks only as a mordant. A species, called Kadol by the Singhalese, is found in the western and northern provinces of Ceylon, chiefly near the mouths of the rivers. Its wood weighs 65 lbs. to the cubic foot, and is used for common house-building purposes. A dye is extracted from the bark, and used for colouring leather, nets, sails, etc. Another Ceylon species, Hiri-koddol, SINGH., grows in the western and northern provinces of Ceylon, and it also is used for common house-building purposes. A cubic foot weighs 49 lbs. A dye is extracted from the bark.—*Royle's Fib. Pl.; Mason; Mr. Mendis; Roxb.; Voigt; Gamble.*

RHIZOPHORA CONJUGATA. *Linn.*

Rhizophora candelaria, *W. & A.* | Pyu, . . . BURM.

A small tree of Ceylon, Malabar, Tenasserim, and Java. Fl. middle-sized, white, faintly scented.

RHIZOPHORA GYMNORHIZA. *Rheede.*

Hendeb kakora, . . BENG. | Kayu-api-api, . . MALAY.

This tree grows to a considerable size where the spring tides rise over it, as in the delta of the Ganges. The pith of the wood, boiled in palm wine or with fish, is used as food. The wood is of a yellowish colour, hard, and durable. Its chief use is for fuel and for posts with which to construct the native houses. The seeds of Rh. gymnorhiza and Rh. mangle germinate on the branches, and, after increasing to a considerable length, fall into the mud, where they stick with their sharp point buried in the mud, and soon take root. The roots of these trees, springing from the trunk and lower branches, form a complicated series of loops and arches from five to ten feet high, making an incomparable breakwater. The bark and roots of both these species serve for tanning leather and as a black dye.

RHIZOPHORA MANGLE. *Reede.*

Oopoopoma, Bhora, BENG. | Pee-kandel, . . TAM., TEL.
Manggi-manggi, . MALAY.

This, the common black mangrove, is abundant on the shores of the ocean, within the delta of the Ganges, and in plenty at Arakan, Malabar, Singapore, and the Archipelago. The wood is dark-red, hard, and durable. In the Archipelago, a belt of it as deep as the reach of the tide wherever there is a shallow and muddy shore, rising to the height of 40 or 50 feet, and constituting a dense, almost impenetrable, forest. Each tree stands in a cradle of its own roots from five to six feet high, bare at low water, but at high water covered so as to give the appearance of trees growing in the sea. A mangrove jungle is the favourite resort of mosquitos and crocodiles, and affords a convenient and almost inaccessible retreat to the pirates. The bark is used to dye chocolate colour. This was one of the colours introduced by Dr. Bancroft, and for the exclusive use of which he obtained an Act of Parliament. The great length of the seed of this species gives, in a very short time, a young tree, for if the apex from which the root issues is only stuck a little way into wet soil or mud, the leaves quickly unfold at the opposite end.

RHIZOPHORA MUCRONATA. *Lam.*

Rh. mangle, *Linn.*	Rh. macrorrhiza, *Griff.*
Rh. candelaria, *W. and A.*	
Bhora, ... BENG.	Pukandel, ... TAM.
Uppu-ponna? . . ,,	Adavi ponna, . . . TEL.
Manggi-manggi? MALAY.	Pukandel, ... ,,
Kayu api api? . ,,	Uppu ponna, . . . ,,

Grows in Madagascar, Mauritius, Arabia, at Trincomalee, Calpentyn, Negumbo, and other parts of the Ceylon coast, along with Rh. conjugata, also in Malabar, the Sunderbuns, and Java. The wood is dark-reddish, hard, and durable. Weight, 70 to 75 lbs. per cubic foot. The flowers are large, white, and sweet scented. Bark used for tanning. —*Roxb.; Voigt; Thw.; W. Ic.; Crawfurd, Dict.; Rohde, MSS.; Gamble.*

RHIZOSTOMA, one of the Acalephæ, used by the Chinese as food. They solidify it by rubbing it over with alum.

RHODIA, an out-caste race in Ceylon, little numerous, forbidden to approach a temple or any of the higher castes. According to one tradition, these scarcely civilised beings were hunters who, on the eve of a solemn occasion, failing to obtain game, etc., murdered a child and sent its dismembered body to the king; but another tradition is to the effect that this caste persisted in eating beef after its use as food had been prohibited. The native laws forbade a Rhodia to approach a temple of Buddha or the gods, to build houses, or to live in any abode enclosed within walls,—and even to this day their dwellings are mere sheds,—nor even to cultivate the soil or possess land. They were forbidden to approach, much less to touch or breathe upon, a caste man; and all things they touch are unclean. The men wander about in parties or tribes seeking their precarious subsistence. Their women perform feats of legerdemain, and tell fortunes, their want of chastity being proverbial. Their numbers do not exceed a thousand, and they are principally in the Kandyan province, at Saffragam, Dombera, Wallepane, etc. Nominally Buddhists, they are also devil-worshippers. Rodeya or Rodda, in Singhalese literally means filth. In their social degradation, they resemble the Cagots and Caqueax, who from time immemorial have been held in abhorrence in the valleys of the Pyrenees and the plains of Bretagne, Poitou, and Guienne. They are living in small communities in kuppams or hamlets in different parts of Ceylon, but their language, customs, and observances are identical. They were formerly compelled to remain aloof from all other inhabitants, and even yet their very shadow is avoided, and held to contaminate and render impure any object on which it may happen to fall. They are mat weavers, beggars, thieves, and scavengers, and fall on their knees with uplifted hands before any Singhalese.—*Sirr's Ceylon*, ii. p. 215.

RHODODENDRON, a genus of plants belonging to the Ericaceæ. There are many species in the mountainous regions of the E. Indies, the better known being Rh. anthopogon, arboreum, campanulatum, Aucklandii, Blandfordiæflorum, Campbelli. Edgeworthii, Falconeri, grande, formosum, Hodgsoni, Maddeni, puniceum, and purpureum. Perhaps the most gorgeous of the native plants of Borneo are the various species of rhododendron, which there assume a peculiar form, being found epiphytal upon the trunks of trees. A species known as Brah in the N.W. Himalaya bears a bright red flower. Its wood is soft, used for charcoal and in zamindars' buildings. At Laghep, near Tumlung, Dr. Hooker gathered, in two days, seeds of 24 kinds, in the following order in ascending:—

Commencing at 6000 feet—Dalhousiæ, vaccinioides, camelliæflorum, arboreum.
Above 8000 feet—argenteum, Falconeri, barbatum, Campelliæ, Edgeworthii, niveum, Thomsoni, cinnabarinum, glaucum.
Above 10,500 feet—lanatum, virgatum, campylocarpum, ciliatum, Hodgsoni, campanulatum.
Above 12,000 feet—lepidotum, fulgens, Wightianum, anthropogon, setosum.

Several species occur a little north of Cherra. On the hill above Choongtam village, in Sikkim, Dr. Hooker gathered, at 5000 to 6000 feet, Rh. arboreum and Dalhousiæ, which do not generally grow at Darjiling below 7590 feet. Dr. Hooker collected here ten kinds of rhododendron, which, however, are not the social plants that they become at greater elevations. Still, in the delicacy and beauty of their flowers, four of them, perhaps, excel any other; they are Rh. Aucklandii, whose flowers are five inches and a half in diameter; Rh. Maddeni, Rh. Dalhousiæ, and Rh. Edgeworthii, all white-flowered bushes, of which the two first rise to the height of small trees. In the Tonglo mountains, in Sikkim, the trees in order of prevalence were—the scarlet Rhododendron arboreum and barbatum, the latter 30 to 40 feet high, as large as bushy trees, both loaded with beautiful flowers and luxuriant foliage; Rh. Falconeri, in point of foliage the most supurb of all the Himalayan species. Next in abundance to these were shrubs of Skimmia, Laureola, Symplocos, Hydrangea, and there were still a few pu magnolias, very large Pyri, like mountain-ash, the common English yew, 18 feet in circumference, the red bark of which is used in Nepal as dye and for staining the foreheads of Brahmans.

Rhododendron anthopogon. Poh, BHOT. flowers in June; the whole plant is very fragrant and is exported to Hundes for the Lamas, use it for incense. This and Rh. setosum are dwarf species with strongly scented leaves, occur at an elevation of 12,000 feet near Wa chun in East Nepal.

Rhododendron arboreum, *Sm.*

Mandal . . . of CHEN.	Urvail, . . . JH
Brah, Bras, Broa, DEAS.	Chiu, Dru, ...
Chicheon, . . . ,,	Ma-ratmal, . . . SI
Tree rhododendron, ENG.	Bilbe, Poo-maram,
Buraus, ... HIND.	Trikh, . . TR.-IN
Ardawal, . . JHELUM.	Gandere, . ,,

This very gorgeous tree grows up to 8000 in the alpine Panjab, and in the mountains in south of India. It has lanceolate leaves, ac silvery beneath, tapering to the base. It is on the most beautiful of all trees, but too delicat bear the open air in England. It is very com all over the Neilgherry Hills, either forming clumps or dotted about. It grows 20 feet having a gnarled trunk and deep crimson flo in masses. The variety roseum, of Rh. arbo grows to the height of thirty and forty Sikkim, bears bright red, sub-acid flowe are made into jelly; wood brown, soft, used fo charcoal and in zemindars' buildings; tree gives posts 6 inches in diameter.

Rhododendron argenteum, the white-flowered rhododendron, is found in Sikkim at an elevation of 8671 feet. It is a tree 30 feet high, having leaves very beautiful in the leaf-buds, erect an silky. The flowers are 2 to 3 inches long, 2 to 2 inches in diameter, always white. The scarl rhododendron (Rh. arboreum) is outvied by th great Rh. argenteum, which grows as a tree fort feet high, with magnificent leaves twelve to fiftee inches long, deep green, wrinkled above an silvery below, while the flowers are as large those of Rh. Dalhousiæ, and grow more in a cluste Few plants exceed in beauty the flowering branc of Rh. argenteum, with its wide-spreading foliage and glorious mass of flowers.

Rhododendron aromaticum. Its leaves, called Talesfur, are highly fragrant and stimulating; they are brought from Kābul.

Rhododendron barbatum, *Royle*, a tree from 40 60 feet high, branched from the base. It is ne of the most beautiful of the Himalayan species, nd is readily distinguished by its having bristly etioles and numerous branches floriferous at their pices. Dr. Adams observed the hill-sides covered h the scarlet-flowered Rhododendron bar- in full blossom.

odendron campanulatum, *D. Don.*

. . . .	BEAS.	Simber, ...	PANJ.
. . . .	BHOT.	Sirngar, ...	RAVI.
urmi, .	KANGRA.	Shinwala, . . .	,,
Burans, .	KHAS.	Sim-rung, . .	SUTLEJ.
csh, . . .	PANJ.	Bre? Kath?. . .	TIBET.

Leaves.

ku, ...	HIND.	Barg-i-Tibet, . .	KASH.
is, ...	KASH.	Patti, Patr, . .	,,
spatr, Nik, .	,,		

s found in the Sutlej valley between Rampur Sungnam at an elevation of 10,000 to 14,000 t. It vegetates on the Kashmir mountains; leaves are officinal in Kashmir and Lahore, re they are administered as errhine, to pro- e sneezing. The leaves are imported from et and Kashmir, under the names Barg-i-Tibet Hulas-i-Kashmiri, and are used by the hmir natives as a snuff. Its bark is used for r-making; the plant is very abundant.

hododendron cinnabarinum, the Kema Ke- ng of the Lepcha (Kema signifying Rhododen-), is said to be poisonous, and when used as it causes the face to swell and the eyes to me; of this Dr. Hooker observed several nces.

hododendron Falconeri, a white-flowered ies, never occurring at less than 10,000 feet e the level of the sea, is one of the most king and distinct of the genus. It occurs in t Nepal, and in point of foliage this is the t superb of all the Himalayan species, with ks forty feet high, and branches bearing at ir ends only, with leaves nineteen inches long. se are deep green above, and covered beneath h a rich brown down.

hododendron Hodgsoni. Its foliage is of a iful bright green, with leaves sixteen inches Its bark is as delicate as tissue paper and ale flesh colour.

odendron epidotum, alpine rhododen-

Tsuma	of BHOT.	Talsur, ...	PANJ.
Talesfar, . .	N. INDIA.	Tsaluma, ...	,,

This is found in the Sutlej valley between Rampur and Sungnam at an elevation of 10,000 to 14,000 feet. Leaves highly stimulant.

Rhododendron nivale spreads its small rigid branches close to the ground. It is the most alpine of woody plants, and was found by Dr. Hooker at an elevation of 17,500 feet.

Rhododendron puniceum, a common tree on the lower ranges of the Himalaya; the bark, called kaephul, is brought to Ajmir from Dehli and Mirzapore, and is used as a rubefacient and sternutatory. Dr. Irvine found Kaephul and pounded ginger, mixed, the best substance with which to rub cholera patients to promote reaction; one pound costs five rupees. The fresh flowers are pleasantly acid, and are eaten by the hill-men to quench thirst during their ascent of the hills; the flowers are also made into a jelly.

Rhododendron Wallichii is a very distinct and handsome species, with lilac-coloured flowers. Its leaves are quite unlike any Indian species, and the flowers in colour and size resemble those of the much-cultivated Rh. ponticum.—*Royle, Ill.; Hooker, Journ. and Sikkim Rhodod.; Adams, Naturalist; Cleghorn, Rept.; J. L. Stewart; Eng. Cyc.; Honig.; Beddome; Irvine; Voigt; Low's Sarawak*, p. 65.; *W. Ic.*

RHODYMENIA JUBATA. *Grev.* One of the sea-weeds, a genus of the order Ceramiaceæ.

RHUBARB, Rheum radix.

Rewund Sini, .	AR., PERS.	Reon, . . .	GR. of Dios.
Ta-hwang, . . .	CHIN.	Rewundchini, . .	HIND.
Hwang-liang, . .	,,	Rewen, ...	RUS.
Ho-san, ...	,,	Variattu kalangu,	TAM.
Tahoan, .	COCH.-CHIN.		

The rhubarb of commerce is obtained from a wide extent of country, from Ladakh, in long. 77½° E., to the Chinese province of Shen-si, 29 degrees farther east, and it receives distinguishing names according to the country from which it is exported. The names given to it by the European nations are modifications of rhubarb. About 50 tons are annually imported into Britain.

The Turkey rhubarb of commerce is called also Russian rhubarb, but in Russia is called Chinese rhubarb; it is imported into the frontier town of Kiachta, thence into Moscow and St. Petersburg, whence it is distributed to the rest of Europe.

Bucharian rhubarb makes its way to Vienna by Brody and Nischny, and is supposed to be the inferior sorts of Tu[illegible]hubarb.

Chinese rhubar[illegible] also East India rhubarb, is produced in th[illegible]ains of Kan-su, but comes into the market[illegible]e three forms of Dutch trimmed or Bat[illegible] rhubarb, half-trimmed or Chinese rhubarb, [illegible]Canton stick rhubarb.

Siberian rhubarb[illegible]alled also Siberian rhapontic root, is supposed to be the product of R. rhaponticum.

Himalayan rhubarb is a product yielded by R. Moorcroftianum, *Royle*, by R. Webbianum, *Royle*, and R. spiciforme, *Royle*. A variety of rhubarb, termed riwash, is more or less plentiful in all the hills from Kalat in Baluchistan to Kandahar, and again from that place to Kābul. Attention is paid to its growth only by the inhabitants of Lughman, who supply the bazars of the city of Kābul. They surround the choicer plants with conical coverings of stones, so as to exclude light and air, and thereby produce that whiteness of stem so much prized. The unblanched plant is called chukri, and is also exposed to sale. It makes an excellent preserve, by being first saturated in a solution of lime and then boiled with shirar, or the inspissated juice of grapes, losing, however, in this case, its characteristic flavour. Rhubarb grows in abundance and to a large size in Barmor, and the valley through which the Ravi and its tributaries flow before reaching Dalhousie. A smaller variety, deemed by the natives to be superior in quality, grows in the crevices of the gneiss rocks forming the peaks above Dharmsala. The common dock, Rumex obtusifolius, is not so conspicuous in the waste places of a highland glen as is the officinal rhubarb on the bare rocks in the valley of Asrang. It extends five or six miles down the valley, and ascends the slope to 500 feet above the river's bed. Captian Houchen and the Lama of Asrang said that it is equally abundant in the adjoining valley of Dingering. The following

are four Himalayan species:—R. emodi, *Wall.*, Pindree glacier, etc.; B. Webbianum, *Royle*, Chur mountain; R. spiciforme, *Royle*, Werang pass; R. Moorcroftianum, *Royle*, Niti pass, and yield part of the Himalayan rhubarb. The Pen-ts'au, a Chinese work on medicines, places rhubarb at the very head of poisonous plants, and undoubtedly Chinese rhubarb, in China, is a very poisonous drug, causing severe purging and some prostration. It grows in Kink-chau-fu, in Hu-peh-li; Sui-teh-chau, in the N.E. of Shen-si; Lung-si-hien, in Kan-suh; Mau-chau and Ching-tu-fu, in Sze-chuen. —*Voigt; Smith's Mat. Med.*

RHUS. Of this genus of plants some species are poisonous, as R. venenata, perniciosa, radicans, and toxicodendron; but they are much cultivated as ornamental shrubs, especially on account of the beautiful red colour of their leaves in autumn. Many of them are used for the purposes of dyeing and tanning, as an astringent principle, to which is frequently added an acid, is common to the whole genus. R. suaveolens and R. aromatica exhale a pleasant odour; and some have acid berries, as R. coriaria and R. Buckiamela. Rhus cotinus has wood, called young fustic, which, as well as the berries, is astringent, and R. coriaria, known by the name of sumach, is a powerful astringent, chiefly employed in tanning leather. The seed of R. parviflora, tuntereck, is frequently substituted in India for that of the sumach. R. glabra is considered a febrifuge. Rhus vernix, a Japanes[illegible] exudes a whitish resinous juice, which so[illegible]mes black in the air. R. succedanea a[illegible] vernicifera, both common to the Himalaya[illegible]apan, are said, in the latter, to yield a simi[illegible]duct. Species of other genera, as of Schinu[illegible]ontain a resinous matter. A Rhus, the Coon[illegible]iya maram of the Tamils, grows in Coimbatore, very nearly allied to Roxburgh's R. Buckiamela, but distinct. Its outer sap-wood is white, fine-grained, and heavy, apparently very good. In the N.W. Himalaya, titar, titri, and tatri are generic names for most of the species. Other species are R. Griffithii, insignis, Khassyana, Mysorensis, and paniculata.—*Royle's Il.* p. 179; *Wight in M.E.J.R.; Thun.*

RHUS ACUMINATA. *D.C.* Sumach tree.

Arkhar, Rikhul, . Beas.	Kurku, . . Kanawar.
Lakhar, Titar, . . Chen.	Kakur-singi, . ,,
Kakkar, . . Kanawar.	Arkhol, . . Kangra.

This tree is not uncommon in the Kashmir valley, and occurs more sparingly to the eastward from 4000 to 7000 or 8000 feet. Vigne states that the juice of the fresh leaves blisters the skin, and the Kashmirians said the same to Dr. Stewart, but on his showing that his had not been blistered, they declared it only affected those who feared it. The wood is not valued. Bears are said to eat its fruit, which seems to be the officinal Habat-ul-khizra administered in phthisis.

RHUS BUCKIAMELA. *Roxb.*

R. amela, *G. Don.*; R. semialata, β Roxburghii, *D.C.*

Titri, ... Hind.	Hulashing, . . . Kasia.
Rashin, . . Kanawar.	

Grows in Kamaon, Srinuggur, and the Peninsula of India.—*Roxb.; Voigt; Wight.*

RHUS CORIARIA. *Linn.* Sumach.

Tumtum, ... Arab.	Tatri, ... Panj.
Mutchlee h'sot, . . Hind.	Shumuk, Mahi, . Pers.

A native of Persia, Syria, Palestine, and the south of Europe, about 8 or 10 feet high, divided into numerous irregular branches. All parts this plant have a styptic taste; to the abundan of tannic acid it owes its properties and valu in the arts. The leaves are extensively used i Britain for tanning purposes. M. Tromsdo found in the berries a large quantity of bi-mala of lime. Used by natives in cholera and indi tion.—*O'Sh.; Powell.*

RHUS COTINUS. *L.* Venus sumach

Baura, Tung, . . Chen.	Ban, . Jhelum,
Titri baghuna, . . ,,	Tung, ...
Paan, Jhelum, Kangra.	Larga, ...
Bhan, Bana manu, ,,	

A shrub of Kaghan, Himalaya, Salt Range 2300 to 6000 feet; grows three feet in Wood yellowish, resembles that of Pistacia tegerrima, used by the modern Greeks for dy wool; small twigs used for baskets, leaves bark in tanning.—*Cleghorn; Stewart.*

RHUS DECIPIENS. *Wight.*

Pehunbive, . . . Singh.	Kattu puvarasu, . . T

Grows in the central province of Ceylon in the south of India. Dr. Wight says it yiel very fine, close-grained, light-coloured wood, if procurable of good size, the wood must b considerable value.—*Wight; Mr. Mendis; M.E.*

RHUS PANJABENSIS, *Hooker*, is a mode sized tree of the N.W. Himalaya, growing u 8500 feet. Weight, 36 lbs. to the cubic foot.

RHUS PARVIFLORUM. *Roxb.* Kakur Tung, of the Panjab; found in the Sutlej valley tween Rampur and Sungnam at an elevatio 5000 feet. Wood hard and yellow. Both this R. acuminata yield beautiful wood, the n name, 'Kakur-singhee,' is from the long cu excrescences. The fruit of this species is c tantarik, and is used as medicine by the Hindu *Roxb.; Cleghorn.*

RHUS SEMIALATA. *Murray.* Sumach

Hulug, Butairi, . Panj.	Tung, Titar, Titri, P

A scarce tree of the N.W. Himalaya. No ornamental as other woods of this family.—*C horn.*

RHUS SUCCEDANEA. *Linn.*

Choklu, Halashi, . Chen.	Hala, Halai, Halashi
Nu-ching, . . . Chin.	Kakrin, Kulashing,
Titar, Tatri, . Jhelum.	

This tree appears to be found on most great rivers of the Panjab, from 3000 up feet. It does not grow to a great size, nor its wood valued. The juice of its leaves is stated to blister the skin. Its seed yields, on being pressed, an oil which soon congeals to the consistence of tallow, called Japan wax, from which in Japan candles are prepared. It is a substanc of medium consistence between beeswax and th ordinary vegetable tallows. It is softer, mo brittle and fatty than beeswax, is easily kneade and melts between 40° and 42° C. It contai twice as much oxygen as beeswax, and has different composition, consisting of palmitic ac united with oxide of glycerile. It has been us in England as a substitute for wax and for ha neutral fat, and, after conversion with the ac both for candles and night lights.—*Roxb.* ii. p. 9 *Cleghorn's Report; Oliphant; Thunberg, Tr.* iv. 93; *Smith's Mat. Med.*

RHUS VENENATA. *D.C.* The poison sumac or swamp sumach of North America and Japa is so exceedingly poisonous that it is said to affe some persons by merely smelling it; a touch w

metimes produce violent inflammation. It is a eautiful shrub, and well worthy of cultivation, ut great care should be taken to prevent its eing carelessly handled.

RHUS VERNICIFERA. *D.C.*

Rhus juglandifolia, *Wall.*

har, Rikhali, . BEAS. | Orrosino-ki, . . . JAP.
mbal, . . . CHEN. |

varnish tree of Japan, is common in the ya, in Kamaon, Nepal, and Garhwal. Its re very large and beautiful, rendering it the handsomest of shrubs. Rhus vernici- Japan is met with all over the main island, is from Tokio northwards that it princi- flourishes, growing freely on mountains as as on plains. Sowing the seed one year, on following spring the young trees are trans- nted about six feet apart, and in ten years average tree should be ten feet high, the meter of its trunk 2½ to 3 inches, and its yield acquer enough to fill a three-ounce bottle. A re speedy method is, however, often adopted. roots of a vigorous young tree, in pieces six es long, and the thickness of a finger, are nted out in a slanting direction, a few inches rt, one inch being left exposed above the nd. These cuttings throw out a strong shoot rom 18 to 20 inches the first year, and are wise planted out the following spring. Under lly favourable circumstances these trees would n years be nearly 25 per cent. larger in girth, would yield nearly half as much more sap as rees raised from seed. The usual age at which e is tapped for its lacquer is ten years; but sionally a tree is tapped when only three our years old. The best lacquer for trans- nt varnish is obtained from trees from 100 to years old, as their sap has more body and is e glutinous. The whole country produces at sent on an average about 120,000 to 140,000 lons per annum. The first tapping takes place ut the middle of June, the standard number of s allotted to a tapper for the season being 0, if the trees are about ten years old. The are first notched, the notches being about n inch long, and seven or eight inches apart. four days the tapper goes round again pro- with the bark scraper, the ordinary scraping a summer spatula, and the pot to hold the and first smoothing the bark where re- d, gives one cut above and one cut below the two lower marks, and one cut above the remainder of the other marks, the cut being in each case about an inch and a half long. After iving the cut the instrument is reversed, and the nife is run along the incision to insure the bark eing entirely cut through. This process is re- eated every four days, each incision being made little longer than the preceding one, up to the fth tapping inclusive, after which the remaining cisions are made of the same length. At each ound, when all the requisite incisions have been ade on the tree, the workman gathers the sap hich has exuded with the spatula, beginning ith the two lowest incisions, and so on to the ppermost cut. Twenty-five is considered the ormal number of cuts, which, at the rate of one ncision at each place every four days, occupy 100 orking days. The branches are afterwards apped, and the last operation is to make a umber of incisions completely encircling the tree wherever the workman perceives a likely place. All the branches are cut off, and any sap which may remain in the larger ones extracted, the small branches which have not yet been tapped being tied in bundles and steeped in water for ten days. When taken out and dried, the bark is cut with a knife, and the sap which exudes is collected. These operations kill the tree in one season, but frequently the tree is made to last two years or more, by giving only half the number of incisions, and reserving the final cuts for the second or third year. The roots of the young trees throw out from three to five shoots the following spring, and these can be used in six or seven years.

RHYNCHOCINETES TYPUS, a shrimp of the Indian Ocean.

RHYSICOSIA VESTITA, a beautiful purple-flowered leguminous plant with small tuberous roots, cultivated to some extent in the Khassya Hills.—*Hooker's Jour.* ii. 287; *Oliphant*, ii. 136.

RHYZOMYS CHINENSIS, the Chinese bamboo rat or chuck-shu, is found in the western part of Kwang-tung.—*Williams' Mid. King.* 257.

RI. JAPAN. A long measure of 2·442 miles; about 30 go to a degree of latitude.

RIAL, in Turkish Arabia and Persia, a silver coin, nearly equivalent to two French francs, or about twenty pence English.—*Ouseley, Tr.* ii. 218.

RIBBON.

Ruben de soie, . . . FR.	Nastro di seta, . . . IT.
Band, ... GER.	Cinte de seda, . . . SP.
Pheet, . . GUJ., HIND.	Kordela, Sherid, . TURK.

Silken bands of various widths and colours, both plain and flowered, and distinguished into sarsenet, satin, etc., according to the manner in which they are made; used for trimming bonnets, caps, and other purposes.—*Faulkner.*

RIBBON FISH. One of these is the silvery hair-tail, Trichiurus lepturus, *Linn.*, of China and Corea. It averages 5 feet; it is edible.

RIBES, a genus of plants belonging to the natural order Grossulariæ, including the gooseberry, the currants. Among the species known in the East Indies are—

R. glaciale, *Wall.*	R. leptostachyum, *Dne.*
R. grossularia, *L.*	R. nubicola.
R. Griffithi, *H. and Th.*	R. rubrum.
R. laciniatum, *H. and T.*	R. villosum.

R. nubicola, R. glaciale, and R. grossularia, the currant and gooseberry, grow in N.W. Himalaya at 10,000 and 11,000 feet, but the fruit is tasteless. Dr. Cleghorn also mentions a small, sour, woolly gooseberry called bilitsi in Lahoul. To these species add the gwaldakh, or gooseberry of Kaghan, and the rasta, or currant of Lahoul, also R. nubicola and R. acuminata. R. leptostachyum, *Dne.*, the yellow currant, and R. nigrum, the black currant, are not uncommon from 7000 to 14,000 feet in the Himalaya, and the former at least grows in Tibet, and was found by Dr. Bellew at about 10,000 feet near the Safed Koh. The fruit of the latter is very like the cultivated black currant, and very fair eating. Ribes nigrum is used in preparing the liquor called ratafia.

Ribes glaciale, *Wall.*, Mangle, BHOT., is found in the Sutlej valley between Rampur and Sungnam at an elevation of 11,000 feet. Several varieties occur, but the fruits are without flavour.

Ribes Griffithii, *H. and T.*, grows in the N.W. Himalaya at 10,000 to 13,000 feet elevation. Its berries are austere.

Ribes grossularia, *L.*, gooseberry.

R. Himalensis, *Royle.*	Pilsa, Teila, . . CHEN.
Amlanch, Kansi, CHEN.	Sur-ka-chup, . SUTLEJ.

This is found on the Upper Sutlej, Chenab, and Jhelum; in Tibet, in the Sutlej valley, between Rampur and Sungnam, at an elevation of 8000 to 12,000 feet. Also near the Safed Koh at 10,000 feet.

Ribes rubrum, *Linn.* (R. Himalense, *Dne.*).

Hadar, Khadri, . BEAS.	Red currant, . . ENG.
Rade, Ans, . . . CHEN.	Dak, Dagh, . . JHELUM.
Phulanch Nangke, ,,	Warawane, . TR.-INDUS.

Occurs frequently in the Panjab Himalaya from 5800 to 11,000 feet, up to the Indus and probably beyond; it has a sweet, acid, nearly worthless fruit.—*Royle; Stewart; Cleg.; Powell.*

RIBEYRO. Juan Ribeyro, a captain in the Portuguese army, who went to Ceylon A.D. 1640, and returned to Portugal by an order of the court in 1680, after 40 years' residence there and in other parts of the East Indies. He was engaged in all the wars between the Dutch and Portuguese, was taken prisoner when the Dutch took Colombo in A.D. 1656, and was in the small remnant of 140 Portuguese whom the Dutch transported to Batavia on the 24th June 1658. He wrote a history of Ceylon, which he presented to the king of Portugal in 1685. It was translated into French by Abbe Le Grand, and from that into English in 1847 by George Lee, Postmaster-General of Ceylon. The work was first published in Portuguese in 1836.—*Tennent.*

RIBHU, in the Vedas, celestial artists; analogue of the Greek Orpheus.

RIC, an ancient title applied to the highest class of Hindu priests. Ric, Ricsha, Riciswara were even applied to royalty in old times. It is in accordance with the peculiar rules of Sanskrit euphony that the stem ric (more properly rc) becomes rik when standing by itself, and rig before a sonant letter.—*Oriental Linguistic Studies*, p. 9.

RICCI. Matthew Ricci was born at Macerata in the March of Ancona, in 1552. He entered the Jesuit Society in 1571. He reached Goa in 1578, but speedily left it for Macao, on being chosen by Father Valignan, the founder of the Jesuit Mission in China, as one of his aids. Ricci reached Pekin in 1597, but was obliged by an accidental excitement among the Chinese to withdraw to Nankin. In 1600 he was enabled to revisit it, carrying presents which had come from Europe for the emperor. Having acquired the emperor's favour, he devoted himself to the mission at the capital. Some striking conversions were made, and Ricci's science and literary works in Chinese gained him much esteem among the most eminent persons at Pekin. He died 11th May 1610, leaving Adam Schall to succeed him. The chief literary men of the city attended his funeral. His name appears in the Chinese annals as Lu-mateu. The principles of Ricci as a missionary appear to have been to stretch conciliation as far as possible, and to seek the respect of the educated Chinese by the display of superior scientific attainments. As regards the former point, he is accused of having led the way in those dubious concessions which kindled the disputes that ended in the downfall of the missions. He was the first European to compose books in Chinese. His works of this kind were fifteen in number, and one of them is said to have be included in a collection of the best Chinese writ ordered by the emperor Khian-lung.—*Remusat Biog. Universelle; Yule, Cathay*, i. p. 536.

RICE.

Lua, . . . COCH.-CHIN.	Reiss, ... G
Riis, ... DAN.	Chuka, ... C
Ryst, Rijst, . . . DUT.	Riss, ...
Riz, ... FR.	Ris, ...

Husked and cleaned.

Mi, Kaligmi, . . CHIN.	Aris, ...
Chanwal, . . . HIND.	Birinj, ...
Riso, ... IT.	Arroz, . . Po
Motsj, Gome, Ko, JAP.	Vrihi, ...
Tandul, ... MAHR.	Arisi, ...
Bras, ... MALAY.	Byum, ...

Cooked or boiled.

Ubala Chawul, . HIND.	Nasi, ... MA
Khuska, ... ,,	

Glutinous.

No, Ju-mi, No-mi, . CHIN.	Padi, ... MA

In the husk.

Aruz, ... ARAB.	Gabah, Padi, . MA
Tau, ... CHIN.	Nelloo, ... T
Dhan, ... HIND.	Udlu, ... T

This is one of the most extensively diffused useful of grain crops, and supports a great nu of the human race.

The exports from British India, and the im into Great Britain, have been rapidly increas The imports into Great Britain from 184 to ranged from 38,529 to 78,658 tons. In 1 Britain imported 412,486 tons, value £3,297 In the eleven years 1850-51 to 1860-61 inclu the quantity of rice exported from British I varied from 777,572 quarters, value £672,43 1850-51, to 32,014,220 quarters, value £2,598, in 1855-56. In 1878-79, after India began recover from a famine, the total export of rice 2½ million tons, valued at Rs. 12,66,000. An ex duty is levied on rice in India at the rate of 3 a per maund, or about 6d. per cwt. A similar d on wheat was repealed in 1873. The export rice from British India were—

1878-79, . .	2,692,000 tons	Rs. 12,66,000
1879-80, . .	4,362,480 ,,	,, 24,36,00
1880-81, . .	3,468,930 ,,	,, 4,82,1
1881-82, . .	4,148,000 ,,	,, 14,24,0
1882-83, . .	7,420,000 ,,	,, 12,14,1

Three species and numerous varieties rice plant are enumerated by botanists, may be resolved into the lowland or aquatic (Oryza sativa), and the upland or mountain rice (Oryza Nepalensis). Oryza is the name by which rice was known to the ancient Greeks and Romans and has been adopted by botanists as the generi name of the plant that yields this valuable grai The term paddy is applied to the rice in its natur state—that is, before it is separated from the out husk. In this state the natives of Hindustan c it dhan, as well as the plant; the clean rice th distinguish as chawul. The common or aquat rice (O. sativa) is a native of the East Indies, an unlike many cultivated grains, is still found gro ing wild in and about the borders of the lakes in t Rajamundry Circars. A kind with broader leav (O. latifolia) is indigenous in Brazil, and Bat mentions having seen it growing wild in abund ance on some of the tributaries of the Amazo The common rice is cultivated in tropical cou tries, wherever there is a plentiful supply of wat for irrigation, and succeeds well on land that

too low and moist for the production of other useful plants. Although grown principally within the tropics, it flourishes well beyond them, yielding even heavier and better filled grain. Under favourable conditions, it will mature in the east as high as the 45th parallel of north latitude, and on the Atlantic seaboard of North America as far north as 38°. On the west coast it will grow as high up as 40°. It does not necessarily require a very great degree of heat, but it must have moisture so abundant that the fields on which it grows require to be repeatedly laid under water by irrigation. Without its due degree of moisture it proves almost wholly unproductive. But the dry or mountain rice of Cochin-China and Nepal is raised upon a comparatively dry soil, without irrigation. It has been introduced into the United [illegible]tes, and grows several degrees farther north [illegible] the Carolina rice; it has also been cultivated [illegible] success in Hungary and Westphalia. At the [illegible]don Exhibition there were displayed many [illegible]ous specimens and varieties of rice grown [illegible]out irrigation, at elevations from 3000 to [illegible]) feet on the slopes of the Himalayas, where [illegible]lampness of the summer months compensates [illegible]he want of artificial moisture. The upland [illegible] flourishes on high and poor land in the [illegible]ed States, and produces more than Indian-[illegible] on the same land would do, giving 15 bushels [illegible] acre where the corn yields but 7. The [illegible]p rice is more prolific, often yielding in [illegible] region as much as from 30 to 70 bushels [illegible]cre.

[illegible]is grain was first introduced into Virginia by [illegible]Villiam Berkeley in 1647, who received half a [illegible]el of seed, from which he raised 16 bushels [illegible]xcellent rice, most or all of which was sown [illegible]following year. It is also stated that a Dutch [illegible] from Madagascar came to Charleston in 1694, [illegible] left about a peck of rice in the husk with [illegible]ernor Thomas Smith, who distributed it among [illegible] friends for cultivation, from the produce of [illegible]ich no less a quantity than 60 tons was shipped [illegible] England in 1698. It soon after became the [illegible] staple food of the colony. Its culture was [illegible]uced into Louisiana in 1718. The present [illegible]e of rice in the United States is chiefly con-[illegible] South Carolina, Georgia, Florida, Alabama, [illegible]ssippi, and Texas. The average yield per [illegible]cre is from 20 to 60 bushels, weighing from 45 [illegible]o 48 lbs. when cleaned. Under exceptionally favourable circumstances as many as 60 bushels per acre have been realized. The American rice, although originally introduced from the Old World, [illegible] now the finest in quality. That imported from [illegible]atna is more esteemed in Europe than any other [illegible]nd of eastern rice. The low estimation of Java [illegible]ce was not attributable to any real inferiority of [illegible]e grain, but to the careless method of preparing [illegible] for the market.

[illegible]The common rice being an aquatic plant, is best [illegible]own in such low, moist lands as are most easily [illegible]ndated. The ground is first ploughed super-[illegible]ially, and divided into squares of from 20 to 30 [illegible]rds each way, separated from each other by [illegible]kes of earth about a foot high, and sufficiently [illegible]ide for a man to walk upon. These dykes are [illegible]r the purpose of retaining the water when [illegible]quired, and permitting it to be drawn off when [illegible]o longer necessary. So soon as the ground is [illegible]epared, the water is let on, and the several compartments of the rice fields are thus flooded into a depth of about 6 inches. The rice that is to be used as seed must remain in the husk, it having previously been put into sacks, and kept under water until the grain has swelled and begun to show signs of germination. The sower, walking through the inundated field, scatters the seed with his hands, as he would do if he were sowing wheat; being rendered heavy by its previous soaking, it immediately falls to the bottom, and even sinks a little way into the mud. After the lapse of about a fortnight, the young crop begins to show itself above the surface of the shallow water. As the plant grows, the depth of the water is increased, so that the stalks may not bend with their own weight. When they become stronger and less flexible, the water is drawn off for a few days to allow of hoeing, after which it is again let on, and maintained to about half the height of the plant, until the crop ripens and the straw begins to turn yellow. Then the water is emptied, and the harvest commences, the crop being reaped with a sickle. It is then bound up into bundles, and thrushed or trodden out and winnowed. The husk of the grain is removed in some countries by means of a mill constructed of two large cylinders of very hard wood, and obliquely furrowed, which are turned by the hand. Americans employ a rice-threshing mill with steam-engine attached. The rice in sheaf is taken up to the thresher by a conveyer; it is threshed, the straw [illegible] thrice winnowed and twice screen[illegible]he result in some cases exceeds a thousa[illegible]s a day.

Paddy, as it c[illegible]om the ear, has a rough, silicious outer cove[illegible]r husk, which is impervious to water, and is u[illegible]n America for horse-beds, and for packing cr[illegible]kery-ware and ice, being far better than sawdust for the latter purpose.

At the mouths of the river Indus, large patches of alluvial deposit accumulate, consisting of very muddy, swampy soil, almost on a level with the sea, and exposed equally to be flooded both by it and the fresh water of the river. These swamps form the principal rice fields of Lower Sind. There is little doubt but that the extensive mud flats, covered with flags and bulrushes, that border the lower portion of the river Murray in South Australia, might easily be made available for the culture of rice. The delta of the Mississippi is remarkably adapted to the growth of this grain, the river being always available for the purposes of irrigation, and two crops of rice a year can be reckoned upon in that region.

The wild rice found in the Madras Presidency, in and on the borders of lakes in the Circars, on the marine lagoons of Travancore, near Allepey, and other places, is never cultivated, though the richer classes near Rajamundry gather and eat it as a great dainty. It is white, palatable, and wholesome, and sells at a high price.

Rice cultivation prevails in all the river valleys and on all the coasts of Eastern and Southern Asia, in the Japan Islands, on all the sea-coasts of China, the Philippine and other large islands of the Eastern Archipelago, in Ceylon, Siam, India, on both shores of the Red Sea, in Egypt, on the shores of the Mozambique Channel, in Madagascar, on the shores of the Mediterranean, in some parts of Western Africa, South Carolina, and Central America. Throughout the greater part of British

India and China rice is preferred as food by nearly all classes, and the Negro domiciled in the New World similarly appreciates it. But it is essentially the food of the well-to-do classes. The races of Northern India, and the Chinese of the provinces of Ho-nan, Shen-si, Shan-si, and Shan-tung, prefer wheat, and in India the millets and pulses form the food-grains of all the labouring people, with whom rice is a luxury.

Rice is always substituted by the physician, when practicable, as the food best adapted to the digestion, in diarrhœa and other similar diseases; and if the clean rice be ground and bolted, a meal is produced which can be made up into various forms of cake and other bread forms of unrivalled sweetness and delicacy.

Rice possesses the advantage attending wheat, maize, and other grains, of preserving plenty during the fluctuations of trade, and is also susceptible of cultivation on land too low and moist for the production of most other useful plants.

Where inundation is practised, ordinarily the ground is squared off in beds, generally 30 to 40 yards in length and breadth, separated by small dykes 2 feet high and 1 foot broad. This bed, after being thoroughly saturated with water, is ploughed up and manured with wood-ashes, or from dung-heaps, or green herbs or shrubs are ploughed in, the most favourite being the Calotropis gigantea, which is eagerly sought after by the cultivator at the ploughing season. The ground thus prepared is [illegible]ater, 2 to 4 inches deep, thoroughly to di[illegible] soil, and a few days afterwards it is ag[illegible]ghed into a deep muddy mixture. A piece [illegible]d, tied on to the yoke of a pair of bullock[illegible] drawn over the puddle to level it, after w[illegible]h it is ready to receive the seed, which is t[illegible]n sown broadcast. The following day, so soon as the seed has settled into the soil, the flood water is let off, and the soil allowed to dry for three or four days, during which the seedlings will have sprung up about 2 inches high, on which the field is irrigated, and the water allowed to stand a couple of inches above the soil, and is so maintained until the harvest.

With some varieties of rice the field is ploughed up after rain, and the seeds sown. When the sprouts are between four and six weeks old, the field is irrigated for the first time, and the water supply maintained until the grain ripens and the stalks are ready for the sickle, which is seen by the whole field lying down. Nurseries are frequently prepared in the manner previously described, and the seed sown. Six or eight weeks afterwards, the plants are transplanted into fields prepared in the same way to receive them.

During the first and second months, the fields are hand-weeded by women and boys; any crowding or failure is remedied by transplanting, so as to leave 4 to 6 inches of space between each plant. If the plants shoot up in a lanky manner, 8 or 10 inches of the tops are cut off by the sickle, which makes them more fruitful. In the Tamil-speaking countries, the varieties called Kado Kaluthan, and Vellai, Sirumani, Pompalui, Esarakova, Pall, Thiruvarangam, and Nirvala Sumbah are sown in July or August, and cut in January or February, taking six months to ripen. Vaday Sumbah, August to December, five months; Vallai kar, August to November, four months.

American rice is of two kinds,—the red and the white, from the colour of the pellicle which encloses the seed, on the removal of which both are alike white. The former was accidentally introduced in 1694 by a ship captain from Madagascar, and the latter was transmitted in 1647 to America by Mr. Doubois, treasurer of those days to the E. I. Company.

The growth of rice in North America is almost wholly confined to two States, nine-tenths of the whole product, indeed, being raised in the States of Carolina and Georgia. A little is grown in North Carolina, Florida, Alabama, Texas, Louisiana, and Mississippi.

The cultivation is carried on in South Carolina in the marshy flats, which are periodically covered by the floodings of the rivers, and for such culture that State possesses peculiar advantages, which only enable the cultivator to produce his grai[illegible] a trifling cost of labour, but also of a much fi[illegible] quality than in those lands which are a[illegible] ficially irrigated. Carolina rice has a fi[illegible] handsomer grain than that which is grown in [illegible] country of its original production.

The yield per acre varies in South Carolina f[illegible] 20 to 60 bushels, weighing from 45 to 48 [illegible] when cleaned. Under favourable circumsta[illegible] as many as 90 bushels to an acre have [illegible] raised.

A variety of rice, discovered in South Car[illegible] in 1838, was called the big-grained rice. [illegible] proved to be unusually productive. One far[illegible] in 1840, planted not quite half an acre with[illegible] seed, which yielded 49½ bushels of clean winn[illegible] rice. In 1842 he planted 400 acres, and in [illegible] he sowed his whole crop with this seed. His [illegible] parcel when milled was 80 barrels, and ne[illegible] half a dollar per cwt. over the primest rice [illegible] on the same day. Another cultivator also pla[illegible] two fields in 1839, which yielded 73 bushels [illegible] acre. The average crop before, from the s[illegible] fields of 15 and 10 acres, had only been 33 bus[illegible] per acre.

Rice in Carolina is sown as soon as it c[illegible] veniently can be after the vernal equinox, [illegible] which period until the middle, and even th[illegible] of May, is the usual time of putting it [illegible] ground. It grows best in low marshy la[illegible] should be sown in furrows 12 inches asunde[illegible] requires to be flooded, and thrives best if 6 inche[illegible] under water; is occasionally drained off, and [illegible] turned on again to overflow it, for three or four [illegible] times. When ripe the straw becomes yellow, and [illegible] it is either reaped with a sickle or cut down with [illegible] a scythe and cradle, some time in the month o[illegible] September, after which it is raked and bound [illegible] or got up loose, and threshed or trodden ou[illegible] and winnowed in the same manner as wheat [illegible] barley.

In the south of India, and along the sea-coas[illegible] rice is the favourite food, but from the expens[illegible] attending the necessary irrigation, it is dea[illegible] than other cereals, and the labouring people li[illegible] on dry grains, millets, and pulses. But the[illegible] again take more time to prepare, more firewo[illegible] to cook, and so strongly are the people of Southe[illegible] India impressed by the superiority of rice as foo[illegible] that it indicates their well-to-do or impoverish[illegible] condition by their telling that they can have ri[illegible] twice or only once daily, or once weekly. Neve[illegible] theless, for the labouring man, the value of t[illegible]

rm of worship, to distinguish it from the Vami
r Vamachari, the left-hand worshippers, or those
who adopt a ritual contrary to that which is usual,
nd to what, indeed, they dare publicly avow.
He says the left-hand sect worship Devi, Lakshmi,
raswati, the Matri, the Nayika, the Yogini, and
en the fiend-like Dakini and Sakini are admitted
a share of homage. Siva with the two hands
an object of veneration, especially in the form
Bhairava, with which modification of the deity
s the object of the worshipper to identify him-
f. The worship of the Vamachari is derived
m a portion of the Tantra. It resolves itself
o various subjects, apparently into different
ts, of which that of the Kaula or Kulina is
lared to be pre-eminent. The object of the
rship is, by the reverence of Devi, who is the
ti or female power of Siva, to obtain super-
ural powers in this life, and to be identified
r death with Siva and his sakti. All the forms
his impure worship require the use of some or
f the five Makara, Mansa, Matsya, etc., flesh,
wine—'women and wine are the five-fold
ara, which take away all sin.' There is
hing of all this in the Peninsula of India;
it may be safely said, anywhere now in
ish India.

IG VEDA, SANSK., from Ric or Rich, an
ntation, and Veda, from Vid, knowledge. It
e of the first or oldest of the inspired Vedas,
sacred books of the ancient Aryans, and still
gnised by all Hindus. Rig signifying the
nce of divination, of which it principally treats,
so teaches astronomy, astrology, natural philo-
y, and gives a particular account of the for-
ion of matter, and the creation of the world.
ontains 1017 hymns and 10,580 verses, doubt-
the work of many men at long intervals of
e. The language is archaic, involved, and
ptical; the hymns contain very little poetry of
agreeable or elevated kind, a few mixed with
ost ignoble and unsuitable allusions.

e deities which the Rig Veda invoke are
ental, *i.e.* personifications of earth, fire, and
r, and the winds, etc. In the 3d Ashtaka,
has 44 hymns addressed to him; the next
mber comes Indra with 48; and after
Marut, or the personified winds, have
number of hymns.

lculated that the mere Sanhita or
portion of the Vedas, as distinguished
the Brahmana or later ritual appended to
ch, contains not less than 30,000 couplets, of
hich 11,000 go to the Rig Veda.

The Rig Veda is the chief of the four Vedas,
he others, the Sama Veda, Yajur Veda, and the
tharva Veda, come after it. The hymns of the
ig or Rich Veda are repeated entirely in a dis-
inted form in the Sama, and with little altera-
on in the Atharva also. The Yajur Veda con-
ins principally forms of prayer. The Atharva
eda evidently belongs to a much later age than
he rest. Each hymn is called a sakta, of which
here are about 1000, arranged into 8 ashtaka or
handa of unequal extent. Another division is
nto 10 mandala, subdivided into 100 anuvaka.
Each hymn has a rishi or inspired writer for its
uthor. Portions of the Rig Veda had been
anslated by F. Rosen, M. Langlois, and Professor
Wilson; but Professor Max Muller rendered the
hole of it into English, and published the text,
mantra. In the hymns of the Rig Veda the Brahmanical or East Aryan tribes are shown advancing step by step along the rivers of the Panjab into the plains of the holy land, Brahmavarta, often at war with mighty kings, or engaged in hostilities with each other, each immigrating tribe pushing those in advance of them farther and farther to the south.—*Garrett; Max Muller; Rep. Brit. Ass.* 1847. See Sanhita; Veda.

RIGYAL, TIBETAN, lit. mountain king, is the origin of Plutarch's Mount Argillos (De Fluviis), the name of the mountain on which Bacchus was born. Riga, TIBETAN, a mountain, is the same term as Mount Righi in Switzerland. Rigyal is one of the Trans-Himalayan range. The peaks of this range are from 20,786 to 21,000 feet in height. Its general direction is from south-east to north-west, and its extreme length is upwards of 850 miles. It forms the natural boundary of Ladakh, Balti, and Rongdo on the north, and Rukchu, Purik, Dras, and Astor on the south. Its passes on the eastern half of the range are from 16,495 to 18,746 feet in height, and on the western half from 12,000 to 16,000 feet.

RIHL. ARAB. A book-stand, used for supporting a Koran or prayer-book in mosques.

RIJAZ. ARAB. A war song.

RIKAB. HIND. The second note of the musical scale, 'Re.'

RIKSHA. SANSK. A bear. In Hindu astronomy the general term for a constellation. Maha-Riksha may therefore be understood either as the constellation of the Great Bear, or as the great constellation. Whether the former denomination (which is the same as the name given by Europeans to the asterism called the Great Bear) be merely accidental, or whether by that term both Europeans and Hindus mean the same object, is uncertain.—*Warren, Kala Sanhita.*

RIKSHAVAT. Name of a mountain—literally, bear-having (from Riksha, a bear, and Avat, suffix of possession)—part of the Vindhya chain, separating Malwa from Kandesh and Berar.—*Williams' Nala*, p. 131.

RINCHOR, from Rin, the field of battle, and Chorna, to abandon. Hence Rinchor, one of the titles under which Krishna is worshipped at Dwarica, is most unpropitious to the martial Rajput. Kal-Yamun, the foe from whom he fled, and who is figured as a serpent, is doubtless the Tak, the ancient foe of the Yadu, who slew Janmeja, emperor of the Pandu.

RIND, a section of the Baluch race. See Baluch.

RING.

Mahbas, Khatim,	ARAB.	Anello,	IT.
Khal-khal,	,,	Circulo, Anillo,	SP.
Bague, Anneau,	FR.	Moderam,	TAM.
Ring,	GER.	Ungaram,	TEL.
Angotha,	HIND.	Halka, Yuzuk,	TURK.

Rings are used in Southern and Eastern Asia as signet rings, with a seal engraved, or for ornament, worn on the fingers, toes, wrists, ankles, or in the nose and ears. A ring is used as a marriage token in Europe; and amongst all nations and in every age the ring has been chosen as the aptest emblem of time, and such names as 'annus,' ενος, ετος, ενιαυτος, and year, from Yar, to surround, mark the most recurrent period known to men.

Medicinal rings were at one time very seriously believed in. Physicians were wont to wear finger-

rings in which stones were set, and these stones were credited with the possession of many virtues. Sometimes the patient was simply touched with the ring; sometimes he put it on his finger for awhile. Many a patient has worn such a ring to stop a hæmorrhage, which sedatives, absorbents, and astringents had alike failed to allay; if the desired result followed, the ring was unreservedly regarded as the healing agent; if the cure did not follow, we are told nothing about it, for in these matters 'what is hit is history, but what is miss'd is mystery!' A wine-coloured amethyst, set in a ring, was a specific against intoxication and its consequences; a hyacinth stone, similarly set, acted as a charm to produce sleep; an agate had wonderful power in curing amaurosis and other diseases of the eye; a jasper showed its value in cases of dropsy and fever; while a coral was an antidote against nervousness and causeless fears.

The ring, with the title or name on it of the owner, is used throughout the South and East of Asia to be applied to documents in the place of a signature; this is mentioned in chapter viii. 2 of Esther, where the king Ahasuerus took off his ring, and gave it to Mordecai. It is so used by Hindus and Muhammadans, even though they can write.

RINTIMBUR, a fort in the Jaipur (Jeypore) State of Rajputana, in lat. 26° 2′ N., and long. 76° 30′ E. It is situated on an isolated rock, the summit of which is surrounded by a massive stone wall, strengthened by towers and bastions.—*Imp. Gaz.*

RIPPLES occur in the [illegible] of Bengal, the Banda Sea, and other seas [illegible] the Archipelago. Also in the tract between t[illegible] Nicobar Islands, Malacca, Penang, and Acheen [illegible]ead, they have been seen 2 to 5 miles long, 200 to 400 yards broad. In their general appearance they resembled the waves of the sea breaking on a shallow, sandy shore. Some seen in 1814 by H.M. ship *Minden* advancing from the west were very gentle, so that the surface of the sea was scarcely whitened by them, their approach being indicated only by a faint noise. Others were heard several miles off, and advanced towards the ship boiling and foaming in an extraordinary manner; some of them not only dashed the water many feet up the side of the ship, but actually shook the ship. In the Straits of Singapore they presented the appearance of a shallow stream rippling over a stony bed.—*Jameson's Ed. Journ.*, 1820, ii. pp. 7–9.

RISALA-i-KHAIRATIYAH, or the Charitable Treatise. It contains a diatribe against Sufiism, and especially against the great Sufi teacher of the 12th century.

RISALDAR. HIND. A native officer in the native army of India.

RISAM and Rejam, Pharaoh's magicians, called by the Jews Jannes and Jambres.

RISHABHA. SANSK. A bull, vehicle of Siva. Rishabha signifies excellent. Rishabanatha, 10 miles S. of Prasad, on the Udaipur and Ahmadabad road, a place of pilgrimage.

RISHI, a priesthood of Muhammadans in Kashmir who do not marry, and who abstain from animal food.

RISHI, an important term in Hindu astronomy, which, in its scientific sense, means a line or great circle passing through the poles of the ecliptic, and the beginning of the first solar sidereal sign an[illegible] first fixed lunar mansion of the respective zodiac[illegible] and which said circle is supposed to cut some o[illegible] the stars in the Great Bear, which most com[illegible] mentators take to be Dhube, or β Ursæ Majoris[illegible] and ζ Piscium, although in reality no such circ[illegible] could be made to intersect exactly these thr[illegible] points. This line or circle being thus invaria[illegible] fixed, and the four (fixed and moveable) zodia[illegible] conceived to coincide at a particular epoch, [illegible] variation of the moveable ones may easily [illegible] reckoned by its means, as if it were an ind[illegible] Thus, suppose that the line of the Rishi sho[illegible] have intersected the beginning of the fixed lu[illegible] mansion Magha, as was supposed to be the cas[illegible] the 1910th year of the Caliyug (1192 B.C.), [illegible] that at the beginning of the said year the lin[illegible] the Rishi was found by observation to inters[illegible] the middle of the moveable mansion Magha, t[illegible] it would be said truly that the Rishis had got [illegible] 6° 40′ $\left(\frac{13° 20'}{2}\right)$ of the moveable Magha, and t[illegible] 6° 40′ would mark the absolute precessional va[illegible] tion which had accumulated at that epoch s[illegible] the time that the fixed and moveable Maghas c[illegible] cided. The above explanation of the term R[illegible] is clearly justified by all the Hindu treatise[illegible] any weight which have hitherto fallen into [illegible] hands of Europeans; and here it may not be[illegible] of the purpose to observe that when Hippar[illegible] (later than the 135th year B.C.), on comparing[illegible] observations of Spicæ Virginis (the Harshan[illegible] the Indians) with those that Simocharis had n[illegible] at Alexandria about a century before, and [illegible] ceived by the results that the stars appeare[illegible] have advanced (though slowly) from west to [illegible] relatively to the equinoctial points, he was [illegible] from imagining that Indian astronomers (perh[illegible] several centuries before his time, and in all p[illegible] bability by observations of the same star) [illegible] already noticed the same variation, on which, [illegible] after ages, Sir Isaac Newton resolved and e[illegible] lished the great problem of the equinoctial [illegible] cession. The celebrated Indian astron[illegible] Aryabhatta, probably puzzled how to account [illegible] the change of the position of the line of [illegible] Rishis, which, he admitted, had int[illegible] middle of the moveable lunar mansio[illegible] the year of the Caliyug 1910, and [illegible] pretended to cut (when he wrote) the [illegible] of Aswini, imagined a curious system on [illegible] stars of the Great Bear, to which he suppos[illegible] proper motion to the eastward, at the rate [illegible] 13° 20′ (a lunar mansion) in 100 years, whi[illegible] amounted to 159,999 revolutions in a calpa, an[illegible] which squared his account. But this absur[illegible] doctrine has long since been abandoned by a[illegible] manner of Indian astronomers, many of whom i[illegible] existence in 1810 had never heard of it.—*Lt.-C[illegible] J. Warren, Kala Sankalita*, pp. 85, 245.

RISHI, amongst the Hindus, a sage, a see[illegible] an inspired poet. In the epic period of t[illegible] Hindus, a Rishi is merely a title for a historic[illegible] personage; in the Puranic period, the Rishi a[illegible] seven primeval personages, born of Brahma[illegible] mind, and presiding, under different forms, ov[illegible] each manwantara. They correspond to the Praja[illegible] pati, or progenitors of the human race. Thr[illegible] lists of Rishis are given in the Upanishad of t[illegible] Yajur Veda, called 'Vrihad Aranyaka,' each li[illegible] differing from the other. Other names are giv[illegible]

ter in the Sathapatha Brahmana, Mahabharata, d the Vayu and Vishnu Puranas—

Agastya.	Jamadagni.	Pulastya.
Angiras.	Kanwa.	Valmiki.
tri.	Kasyapa.	Vashishtha.
haradwaja.	Kratu.	Vibhandaka.
hrigu.	Manu.	Visvamitra.
aksha.	Marichi.	Vyasa.
utama.	Pulaha.	

he names of several of the Rishi are prefixed the hymns of the Vedas. Vashishtha is the ted author of some of the most touching ns of the Vedas, simple, genuine utterances, essing sin, and yearning after an unknown l. On the other hand, Visvamitra, son of hi, was a king, a powerful soldier, and is ed to be the originator of the great religious monies. According to Hindu mythology, by devotion he became a Rishi and capable of ting as well as Brahma. These two men me typical in ancient Hindu story, and they made to reappear in the long subsequent ayana.

e term Rishi is also applied to the Vanaprastha mans, or inhabitants of the desert. Of these most ancient and celebrated were the seven t Rishi, or Maha Saptaite Rishi astadha, who etired in the territory washed by the Indus; t was to them, it is supposed, that Alexander Great applied for instruction after invading country.

stronomically the Rishi are the husbands of six Pleiades, but how six and seven can accord ay be difficult to understand, yet they have the honour of becoming the seven bright stars e Great Bear; and in Hindu mythology they fabled to be married to the Pleiades, are hipped at the festival of Shashti, and at the fice called Chitra Ketu, Swar Yaga, and a -offering is poured out to them at the Magha ing festival.—*Ward*, iv. p. 20.

IVEA FRAGRANS. Boodthee-keeray, TAM. eautiful variety of the convolvulus tribe, found lges, called the clove-scented creeper by eans; transparent white flowers, opening at and perfuming the air with a very pleasant leaves used as greens. Wight gives R. hosa, hirsuta, ornata, pomacea, speciosa, .—*Jaffrey; Wight.*

	ARAB., HEB.	Rud,	PERS.
	Fleuve,	FR.	Wah, SANSK.
ss,	GER.	Waeter,	SAXON.
or,	GR.	Wod,	SLAV.
ldi,	HIND.	Rio,	SP.
r,	ISLANDIC.	Ar,	TAM., TEL.
ume, Riviera,	IT.	I'rmak, Su, Chay,	TURK.
a-wa, Ga-wa,	JAP.	Sind,	"
umen,	LAT.		

The principal rivers of the S. and E. of Asia w into the Caspian Sea, the Persian Gulf, the abian Sea, the Indian Ocean, the Bay of Bengal, d the Chinese Sea. The valleys of the Oxus, e Jaxartes, the Indus, and nearly the whole of t of the Euphrates, being at the extremities of n, that territory, in addition to the Tigris and axes, with their tributaries, has only the advan- ge of the Salyan, the Aji, Jeghetu, and Safed- ud towards the north; the Zend-Rud, Indian, d Bendamir in the centre; the Helmand, with tributary, and the Farrah-Rud, more eastward. sides these, there are some inferior streams, hich after a short course are either lost by absorption or become saline. The Bay of Bengal receives the Ganges, Brahmaputra, Mahanadi, Godavery, Kistna, Pennar, Cauvery, Irawadi, Salwin, etc.

Rivers of India, the areas of their basins and the lengths of the main streams, are as under; area in English square miles, and length in English statute miles:—

A.—*Basins of the Arabian Sea, area* 629,600.

	Area.	Length.
Indus,	372,700	1800
Thur Desert,	68,700	...
Western Ghats Basins,	41,700	...
Nerbadda,	36,400	472
Kattyawar and Cutch Peninsulas,	27,600	...
Tapti,	27,000	441
Lunee,	22,400	320
Myhie,	15,500	350
Sabarmati,	9,500	200
Western Banas,	6,300	180
Dhadur,	1,800	...

B.—*Coromandel Side, Bay of Bengal.*

Godavery,	112,200	898
Kistna,	94,500	860
Mahanadi,	43,800	520
Cauvery,	27,700	472
Orissa Coast Basins,	22,200	...
Pennar,	20,500	355
Brahmany,	15,400	350
Gundla Ganga,	10,300	...
Pulicat Lake,	6,700	...
Palar,	6,300	220
Pennar,	6,200	245
Villar,	4,500	...
Vyhar,	3,900	...
Tambraparni,	3,600	80
Colar Lake,	3,100	...

C.—*Northern* [illegible] *East Side, Bay of Bengal.*

Brahmaputra,	361,200	1800
Ganges,	301,100	1514
Irawadi,	150,800	1060
Salwin,	62,700	750
Arakan Basins,	29,700	...
Sitang,	18,300	230
Tenasserim Coast Basins,	14,200	...
Byturni,	11,900	345
Sabunreka,	11,300	317

The catchment areas and the flood discharges of rivers of Southern India are as follows:—

River.	Catchment Area. — Sq. miles.	Flood Discharges. — Cubic feet per second	Discharge per sq. mile. — Cubic feet per second
Godavery at Rajamundry,	120,000	1,350,000	11·2
Kistna at Beswara,	110,000	1,188,000	10·8
Cauvery at Seringham,	28,000	472,000	16·9
Pennar at Nellore,	20,000	359,100	18·1
Tumbudra at Kurnool,	20,000	270,000	13·5
Palar at Arcot,	3,700	270,000	74·2
Tambraparni at Palamcottah,	587	189,000	324·0
Cauvery at Frazerpet,	415	111,000	267·3
Vaiga at Madura,	1,600	43,200	27·0
Chettar at Alligyapandrapuram,	486	29,700	60·8
Gadana Mathi,	29	28,088	972·0
Hazana Mathi at Periacolam,	41	8,100	202·5
Initi at Malabar,	336	14,985	446·0
Manjilantha at Balagunta,	90	10,800	121·5

The Persian Gulf and the Arabian Sea receive the rivers Shat-ul-Arab, Indus, Lunee, Nerbadda, Myhie, Tapti, and numerous streams and torrents from the Western Ghats. The Himalaya gives

forth five great rivers,—the Ganges, Brahmaputra, Indus, Sutlej, and Kurnali or Gogra. These are called by the Tibetans, Tam-jan-khamba or Horse's Mouth, Shingh-gi-khamba or Lion's Mouth, Lang-chan-khamba or Bull's Mouth, and Mabja-khamba or Peacock's Mouth. The last four rivers drain the Kailas group of mountains. They rise close to the great Kailas Purbut.

The *Euphrates*, the Forat or Forath of the Hebrews, and the Perath or Phrath of the Arabs, rises near the shores of the Black Sea, and joins the Tigris after a course of 950 miles. It has two great sources in the Armenian mountains, the more northern of which is the Anti-Taurus, 25 miles N.E. of Erzerum.

The *Tigris* river is known to the people as the Dijlah. It is formed of three main branches,—the Diarbeker stream or true Tigris, the Myafarekin river, and the Bitlis-chai or Centrites of Xenophon. It enters on the low country near Jazirah; at Argunna is but a little brook; whilst the Euphrates, even at Malatea, is a very noble river, about a hundred yards wide. The Tigris varies as much in the rapidity as in the depth of its stream, both being governed by the periodical waters that rush from the mountains of Armenia, where its sources are about 50 miles north-west of the valley of Diarbeker. It flows thence with a swiftness that gave it the ancient Persian name of Tir, the arrow, which is descriptive of its course. The average rate of its current is about seven knots an hour. It begins to rise in March, is highest in May, and in June returns to its natural level. Its first swell is produced by the melting of the winter snows on the mountains; its second appears towards the close of October or the beginning of November, and rises immediately after the annual rains in those high regions. But it is only during the spring torrents that a complete inundation covers the land, and the city of Baghdad stands like a castellated island in the midst of a boundless sea. It has an average width of 200 yards from Mosul to Baghdad, with a current in the high season of about 4¼ miles per hour. The country is highly cultivated from Mosul to Nimrud on both sides of the river, but from the latter place to Tekrit all cultivation nearly ceases; and it is but partially found in the tract along the river between Tekrit and Baghdad. The Tigris is navigable for rafts at certain seasons from the bridge of Diarbeker to Mosul, a distance of about 296 miles. Below the latter place it is more or less so throughout the year, and the descent to Baghdad is performed with ease and speed. Large rafts, supported by 200 or even 300 inflated skins, are much in use for the transport of goods, and when the merchants are on board, a small room is raised on the raft in order to give shelter from the sun and rain. Since the middle of the 19th century a steamship company has been trafficking on the Tigris. The lands on either side of these two rivers are occupied by nomade tribes of Arabs. The two rivers unite near Kurnah, and form the Shat-ul-Arab, which disembogues into the Persian Gulf.

The *Kum Feroz* river, across which Amir Azan Delemi built the Band-i-amir (Bend-amir). It is the Aras, a modern name of the ancient Araxes, the Awerma of the Puranas. It laves the foot of the rock Istakhr. The snowy Ardegan mountains are the same with those which presented so formidable a barrier to Alexander's progress, and by whose slopes he descended into Persia in his advance on Persepolis. The sources of the Araxes and those of the north branch of the Euphrates are about ten miles from one another. Pliny stated that those sources are in the same mountain, and 600 paces asunder. This river at its commencement, owing to its many affluents, bears the Persian appellation of Hazara. It springs from the side of the Bin Gol, or Mountain of a Thousand Lakes, about 30 miles south of Erzerum, nearly in the centre of the space between the eastern and western branches of the Euphrates. Its course, from its first spring near Jabal Seil, is almost north-east for about 145 miles through Armenia, when it turns eastward, being then on the frontier of Kars. This proximity continues for 110 miles. In modern times, the north-eastern districts, along the banks of the Araxes, in the vening between Aderbijan and Georgia, have been in general subject to the sovereigns of Persia.

Central Asia, between India and Tartary, one broad mountain range, the Himalaya, forming the southern crest, and the Kouen Lun the northern. The interior has some lovely valleys like Kashmir, but it is more usually broken by rocky ravines, through which affluents of the Indus force their way towards the plains; or stretches away in those vast treeless uplands which are one of the chief characteristics of the range through its whole extent. The direction of this range is from east to west, trending slightly to the north, while the parallel chain that bounds Siberia to the south, and the outer one of which is the Tian Shan, trends somewhat to the south; so that at a short distance to the west of Yarkand and Kashgar, the great interior depression of Chinese Tartary terminates, and the boundary ranges coalesce in the elevated table-land of Pamir. The ascent from Yarkand and Kashgar westward to the table-land of Pamir is almost imperceptible; and when the lofty position is gained, where the average elevation is probably as much as 15,000 feet above the sea, a vast open plain is seen, which stretches from the valley of the Jaxartes (Syr) in one direction, across the head of the Oxus (Amu Darya), to the Kashgar or Chitral valley in another. The plateau may be 700 or 800 miles in [illegible] is studded throughout with lakes, and [illegible] descend four great river systems. The Nary which is the main stream of the Jaxartes, runs through a long, luxuriant valley, between the culminating ridge and outer range of the Tian Shan, and drains all the northern range of the plateau. The Oxus, rising in the Sari Kul or Yellow Lake of Pamir, at least 300 miles to the south of the Jaxartes, receives from its right bank a multitude of small streams, which run to the south through rugged valleys, on the southwestern face of the Pamir uplands. The western face of Pamir between the Jaxartes and the Oxus is far more precipitous than the eastern. Ridges run out as far as Samarcand and Karshi, and the streams from the upland which twine among these ridges form the Zar-afshan and Karshi parts of the water system of the Oxus, though before they reach that river they are entirely consumed in irrigation.

The Indus water system is formed on

th-eastern extremity of Pamir, where the le-land is lost in the rocky summits of Muz gh, and a number of streams drain off to the hward, forming two subsidiary Indus systems. minating ridge, Pusht-i-khar, or Ass's Back, runs out from the south-east corner of , is the true watershed between Tibet and , the streams flowing to the southward separated by the shoulder which joins the u Kush from the streams descending through an and Badakhshan to the Oxus, and forming Kābul river, which falls into the Indus at k; while those that flow to the south-east are divided by the Muz Tagh range from ry, descend through a series of rocky valleys precipitous gorges into the Upper Indus at Tibet.

m the eastern face of the Pamir, again, slopes off very gradually into the plains of ry, is supplied a fourth water system, in the of a series of small streams, which, passing arkand and Kashgar, are ultimately lost e sandy desert, or in some cases reach the l lake of Lob Nor.

e basins of the Amu and Syr Darya are in Russian, partly in Persian territory, and in that of Afghan Turkestan, under chiefs dinate to the Amir of Kābul, and are largely ied by Turk, Turkoman, and Iranian races, o former being almost all of them nomades redatory. The sources of these rivers are table-land of Pamir, and those of the Amu, n by Lieutenant Wood in the early part 19th century, have since been visited by xplorers.

Indus is a magnificent river; it rises in the or Gangri range, in lat. 31° 20′ N., and 80° 30′ E., 1700 feet above the sea, and has se of about 1977 miles. It is known in the of Ladakh as the Tsang-po, the Sam-po- e Chinese Pilgrim Hiwen Thsang. A few om Leh it receives the Zanskar river, and at Pitak below Leh is 10,500 feet above At Mittunkot, the Indus is often 2000 road, and near this place, in lat. 28° 55′ N., g. 70° 28′ E., it is joined without violence e Panjnad, a large navigable stream, llected waters of the Sutlej, Beas, Ravi, ab, and Jhelum, after which its bed never ws in the dry season to less than fifteen and seldom preserves so great a breadth as a mile. The whole length of its mountain rse from its source to Attock is about 1035 s, and the whole fall is 16,000 feet, or 15·4 t per mile. From Attock to the sea, the length 042 miles. Its maximum discharge, above the fluence of the Panjnad, occurs in July and gust, when it is swollen by the seasonal rains, it then reaches 135,000 cubic feet, falling to minimum of 15,000 in December. Up to this fluence it is known by various names, viz.:

-po-ho,	CHIN.	Saind'hava,	SANSK.
Tow,	,,	Sing-ge-chu,	TIBETAN.
ng-po,	LADAKH.	Sin'h-ka-bab,	,,
Sin,	,,		

Sing-ge chu means the lion river, and Sin'h-bab the lion's mouth. From the confluence, its route through Sind, it is known as the , Siro, or Sera, down to Sehwan; as the cholo or central from Sehwan to Hyderabad; as the Lar from Hyderabad to the sea. The races occupying the countries near are the Bhot, the Afghan, the Jut, the Baluch, the Brahui, the Rajput, and the Lar. The Indus guards the western frontier of British India, and in all the military operations of the British since 1834, in Afghanistan and Sind, the Indus has been of great value as a means of communication. During the war of 1845–1846 in the Panjab, a bridge of boats was carried up the river as far as Bahawulpur, and thence despatched up the Gharra to Ferozpur; and another branch of the river, the Chenab, was in a subsequent war navigated up to Multan.

The *Tarim* debouches into Lob Nor, an inland sea, into which the waters of several rivers flow. The Tarim is about 800 miles long; the lake is in a considerable depression, not more than 2000 feet above sea-level.

Three large rivers flow through Kafiristan from north to south, and augment with their waters the river of Kābul and Jalalabad, which ultimately falls into the Indus. The two westerly rivers unite at Tirgari of Lughman, and the joint stream, after a short course of eight or ten miles, falls into the Kābul river at Lergah, in the same district, about a mile to the east of Mandarawar. The easterly river, known as that of Kameh, falls into the Kābul river east of Jalalabad, and at a distance of about twenty-five miles from Kergah. The Kameh flows through Chitral, and its source is more remote. On the east it may be considered the boundary of the Sishposh territory, as the river of Nadjil and Alishang forms the boundary on the west. The sources of the Nadjil river are said to be not very distant, and it is the smallest of the three rivers.

From the central axis of the Himalaya, a succession of secondary ranges take their origin, which descend on the one hand towards the plains of India, and on the other towards the northern rivers. These secondary chains on the Indian side separate great rivers which flow towards the plains of India, and which, successively uniting in their courses through the plains, ultimately discharge their waters into the Indus and Brahmaputra, from which they are at first separated by the whole breadth of the Himalaya. The great rivers from west to east in succession are the Jhelum, the Chenab, the Ravi, the Beas, the Sutlej, the Jumna, the Ganges, the Gogra, the Gandak, the Kosi, the Tista, the Monas, and the Subansiri. All these are separated by chains at first of great elevation, but which terminate at last abruptly in the plains of India.

The rivers of Northern India are shallow, turbulent streams, traversing a vast extent of more or less level country, the bottom usually of sand or mud, which as a mass is constantly on the move towards the sea, the channel consequently always shifting its position, and the depth very uncertain. The navigable channel, although deep enough, is often difficult to discern in a wide expanse of waters, or among sandbanks intersected in every direction by blind channels, among which the open one is undistinguishable. The current often presents whirls or eddies running contrary to the stream, which frequently shoots from an abrupt turning at such an angle to the course of the stream as to deprive the rudder of its command, and throw a boat violently across the stream, or even turn her round.

The richest and altogether most important part

of British India is that which extends from Calcutta to Peshawur, and comprises the whole valley of the Ganges and the Panjab. The course of the great rivers through this region marks the prevailing slope of the land, which falls on every side from the Himalayas, the Rajputana uplands, and the Vindhyan plateau towards the seaward opening of the Arabian Sea and of the Bay of Bengal.

The chief rivers of the N.W. Provinces are the Ganges, the Jumna, and the Gogra. Among minor streams, the E. and W. Kali Nadi and the Hindan flow through the Doab. The Chambal intersects the Trans-Jumna tract in Etawa. The Betwa and the Ken are the principal streams of Bundelkhand. The Ganges, with its tributary the Jumna, collects the rainfall from the southern slopes of the mountain wall, and pours it down upon the plains of Bengal.

Towards the delta of the Ganges and Brahmaputra, when the volume of water, increased by the Himalayan snows, is swelled by ordinary or abnormal rains, all channels are united in one huge expanse of water, miles in breadth. The surrounding country is an inland sea, over which communication is maintained in skiffs and canoes between one village and another. By the month of October the waters subside. In the dry season huge masses of earth can be seen falling under the action of an undermining current, and the noise can be heard several hundreds of yards off. Owing to the annual overflow of its network of rivers, the level of the plains of Lower Bengal is gradually rising.

The *Jamuna* or Jamoona river of Northern Bengal in Rennell's time joined the Brahmaputra, whereas it now joins the main stream of the Ganges near the railway station of Goalundo. On the Jamuna is situated the important mart of Sirajganj, perhaps the richest of all the centres of trade in the interior of Bengal. Till about 1840 this capital of the trade in jute stood on the banks of the river. In 1848 the floods carried the town clean away, whereupon the traders formed a new bazar on the new bank, five miles from the original spot. When the stream, in another sudden caprice, went back to its old bed, the traders, warned by experience, preferred remaining where they were. Huge boats are now moored in the mid-stream miles from the bank, and business is done by merchants and brokers, who move about in small boats, or traverse what, in the hot season, is a blinding waste of sand some miles in extent. The real Sirajganj has been happily described as a town without houses. But it has a population of 18,000, and an aggregate trade, imports and exports, of $3\frac{1}{4}$ millions.

The *Tista* rises in Independent Sikkim or in Tibet, or in both countries. Its upper reaches display rocky pools, huge boulders, wooded banks, and picturesque scenery. When it descends to the plains, these peculiarities are exchanged for a fine channel often 800 yards wide, which, even where the volume is least, will float boats of three and four tons burden. The history of the freaks of this stream is very suggestive. In the survey by Major Rennell, the Tista flowed due south, joined another river in Dinajpur, and finally emptied itself into the main stream of the Ganges. In 1787 the Tista was choked by excess of silt, and burst its banks, when the accumulated waters

forced their way into a small branch, which, a flooding the country and causing immense dama they gradually so enlarged as to form a junct with the Brahmaputra, which still exists.

The *Mahanadi*, in the province of Cut rises in a mountainous and wooded region after a tortuous course between ridges of and over ledges of rocks, divides into two or main channels, and has often threatened to s away the town of Cuttack. But the volu waters has been confined and utilized by engi ing skill. A series of canals, at a conside outlay, will guarantee the province agai recurrence of the terrible famine of 1866.

Except the Nerbadda and Godavery, u great engineering skill be applied, there are of the rivers of the Peninsula of India lik prove navigable. The waterfalls on the Ner river are those of Kapila-dhara and Dudh near its source,—the former of 78 feet. The is at Umaria in the Narsinghpur district, of 10 feet. At Mandhar, 90 miles below Hos abad, and about 25 below Handia, there is of 40 feet; at Dadri, near Punasa, 25 below Mandhar, there is another fall of 40 fe

The British Indian Government tried to the Godavery navigable. The rivers emb under the Godavery navigation project are Godavery, Wardha, Pranhita, Wain - G Indrawati, Sabari, and Pain - Ganga. three first, however, are the principal str The Wardha takes its rise in the Baitul dis west of Nagpur, and, after flowing fo distance in a south-east direction, is jo the Wunna, which, passing under Hing falls to the south, and forms its junction wi Wardha, at a place called Sweet, 18 miles of the latter place. At this confluence a falls of Zoourate, and under them is the of Chuhmunder, which was supposed to limit of the contemplated engineering ope The Wardha flows on to the south-east, little before reaching Chanda, it is joi the Pain - Ganga, when, losing the na Wardha and Pain - Ganga, the united continues under the name of Pranhita junction with the Godavery, a few miles the station of Sironcha. Midway between confluences is situated the third or Dewala barrier, extending round in a curve for abo miles, and midway down this barrier the Ganga discharges itself into the Pranhita. the confluence of the Godavery and Pra below Sironcha to the sea, the river carries former name, although joined at intervals by Indrawati and other tributaries above specifi Thirty miles below Sironcha is the second Enchampally barrier, and eighty miles below again is the first or Sinteral barrier.

The *T'san-pu*, or Brahmaputra, like the Su rises near to the sacred lake of Manasaro Indeed, the Indus, the Sutlej, and the Brahmap may be said to start from the same water-part After receiving several tributaries from the fines of the Chinese empire, the river (B maputra) bends round a lofty eastern range the Himalayas, and enters British territory un the name of the Dihang, near Saddiya in Ass A few days' journey from Saddiya, the fron town of Assam, there is a station called Bo where Roman Catholic missionaries have t

itary home. Here is the meeting-place of the ntiers of India, Burma, China, and Tibet, king our stand at this spot, and looking south, have five great rivers, all destined to play a part in the future trade of Europe, and in egeneration of the people who swarm on banks. To the west is the Brahmaputra, bears the tea of Assam to its destina- to the extreme east is the Yang-tse, the river of China; and flowing directly south almost parallel at distances of about 200 from each other are, in order from the -tse, the great Mei-kong or Cambodia the Salwin, and the Irawadi. On the a of the first the French have planted them- es, and already their steamers have sailed up rds China and Burma, till stopped by the s.

e T'san-pu river rises close to the sources e Indus and Sutlej at a height of 16,000 feet. ing eastward it falls to 14,200 feet at Tadum, 0 feet at Shigatze, and 11,300 feet near sa. It is almost certain that this river joins Brahmaputra in Assam under the name of Dihang. This mighty river runs from the of India, from Brahmakund to Goalpara, mean length, exclusive of its numerous curves, of more than 400 miles. The level Brahmaputra at Saddiya is 210 feet. A little south of the entrance of the Tista begins part of the river where the stream branches the shape of a delta, and shortly joins with f the Ganges. The ebb and flood of the tend, in the season when the river is low, s beyond Dacca; the fall from Saddiya to ta consequently amounting to half a foot ile. The Brahmakund is a very deep basin- d enlargement of the river, just before it es from the mountains to descend into the of Assam. The velocity of the current, oth above and below the Brahmakund is eat, suffers a great diminution at this In this S.W. course, along the whole f the left shore of the Brahmaputra, and parallel to the broad valley through which , we meet with a longitudinal range of ary hills, inhabited by the various scattered of the Naga, Khassya, Jaintia, and Garo. embogues into the Bay of Bengal through mouths, after a length, in the plains, of miles. It receives in its long course the -pu, 1000; Dihang, 140; Noa Dihang, 100; Dihing, 150; Subansiri, 180; Manas, 189; ni, 150; Guddala, 160; Dharla, 148; Tista, ; Barak, 200; Gumti, 140 miles.

The delta branches of the Brahmaputra and nges intersect Lower Bengal in such a variety directions as to form a complete system of nd navigation. The Brahmaputra begins to in April, owing to the melting of the snow at lpine sources. About the 1st July it is at flood, and all the level country is submerged, ls of buffaloes, deer, and hogs then swim for ge to the hills. The Brahmaputra drains m in every direction. It is known in Assam the name Hiranya or golden. In the rainy son it rises 30 or 40 feet above its lowest level, rflows its banks, and inundates the country an inland sea. In the dry season it is a rinth of half-filled channels, rendering the igation intricate and fit only for steamers of light draught. It is not navigable higher than Dibrughar. As seen from Ogri Hill near Tezpur, the river is sweeping along in a bed of from ten to twelve miles in breadth, with numerous islands covered with canes and shrubs. The chief towns on the banks of the river are Bishnath, Durrung, Gowhatty, Goalpara, Nasseerabad. It is navigated from the Bay of Bengal to Dibrugarh, near the head of the Assam valley, within 500 miles of Pengshaw, on the Yang-tse-kiang river. Of these 500 miles 300 are known. Megna and Brahmaputra are names of the same river in different parts of its course; the Megna falls into the Brahmaputra, and though a much smaller river, communicates its name to the other during the rest of its course.

The Aryan Hindu and the non-Aryan races who occupy British India continue to worship springs and fountains and other natural objects. This has been a custom with many races. The fountain of Egeria, the Fontinalia Romana, the Aquæ Ferentinæ, and the sacred wood where the Feriæ Latinæ were celebrated, were under the especial protection of some divinity. Pansanias says that at Phocis in Achaia, there was a fountain called Hama, consecrated to Hermes, near which thirty enormous straight stones had been erected at a very remote period, when instead of images the Greeks adored blocks of stone. Such was also the religion of pagan Ireland.

And still the Ganges river by Hindus is esteemed sacred. Many persons, whose relations die at a distance from the Ganges, at the time of burning the body preserve a bone, and at some future time send or bring this bone and commit it to the river. The work called Kriya-yogasara contains the following curious story:—'A Brahman, who had been guilty of the greatest crimes, was devoured by wild beasts; his bones only remained. A crow took up one of these bones, and was carrying it over Ganga, when another bird darting upon it, the crow let the bone fall. As soon as the bone touched Ganga, the Brahman sprang to life, and was ascending to heaven, when the messenger of Yama, the judge of the dead, seized him as a great sinner. At this time Narayana's messengers interfered.'

The confluence of rivers, called Sangam by Hindus, is held sacred by these religionists; the forks of the Ganges and Jumna at Allahabad, of the Ganges and Gandak at Patna, may be mentioned, and pilgrims visit them in large numbers. The tongue of land where the Ganges unites with her great sister river the Jumna, is the true Prayag, the place of pilgrimage to which hundreds of thousands of devout Hindus repair to wash away their sins in her sanctifying waters. A legend tells us that at Allahabad or Prayag the clear and undimmed glance of Hindu faith can discern a third stream, besides those visible to ordinary mortals, the Jumna and the Ganges, which there unite just below the fort. But the Ganges at her estuary is not less sacred than her source. Saugor Island, at her mouth, is annually visited by a vast concourse of pilgrims, in commemoration of her act of saving grace, when, in order to cleanse the 60,000 damned ones of the house of Saugor, she divided herself into a hundred channels, thus making sure of reaching their remains, and so forming the delta of Bengal. Devout Hindus make a six years' pilgrimage from

the source of the Ganges to the mouth and back again. It is known as a pradakshina, or a circumambulation, and is still performed by many; and a few of the devotees may be seen wearily accomplishing the meritorious penance of measuring their length along certain parts of the route. To die and be buried on the river bank is the last wish of millions of Hindus. Even to exclaim Ganga! Ganga! at the distance of 100 leagues from the river, say her more enthusiastic devotees, may atone for the sins committed during three previous lives.

Karnafuli, a river of Chittagong, which disembogues into the Bay of Bengal.

Irawadi.—The sources of this great river are between lat. 27° and 28° N., and long. 97° 30′ E. The transverse-range, which separates the upper part of the western branch of the Irawadi from the valley of Assam, is of moderate elevation, varying probably between 5000 and 6000 feet. The slope of its valley is greater than that of the Indus or Ganges. The valley of Hukum is said to be 1000 feet above the level of the sea. The central branch of the Irawadi at Manchi, in lat. 27° 20′ N., is 1800 feet; at Bhamo, in lat. 24°, about 500 feet. Along its bank, hills frequently approach, and some of them close to the river are 3000 or 4000 feet high. Amongst the high mountains at its source the rainfall is considerable; at its centre, the fall of rain is comparatively small, but much rain falls at its delta. The valley of Manipur is drained by the westerly tri[illegible]y of the Irawadi. The valley of the Irawadi at its lower end unites with that of the Sitang to form an extensive plain stretching from Cape Negrais on the west to Martaban on the east. The water-parting between these two streams is the Pegu Yoma range, which, running north and south, terminates in low hills at Rangoon. The valley is about 80 miles broad at the frontier line, counting from chain to chain. It flows for 660 miles before reaching the British possessions, and thence its waters roll on for 240 miles to the sea in a S.S.W. direction. As it nears the coast it divides, converting the lower portion of the valley into a network of tidal creeks. A little above Henzadah, about 90 miles inland, it sends off its first branch to the westward, which, flowing past Bassein, receives the waters of the Pammawadi and of the Penglaygalay, and, bifurcating, enters the Bay of Bengal by two main mouths, the Bassein and the Thekkay-thoung rivers. The waters of the Irawadi commence to rise in March, and continue to rise till September, when, or in October, they commence to fall again, having risen 37 or 40 feet. Just below Rangoon it is joined by the Pegu and Puzundoung rivers, flowing from the east and north-east. The Pegu and the Puzundoung rivers rise close together in the Yoma range, about 58 miles above the town of Pegu, the capital of the ancient Talaing kingdom conquered by the Burmese under Alompra, and which gives its name to all this portion of the country.

The *Sitang* river rises far north of British territory, which it enters just above Tounghoo. Here it is narrow, and navigable with difficulty for large boats during the dry season.

The *Menam* river empties itself into the bottom of the Gulf of Siam. It washes Bankok, the capital of Siam.

Mei-kong, or Cambodia river, empties itself in the China Sea, at the entrance of the Gulf Siam.

The *Hoang-ho* of China rises in the Kouen L range, from springs which the Chinese figure themselves as the starry sea. After bu through several water-partings, making won bends near the base of the Mid Asia plate traverses Northern China, and confers agricu prosperity on 120 millions of souls. Its c within the plateau is about 400 miles, an water-supply is there perpetually snow fed.

The *Yang-tse* of China has its source i Kouen Lun. It is undoubtedly one of the rivers in the world; it takes its rise on north-eastern edge of the plateau of Ti and, after traversing the Koko-Nor, en China at the province of Kan-su; it leaves it again to water the sandy plains a foot of the Alechan mountains, surrounds country of Ortous, and, after having wa China from south to north, and then from we east, goes on to throw itself into the Yellow The waters are pure and beautiful at their so and only assume their yellow tint after pa the Alechan and the Ortous. The river almost always to the level of the country th which it flows; and to this is to be attribute disastrous inundations which it occasions. floods, so very fatal to China, are of little quence to the nomadic Tartars, who h strike their tents and move off elsewh

After quitting the plateau of Mi[illegible] [illegible]gh provinces of China so th[illegible] they have been estimated to [illegible] people, supplying the means of irrigati water traffic; and, after a course of 700 enters China proper. Its water-supply is im and unfailing, obtained largely from the snow and ice-bound regions at its source. It with the Hoang-ho, a twin basin to whi most advanced and powerful eastern civi owes its development.

Ho T'u Loh-Shu of the Chinese me plan (or diagram) of the Yellow River, writing (or book) of the river Loh. phrase are designated the systems of di and arrangement of the ordinal numbers. according to ancient tradition, were re to the sages Fuh-hi and Yu in a supern manner. Kung Ngan-Kwui gave form t legends, which relate that a dragon-horse symbols on its back, and a tortoise with a s of writing on its back, came out of the r which Yu interpreted and made the basis o ninefold division of philosophy.—*Schlagentw General Hypsometry of India*, ii. p. 98; *Renne Memoir*, pp. 337, 361; *Fraser's Himalaya Mo tains*, p. 468; *Herbert; Hodgson; Tod's Rajast* i. p. 16; *Rep. Royal Com.*; *Ward's Hindoos*, 275; *Pliny*, lib. vi. c. 9, in *Malcolm's Persia* p. 212; *Journal Royal Geo. Soc.* vi. part ii. p. 2 *Kinneir's Geographical Memoir*, p. 9; *Por Travels*, ii. p. 258; *Maury's Physical Geogra* p. 308; *Imp. Gaz.*; *Trelawney Saunders' M tains and River-basins.*

ROADS have existed in India from the n ancient times, but since artillery has been use war, and since parts of India have been in possession of the British, the French, the Du the Portuguese, and the Danes; efforts have b made to extend them. Roads were made by

eks and Romans, but never by the Arab or the
v. The British, on assuming the government
the country, found that the roads which the
ghul emperors were said to have made had not
paved. In 1850, Lord Dalhousie commenced a
rom Hindustan to Central Asia, from which,
n an unfinished state, benefits have arisen.
riginal idea was that the road should be avail-
r wheeled carriages through its entire length.
l Trunk Railway, the Via Appia of India,
0 miles, from Calcutta to Lahore. The
Tal, Ranikhet, and Darjiling roads
f the Himalayas; and the Ganges,
Kistna canals are triumphs of
neering s India is traversed by railroads
side to side, and from sea to sea, by several
st parallel lines. Each of the seaports of the
sula is the terminus of at least one line, and
in the whole length and breadth of the land
will not be two places of prime importance
one to the other of which passengers and
handise may not be carried by rail.

OALA, an Arab tribe in Syria, who have a
radle, a car composed of ostrich feathers, in
the most beautiful of their maidens is carried
e them in their fights.

BERTS, an American missionary who, in
with an earnest Chinese disciple, kindled
great evangelical movement amongst the
se, which the Tae-ping blended with a national
le.—*Bunsen, God in Hist.* i. p. 270.

BERTS, MAJOR-GENERAL SIR FREDERICK,
, V.C., C.I.E., Bart., a highly-distinguished
of the Royal (Bengal) Artillery, who earned
me in Hindustan and Afghanistan. He
throughout the Indian Mutiny of 1857-58 as
t. Qr.-Mr.-General of Artillery, including the
and capture of Dehli from the 28th June to
th September (wounded 14th July, horse
th September), in the actions of Baland-
horse shot), Alighur, Agra, Kunoj (horse
and Bandhara; present in the skirmishes
and throughout the operations connected
relief of Lucknow by Lord Clyde; opera-
Cawnpur from 28th November to 6th
er 1857, and defeat of the Gwalior Con-
; action of Khudagunge, re-occupation of
ghur, storm of Meangunge, action of Koorsee,
e various operations ending with the capture
icknow (thanked by the Governor-General,
ria Cross, brevet of major, medal with three
s). Employed on special service with the
dition of 1863 against the tribes on the N.W.
tier of India, and was present at the storming
aloo, capture of Umbeyla, and destruction of
lkah (medal with clasps). Served in the Abys-
an campaign from January 1868, as Assistant
rtermaster-General with the Bengal Brigade;
as Senior Officer of the department at Zoulla,
erintended the re-embarkation of the whole
y; was selected by Sir Robert Napier as the
er of his final despatches (brevet of Lt.-Colonel
medal). Served as Assistant Quartermaster-
eral and Senior Staff Officer with the Cachar
mn, Lushai expeditionary force in 1871-
and was present at the capture of the Kholel
ages, and attack on the Northlang range.
manded the troops engaged at the burning
he village of Taikoom, 26th January 1872
3.). Has been twenty-three times mentioned
lespatches. Commanded the Koorum field force from the commencement of the Afghan war in 1878, and was present at the storming and capture of the Peiwar Kotal, and the pursuit of the Afghan army to the Shutargardan, at the affair in the Maugaor pass, and during the operations in Khost (received the thanks of both Houses of Parliament, and K.C.B.). Commanded the Kābul field force during the advance on and occupation of Kābul in the autumn of 1879; and present in the engagement at Charasiab, and throughout the operations at Sherpur during the winter of 1879-80. Commanded the Kābul-Kandahar field force which marched from Kābul to Kandahar in August 1880, relieved the Kandahar garrison, and on the 1st September defeated and dispersed the army under Ayub Khan (G.C.B., baronet, medal with four clasps, and bronze decoration). He was appointed Commander-in-Chief of the Madras army.

ROBIN. The Indian black robin, or dayal bird, Thamnobia fulicata, *L.*, is generally distributed over most parts of Hindustan, and always found near the habitation of man. In manner and habits it is the oriental representative of the red-breast, just as the migratory thrush takes the place of the thrush with the Canadian emigrant. In the elevations of the Kandyan country there are a few birds, such as the robin of Newera ellia, and the long-tailed thrush, whose song rivals that of their European namesakes; but, far beyond the attraction of their notes, the traveller rejoices in the flute-like voices of the oriole, the dayal bird, and some others equally charming, when at the first dawn of day they awake the forest with their clear reveillé. The Ceylon dayal bird, Copsychus saularis, *Linn.*, is called by the Europeans in Ceylon the magpie robin, but is not to be confounded with the other popular favourite, the Indian robin, Thamnobia fulicata, *Linn.*, which is never seen in the unfrequented jungle, but, like the cocoanut palm, which the Singhalese assert will only flourish within the sound of the human voice, it is always found near the habitations of men.—*Tennent's Ceylon; E. L. Layard.*

ROBINIA AMARA. Ku-san and Ti-hwai, CHIN. A plant of Ho-nan in China; roots medicinal. R. macrophylla, GANJ., HIND., is a huge climber, common a little to the west of the Jumna.

ROC, Rukh, or Rokh, a bird of gigantic stature, supposed, if not wholly fabulous, to be now extinct, and to have inhabited Madagascar; mentioned in Sinbad and Ibn Batuta's voyages. It has been said to be the Si-murg'h, and has been supposed to be the same as the Garuda of the Hindus. It may have been the Dodo of the Mauritius. Madagascar has furnished from very modern strata the leg-bones and two eggs of an extinct wingless bird, named Epyornis, probably larger than an ostrich. The egg of this bird is 2½ feet in girth and 3 feet in its longest circumference, and its liquid contents equal more than two gallons. New Zealand had many species of the Moa or Dinornis. Professor Owen has described eighteen, and D. elephantopus, *Owen*, D. giganteus, *Owen*, and D. didinus, may be named, varying in size from 3 to 10 feet in height.—*India in the 15th Century.*

ROCELLA, a genus of lichens of the natural order Lichenaceæ. These are largely exported from Ceylon, Bombay, Mozambique, Angola, Lima, and Cape Verde, under the term orchella-weed.

They are used in dyeing, and are popularly called orchill or archill, terms derived from the oricello of the Italians or the Spanish orchella, often corrupted in commerce into rochilla-weed. Rocella fuciformis, the flat-leaved orchill, is found on maritime rocks, or on dry-stone walls exposed to the influence of the sea breeze, as well on the coast of Britain as on the shores of the Mediterranean and the East Indies. The more arid the situation, the better is the quality of the lichens. The presence of the colouring matter is ascertained by steeping the weed broken into small pieces in diluted solution of ammonia, in a bottle half filled with liquid, which should be kept corked, but frequently opened in a temperature not exceeding 159° Fahr. Rocella tinctoria, *D. C.*, the dyer's rocella or orchill, when good, has a mealy white powder on its surface towards the centre; the under surface is of a grey colour, and is not hairy; if wetted, it does not turn of an orange colour; its edges are flat and thin. Various lichens, from Tenasserim and other parts of India, were introduced into Britain by the East India Company. Lichens used in the manufacture of cudbear, orchill, and litmus, and of the dye substance obtained from them, were shown in the Exhibition of 1851.—*Simmonds; Hogg.*

ROCK-CRYSTAL.

Shwin-tsing, Shwi, CHIN.	Koreh, ... HEB.
[illegible], . . . ,,	Balur, ... HIND.

[illegible] common name for the trans-

Rock-crystal is the co[illegible] it is the purest parent crystals of quartz, of w[illegible] form, being composed of 99·34 per cent. of silica, with a trace of alumina. The crystal alluded to in Genesis xxxi. 40 as frost, and in Job vi. 16 as ice, and the Persian word Balur, seem to be applied indifferently to ice and rock-crystal. Rock-crystal occurs abundantly in many parts of India, and that of the south of the Peninsula is known as Vellum stone, from the place of its occurrence. Near Tanjore the mines are of great value, and the stone is cut into a great variety of ornamental objects.

The districts in British India richest in quartzose minerals are those of Dowlatabad, along the banks of the Scena river, and the neighbourhood of Rajpipla. It is found at Madagoolah.

The village of Aurangpur is situated in a small valley surrounded by hills, and the roads leading to it from all sides are, for a distance of three miles at least from the village, impassable to any but foot passengers and cattle, from their rocky and precipitous character. Its mines of rock-crystal are situated about two or three miles to the south-west of the village, and can only be approached by paths like those just described. The deposit of crystal occurs in a small valley or basin among these hills, about two or three miles to the south-west of the village of Aurangpur. The valley is about 500 yards long, and from 50 to 100 yards broad, and dips towards the north. The only part of the deposit which has been worked is the south end. If made red-hot, and plunged repeatedly into the tincture of cochineal, it assumes a ruby colour; if into a tincture of red sandal, it takes a deep red tint; into tincture of saffron or a tincture of turnesol, a yellow like the topaz; into juice of nerprum, it takes a deep violet like the amethyst; and into a mixture of tincture of turnesol and saffron, it becomes an imitation of the emerald. Steeping the crystal in oil of turpentine saturated with verdigris [illegible] spirits of wine, holding dragon's blood or oth[illegible] coloured resins in solution, depth of tints a[illegible] produced proportioned to the time of steepin[illegible] Crystals can be coloured if heated in a cr[illegible] with orpiment and arsenic. Crystal coloure[illegible] as false rubies, are known in France as ruba[illegible] *King*, p. 178. See Precious Stones.

RODA. ARAB. Literally a garden. In[illegible] and Hindustan pronounced Roza, a buri[illegible] also an island in the Nile near Cairo[illegible] meter is at its southern extremity.

RODENTIA, the gnawing trib[illegible]

Fam. Sciuridæ, Squ[illegible]
5 gen. Sciurus, 28 sp.; Mustela, [illegible] Rhinosciur[illegible] sp.; Pteromys, 8 sp.; Sciuropterus, 12 sp.

Sub-Fam. Arctomydinæ; Marmots, 1 gen., 2 s[illegible] Gen. Arctomys, 2 sp.

Fam. Muridæ, Rat tribe, 2 sub-fam., 9 gen., 45 sp[illegible]
Sub-Fam. Murinæ, Rats, Mice, 7 gen., viz. Gen. [illegible] billus, 2 sp.; Nesokia, 6 sp.; Mus, 23 sp.; Leg[illegible] 4 sp.; Platacanthomys, 1 sp; Golunda, 2 [illegible] Rhyzomys, 5 sp.

Sub-Fam. Arvicolinæ, Voles, etc., 2 gen., 2 s[illegible] Gen. Arvicola, 1 sp.; Neodon, 1 sp.

Fam. Hystricidæ, 1 sub-fam., 2 gen., 4 sp., viz.
Sub-Fam. Hystricinæ, Porcupines, 2 gen., 4 sp. 2 gen. Hystrix, 3 sp.; Atherura, 1 sp.

Fam. Leporidæ, Hares, 2 gen., 10 sp., viz. Gen. Lepus, 7 sp.; Lagomys, 3 sp.

RODUNG. HIND. In the trade lists o[illegible] N.W. frontier of India, are two kinds of ma[illegible] one called rodung kuhree, grown at Kand[illegible] which is superior, and the other kind, r[illegible] white [illegible] require[illegible] phurreah. The plant is stated to [illegible] years to come to maturity. The value of [illegible] brought through the Baluch and Afghan [illegible] tains is stated to be £12,228. Multan is a [illegible] emporium for madder. The Kābul merc[illegible] come thither direct from Dehra Ismail Kha[illegible] Leia, and exchange their madder for cott[illegible] indigo.—*Powell's Handbook*, i. p. 463.

RODYAH, a forest race amongst the Ka[illegible] They are skilful in the manufacture of ro[illegible] the black fibre of the leaf-stalk of the [illegible] urens. Physically speaking, they are mu[illegible] finest race in Ceylon, but they are looked u[illegible] the rest as out-castes, unfit to be commu[illegible] with. At one time they were liable to be [illegible] death if they touched or approached the h[illegible] castes.—*Egerton's Tour in India*, i. p. 121.

ROE, SIR THOMAS, was sent as ambass[illegible] from James I. of England and VI. of Scotlan[illegible] the Emperor Jahangir. He sailed from Grave[illegible] 24th January 1615, and landed at Surat [illegible] great pomp, with eighty men-at-arms in his tra[illegible] and arrived at Ajmir on the 23d December, a[illegible] was received at the court with unusual honour [illegible] the 10th January 1616. After a residence of [illegible] years, he obtained permission of the emperor [illegible] the English to trade at Surat. He accompa[illegible] the emperor to Mandu, and left him in the en[illegible] 1618. He praises the magnificence of the co[illegible] speaks in high terms of the courtesy and hospita[illegible] of the nobility, and he was treated by the emp[illegible] as a friend, joining the emperor's drinking par[illegible] He says the great men, as a class, were all open[illegible] corruption. His Journal of his Voyage to the E[illegible] Indies, and Observations there during his Reside[illegible] at the Moghul Court in 1615-18, was published[illegible] Paris in 1663.—*Elphinstone*, pp. 490-92.

ROE. Fish roe, red fish, and sardines

alay condiments, and the species used in the eparation are Alausa toli (Ikan trubok), En- aulis Brownii (Bunga ayer or badah), Dussu- ieria acuta (Tamban-bulat), and Clupeonia erforata (Tamban-nepes or batub).—*Cantor.*

OE-BALL of Europeans in Bengal is their e for species of Polynemus, P. uronemus, *Cuv.*, tradactylus, *Shaw*, and P. teria, *Buch.*

OH. PUSHTU. A mountain. Rohilla, a moun- er, a highland and highlander, a dialectal ge from Koh; applied to the Suliman and bar range. Brahui is said to be a term from two words Buan and Roh. Kala-Roh is a ant range of hills, literally black hill; Baga , a near range, literally white hill. Roh is a rict bounded on the east by Swat and Kash- west by the Helmand, north by Kashgar Chitral and Kafiristan. Roh-coj of Sanskrit ers is Arachosia; it includes Ghazni and dahar. Roheyl, in the Heerthur Hills, is N.W. ehwan.—*As. Res.* vi. p. 517, viii. p. 336.

OHILKHAND, a division or commissioner- for administrative purposes of the N.W. inces of British India, comprising the dis- s of Bareilly, Bijnour, Badaon, Moradabad, Jahanpur, and the Terai. Area, 11,805 re miles; population (1872), 5,436,314. 27° 35′ to 30° 1′ N., and long. 78° 1′ to 26′ E. Rohilla Afghans had held a large in those provinces ever since Ahmad Shah's dating invasion in 1761. The Rohillas were gners, and had cruelly lorded it over the try. The Pathan race form only a small the population. The first settlers of ohilla Afghans were two brothers, Shah nd Husain Khan. The son of the first of Daoud Khan, achieved some distinction in the part of the 18th century. But the rise of mily is owing mainly to his adopted son, Ali mad Khan. On the cession of Rohilkhand British in 1801, the family were continued in ssessions. Ahmad Ali Khan died in 1839. cession of his only daughter was rejected, next heir, Muhammad Sayed Khan, the son of Gholam Muhammad Khan, was put in sion of the estate. For his services during bellion of 1857, the nawab received a grant d yielding 1,04,400 rupees on the Moradabad Bareilly frontier. He also received the dignity Knight of the Star of India. In Rohilkhand, Muhammadan landlords rose in the revolt of , and not the Hindu. The *Boksa* are a forest in Western Rohilkhand, and in part of the sts of the Siwalik Hills of Dehra Doon. They of short stature and spare habits, with broad es, depressed noses, prognathous jaws, thick s, very scanty beard and moustaches, but not ker in colour than the ordinary Hindus of the ntry. They are reputed to be skilful in witch- ft. They are very ignorant and indolent, but ple, inoffensive, and good-humoured. They e a scanty, rude cultivation, and collect forest duce and wash gold, but they have no caste, l eat almost anything. They have no separate guage. They are supposed to be dying out. ey are said to enjoy a wonderful immunity m the effects of malaria. The *Bhihar* are an original tribe of the Upper Doab, called in the ab, Bheimhar, and in Rohilkhand, Behar. ey were expelled from Nirauli and the neigh- uring districts by the Bir Gujar Rajput. The *Bhar* of Northern India, called also Bharat, Raj- bhar, and Bharpatwa, are an aboriginal race fol- lowing the meanest of avocations, especially that of swineherds. In the hills east of Mirzapore, there are some Bhar rajas. Tradition ascribes to them the whole country from Gorakhpur to Bun- delkhand, and many old stone forts. Professor Wilson supposes it possible that the name comes from Bharata, an ancient name of India.

Aharwarah is a territory which contains many districts in the north-east frontier of Malwa. The tribe or caste are the *Ahar*, from whom the terri- tory derives its names of Aharwarah, and the Aharat are spread through Rohilkhand and other districts in the N.W. Provinces, following pastoral pursuits. They claim to be descended from the Yadu race of Rajputs.—*Aitcheson; Imp. Gaz.*

ROHILLA. PUSHTU. A term by which Afghans in N.W. India are known. From Roh, a mountain; hence Rohilla, an inhabitant of the mountain, also Rohilkhand. They were fine gallant men, and when managed by good officers, as Colonel Skinner, made excellent and orderly soldiers. The Rohilla, who conquered the exten- sive territory in which the city of Bareilly stands, and bestowed on it the name of Rohilkhand, were a tribe of Afghans. Their intolerance drove the greater part of the Hindu inhabitants from the tract; but successive swarms from Afghanistan supplied the place of the fugitives, and kept the country in a high state of cultivation. The rest- less and enterprising character of the Rohillas led to constant encroachments by them on the possessions of the Nawab Vizir of Oudh. The latter, wearied with resistance, claimed British aid as his allies; and the Governor-General, Mr. Hastings, undertook the war. The Rohillas were subdued, and their country was made over to the Nawab Vizir; a portion of it, containing the city of Rampur, with some dependent towns, being assigned to the heir of Hafiz Rahmat as a jaghir, which was to be held of Oudh on feudal condi- tions. Subsequently the provinces in question were ceded to the British by the Nawab Vizir, and the fealty of the nawab of Rampur was trans- ferred to the British Government.—*Rennell's Memoir*, p. 19; *Marquis of Hastings' Journal*, ii. p. 114; *Wilson's Gloss.; Mr. G. Campbell*, p. 47; *Malcolm's Centr. Ind.* i. p. 325; *Tod's Rajasthan*, i. p. 672.

ROHINI. In the ancient Hindu times, there were several women of this name, one the mother of Bala Rama, one a wife of Krishna; also a constellation personified as one of the wives of Soma, the moon.

ROHITA, the son of king Harichandra, was given by Varuna, but subsequently required as a sacrificial victim by the same. A deified person mentioned in the Atharva Veda.

ROHRI, written also Rori and Lohri, a town on the left bank of the Indus, in lat. 27° 42′ N., and long. 68° 56′ E. It is built on an anciently occupied position, a rocky emi- nence of limestone, terminating abruptly on the western side by a precipice 40 feet high, rising from the bank of the river. It gives its name to a sub-district forming part of Shikarpur collec- torate, lying between lat. 27° 7′ and 28° 32′ N., and between long. 68° 52′ and 70° 15′ E. Area, 4258 square miles; pop. (1872), 217,515 souls. Bounded on the north-east and east by the states

of Bahawulpur and Jaisalmir (Jeysulmir), and on the south by Khairpur. The Muhammadans are chiefly of the Kazi, Sayyid, Bhuta, Kori, Patoli, Muhana, Khati, Memon, Shaikh, and Shikari tribes. The Sayyids of Bukkur and Rori have held lands in gift from about 1290 A.D. Grants of land were also made to them in 1712 by Jahandar Shah, on condition to pray for their imperial masters, and to guard the country from marauders.

The War-Mubarak, a building about 25 feet square, situated to the north of the town, was erected about 1545 by Mir Muhammad, the reigning Kalhora prince, for the reception of a hair from the beard of Mahomed. This hair is set in amber, which again is enclosed in a gold case studded with rubies and emeralds, the gift of Mir Ali Murad of Khairpur. The relic is exposed to view every March, when the hair by some mechanical process rises and falls, which the devotees are led to believe proceeds from supernatural agency.

Rori is sometimes distinguished as Rori Bukkur. When a locality is designated by two names mentioned together, it is either because there are two places bearing these names respectively close to each other, as Hoti Mardan, Taru Jabba, or else, where there is a river, because they are on the opposite banks of the river, as Rori-Bukkur, Thut-Naka, Daghi-Banda, etc.

Bukkur, a fortified island in the Indus river, is in the centre of the stream, nearly opposite the town of Rori, which is on the eastern bank, and on the western bank is Sukkur. Near these places is the site of Arore or Alore, a capital of Sind in remote antiquity. On its site the shepherds of the desert have established an extensive hamlet, on a ridge of silicious rock, 7 miles east of the insular Bukkur, and free from the inundations of the Indus. The Soda, a powerful branch of the Pramara race, ruled in these countries from remote antiquity, and, to a very late period, they were lords of Omra-Soomra, in which division was Arore. Sehl and his capital were known to Abul Fazl, who thus describes it: 'In ancient times there lived a raja named Sehris (Sehl), whose capital was Alore, and his dominions extended north to Kashmir, and south to the ocean.' Sehl or Sehr became a titular appellation of the country, its princes, and its inhabitants, the Sehrai. Alore appears to have been the capital of the kingdom of Sigertis, conquered by Menander of Bactria. Ibn Haukul, the Arabian geographer, mentions it as Azore. D'Anville, quoting Abulfeda, says, 'grandeur d'Azour est presque comparable à Multan.'—*Imp. Gaz.*; *Masson's Journeys*, i. p. 362.

ROHTAK, a town of 14,153 inhabitants, in the Rohtak district of the Panjab, and 42 miles N.W. of Dehli. Rohtak district has an area of 1823 (or 1811) square miles, and a population over 536,959. There are 30,831 Banya traders, a large number of whom profess the Jain creed. Jats, 186,646 of the Hindu faith, and 1458 converted to Islam. They are divided into two principal clans, which entertain towards one another a singular animosity; Gujar (2909), Pathans (5521), and Baluch (2225). Scarcity pressed upon the district in 1824, 1830, 1832, and 1837, a severe famine in 1860–61, and the season of 1868–69 was one of the most disastrous on record. During the mutiny of 1857, Rohtak was for a time completely lost to the British Govern ment. Its Muhammadan tribes united with other in Gurgaon and Hissar, under the nawabs o Farrakhnagar, Jhajjar, and Bahadargarh, and the Bhatti chieftains of Sirsa and Hissar, and the plundered the Rohtak civil station. But be the fall of Dehli, a force of Panjab levies brought across the Sutlej, and order was rest with little difficulty. The nawabs of Jhajjar Bahadargarh were captured. The former executed at Dehli; his neighbour and rela escaped with a sentence of exile to Lahore; t estates were confiscated, and portions w assigned to the rajas of Sind, Patiala, and Nab as rewards for their services during the mutiny

ROHTANG, a mountain pass in the Kan district of the Himalaya, in lat. 32° 22′ 20″ and long. 77° 17′ 20″ E., between Koksar Lahoul and Palchian in Kulu. Its crest is at elevation of 13,000 feet above the sea.—*Imp. G*

ROHTAS, the ancient Rohita, so called f its having been the chosen abode of Rohitas son of king Harichandra of the Solar dynasty. is a hill fort in the Shahabad district of Benga lat. 24° 37′ 30″ N., and long. 83° 55′ 50″ E. image of Rohitaswa was worshipped here, u destroyed by Aurangzeb.—*Imp. Gaz.*

ROHU. HIND. Labeo rohita, *Ham. B* The Ro-hoo and the Mirgah resemble each o in size and habits; they are very much like salmon, but have tiny little mouths with no te The ro-hoo in season has very pretty red fins, th have ash-coloured backs, with silvery b bo they attain to the weight of 20 lbs., and the angler excellent sport at bottom f sometimes engaging him for an hour bef can attempt to land his fish.

ROHUN, also Rohuna and Rohitaka. Soymida febrifuga, *Juss.* Its bark, Rohu chilke, is not spotted with rusty patches, a inside is dark, reddish brown; nitric aci not stain it of a bright scarlet. These te tinguish it from the poisonous bark of t vomica tree (Kuchila), which is commonl for it in the bazars of Bengal.—*Beng. Phar.*

ROLA. HIND. A powder made of the bispinosa flour, coloured with kussumba kamila, etc. It is used by Hindus during holi festival to throw at one another. is also a compound of rice, turmeric, alum, an acid, used to make the tilak or sectarian m on the foreheads of Hindus; powder of chandan or sandal-wood is also used.—*Powell.*

ROLLER, the name of Indian birds of the fam Coracidæ, viz. Coracias affinis, garrula, and Indic They are large, showy, handsome birds, with ri blue colours.

ROLLERS, waves which occur in the Sou Atlantic, at St. Helena, Fernando, Noronho, a Ascension Island. All is tranquil in the distan the sea-breeze scarcely ripples the surface, when high swelling wave is suddenly observed rolli towards the island, to break on the outer ree with a violence as great as if a furious tempe raged. Their cause is unknown. See Ripples.

ROLONG, the hard central part of whea grains, callen also soojie. When rolong is crush in a smooth, suitable vessel, such as an aga mortar, and examined with a power of about 3 diameters, it is seen to contain a very large pr portion of small cells running down to one-four

he size of those of *rice*, and which appear to exist mbedded in cellular tissue, which is seen broken p, and to portions of which the cells are still ttached. In fine flour the cells are very conrably larger, if anything more tenticular, and h more clearly marked. See Bread; Soojie; cat.

OMA-KA-SIDHANTA, an astronomical trea- by an ancient Hindu, supposed to be from Greeks of Alexandria.—*Elph.* p. 131.

OMAN, a name applied to the rulers and ple of ancient Rome, who succeeded the eeks in their Asiatic territories. The Romans nquered most parts of Europe, the northern t of Africa, Syria, and Palestine, and left last- improvements in the roads and education of countries which they occupied. The official guage was Latin, and the modern Romance guages, viz. Italian, Wallachian, Provençal, nch, Spanish, and Portuguese, are closely ted to each other, all derived from Latin. ording to the author of the Periplus of the Sea, Aden had been destroyed by the nans shortly before his time; and Dean cent is of opinion that the Cæsar in whose n this event took place was the emperor dius. The object of destroying so flourishing ort is not difficult to determine. From the e that the Romans first visited Arabia under us Gallus, they had always maintained a foot- on the shores of the Red Sea, and it is pro- e that Claudius, being desirous of appropriating dian trade to the Romans; sought a pr[illegible] text rrel with Aden, in order that he might by struction divert the Indian trade to the of Egypt. Valerian, a Roman emperor, been conquered by Shahpur in a fort near h, was led into Susiana, where the Persian ch, undertaking some extensive structures ushter), obliged his captive to assist in the by procuring experienced artists from Rome ce, and he promised that liberty should be ward of the co-operation. The task was ned, and Shahpur observed his promise, rst cut off the Roman emperor's nose, to him with an indelible mark of captivity.

mong the Hindus of India are many social oms similar to those of the ancient Romans. ong the religious rites of the ancient Romans, ir lustral ceremonies and their worship of apus were the same with those of the modern dus. The village community of India, also, t once an organized patriarchal society and an emblage of co-proprietors. The personal rela- ons to each other of the men who compose it are distinguishably confounded with their propriery rights, and to the attempts of British funcnaries to separate the two may be assigned me of the most formidable miscarriages of itish Indian administration. So soon as a son a Hindu is born, he acquires a vested interest his father's substance; and the domain thus ld in common is sometimes administered by an ected manager, but more generally by the eldest presentative of the eldest line of the stock. he village community, however, is more than a dy of co-proprietors; it is an organized society, ving its staff of officers for internal govern- ent. This seems the type of the Gens or House the ancient Romans; and although both in dia and at Rome each community was assumed to have sprung from two common ancestors, the fact was that these houses and villages were recruited by new members, who were admitted by adoption, or by some analogous process. The researches of Haxthausen and Tengoborski have lately proved that the Russian villages are organized communities of a similar character. And the same principle seems to prevail in Servia, in Croatia, and the Austrian Sclavonia—in fact, wherever feudality has had small influence, and wherever there is the nearest affinity between the western and the eastern world. The colonists of New Zealand have been long engaged in disputes with the natives, which turned upon the precise point under discussion. While the Colonial Government insisted that any member of a tribe is entitled to sell his land to whomsoever he pleases, the natives insist that although one member may transfer it to any other member of the same tribe, he cannot transfer it to any person who is not a member without the consent of the whole tribe, because of the existence of what has been called a tribal right. Thus showing that in the mind of a New Zealander the idea of joint ownership precedes that of separate ownership. By the Roman law, the father was certainly regarded rather as a steward than a proprietor of his goods, and accordingly was not, at first, permitted to dispose of his property as he pleased after his death, and on many of these points the R[illegible] law and the Hindu l[illegible] Roman gener[illegible] assimilates. The Romans [illegible]y burned, [illegible] they sometimes buried their dead, as Hindus now do; children who died in infancy were interred in the immediate neighbourhood of their former homes. Their sepulchral urns with the ashes of the dead were commonly buried about two feet below the surface, and their memorial stones were often inscribed. They used the sarcophagus or massive stone coffin, and also the tumulus or barrow. The Romans bore their dead with much lamentation to the funeral pile, on which, after being lighted, they cast the robes and arms of the deceased, as well as the slaughtered bodies of his favourite animals. The Romans had peculiar modes of divination,—their dies fasti, nefasti, their auguries, etc. Amongst the Hindus are the village gods, of which each village adores two or three, as its special guardians, but sometimes as its dreaded persecutors and tormentors. They bear some resemblance to the penates or lares of the Romans; and, like them, they are sometimes the recognised god of the whole nation, either in their generally received characters, or in local incarnations, but much oftener they are the spirits of deceased persons, who have attracted the notice of the neighbourhood.

The writing character of the ancient Romans is now used by most of the people of Europe, and by the British and their colonies. It is one of great value, and should be everywhere introduced. With much in common, in several of the Indian tongues it at first seems an easy matter to become acquainted with them. But at the first step there is this difficulty, that every language has its separate alphabet, and every province has six or eight alphabets in use. The various nationalities cannot use each other's books, nor write to each other. Even were it possible, out of the fourteen current alphabets of India, to select one for universal use, there is not one of them which it is not extremely difficult to read, difficult to write,

and difficult to print. The natives themselves cannot read them fluently. Even pandits and moonshis are continually obliged to pause for the purpose of spelling the words. A fluent reader of any of the native characters is almost unheard of; but a mere boy who is taught the Roman characters, will, in the course of a few months, read without stopping anything that is given to him. As a general rule, it is impossible to write fast in any of the native alphabets without making so many blunders and omissions that the manuscript becomes an unintelligible scrawl. The greatest difficulty of all, however, occurs in printing. For one language a fount of type is required consisting of not less than 700 letters, simple and compound; another requires 900 letters; a third, 1000, and so on; the cost of preparing such a fount, and the difficulty which a compositor has to contend with in having a 'case' before him with this prodigious collection of characters, are great. With one character in common use, it would be comparatively easy to frame two dictionaries,—one with words common to the Aryan family, the other with Dravidian words; but the many written characters has rendered that impossible, and before the end of the 19th century, if no unexpected change occur, the English language will have become the chief medium of intercourse between the various races [illegible] India.—*Muller's Lectures*, p. 163; in Bri[illegible] *Ed. Jour.*, July 1867; *Ouseley's Travels*, i. p. 287; [illegible] *Origin Elphinstone's India*, p. 179; [illegible] *nedy on the* [illegible] *of Languages*, p. 16.

ROMAN CATHOLIC, a sect of Christians who recognise the Pope of Rome as their spiritual, and many of the sect regard him also as their temporal, chief. They form in India the largest body of the native Christians. Their total number in British India in 1881 was 963,058. The priests of the Portuguese Roman Catholics and of the Society of Jesuits are spread from Goa over all the Peninsula of India. The Italians occupy Hyderabad and Native Burma; the French occupy Mysore, and they have missions in Siam, Cambodia, China, and Japan. The greatest of all their missionaries was Saint Francis Xavier, who laboured in India, the Malay Peninsula, and Japan. Beschi, a great writer, laboured in the south of the Peninsula and Mysore; and in 1871 there were upwards of half a million Roman Catholics in the Tamil country, and only about 24,000 in the vicariates of Eastern and Western Bengal. In 1881, of the total number, there were, in Bombay districts, 115,515; in Cochin, 120,919; in Travancore, 153,815; and in Madras, 473,352; leaving only 99,457 for all Northern India. The dates of Romish doctrines are—

Invocation of Saints,	700	Purgatory, ...	1438
Image Worship, . .	787	Seven Sacraments, .	1547
Infallibility, . . .	1076	Apocryphal Books, .	1547
Transubstantiation, .	1215	Priestly Intention, .	1547
Supremacy, . . .	1215	Venial Sins, . . .	1563
Half Communion, .	1415	Sacrifice of the Mass,	1563

Indulgences introduced n the 15th century, but not sanctioned by a council till 1563.—*Churchman's Magazine for Jan.* 1846.

ROME, a city of Italy, formerly renowned, and styled the 'Mistress of the World.' It is situate in the Campagna di Roma, and is the residence of the Pope. It is built on seven hills and the intermediate valleys along the banks of the Tiber, over which it has bridges; there are squares, fountains, or obelisks in their area. The church of St. Peter, which was finished in 1621, is entirely covered, both within and without, with marble. The length is 730 feet, the breadth 520, and height, from the pavement to the top of the cr that crowns the cupola, 450. The Panthe erected above 120 years before the Christian to the honour of all the gods, is the most per of the Roman temples that now remain; but Colosseum is the most stupendous monumen antiquity. The Pope has three superb pala of which the principal is the Vatican, ne St. Peter's Church; the library of this pala is deemed the largest and richest in the wor Besides the university, which consists of seve colleges, there are numerous academies, liter societies, etc.

RONDELETIA TINCTORIA. *Roxb.*

Ta-ma-yok, . . Burm. | Toora lodh, . . Hi

A small tree of the Kotah and Mewar jungl wood dark-brown. The bark is used in dye red.—*M'Clelland; Irvine.*

RONGDO, meaning the district of defiles, is elevated district on the bend of the Indus, and the frontier of the Gilghit and Hasora countr It is to the westward of Balti, and has an are 1440 square miles. It is about 8000 feet ab the sea, the mean of its villages being 6200 f The people are of Tibetan habits.

The Rongdo villages are mostly small; t have abundance of fruit-trees, of which the a [illegible] the commonest. All over the R [illegible] cot [illegible] Hills the juniper is rather common, and seen quite at home both on the higher ridges a the bottom of the ravine close to the river. excelsa grows there. The fields are manured.—*Thomson's Tr.* p. 256.

RONG-GENG. Burm. Burmese dancing

RONGUEDUE, Ronkedor, or Runkedor. A rogue or solitary elephant.

ROOSA OIL, Grass Oil, or Ginger obtained from the Andropogon calamus ar icus, *Royle* (A. Martini, *Roxb.*), a native low hills at the base of the Himalaya; found at Asirgarh, in Malwa, Gujerat, and Dekhan. Twenty seers of the grass are m with two seers of sesamum oil, and slowly distilled. The oil thus becomes hig impregnated with the peculiar roosa flavo and is sold as such at Rs. 4 a seer. Gr oil is never taken internally by natives, but th have a great faith in it as a stimulant to functions of the several organs, when rubbed externally. They also use it as a liniment i chronic rheumatism and neuralgic pains, but i expense prevents its being used generally. has a fragrant, aromatic smell, persistent, ar very agreeable at first, but after a time the odo becomes unpleasant, and gives many people feeling of sickness with headache. They use for slight colds; also to excite perspiration, rubbing in a couple of drachms on the che before the fire or in the heat of the sun. T pure oil has been used by many European office with wonderful effect in cases of severe rheu matism, but two good rubbings produced suc severe burning as to render a third applicatio impracticable. The oil is chiefly imported in Bombay from Surat, and is re-exported in co siderable quantities to England, China, and th

Arabian and Persian Gulfs. This oil differs but little either in appearance or quality from the lemon grass oil; it is a good substitute for the more expensive cajaputi oil.—*Faulkner; M.E.J.R.*

ROPE.

Habl, Khoit, . . ARAB.	Rasan, ... PERS.
Corde, ... FR.	Cuerda, Soga, . . SP.
Seil, ... GER.	Cordel Sarta, . . ,,
Doodah, . . . GUJ.	Kaur, ... TAM.
Rassi, ... HIND.	Daram, ... TEL.
Corda, ... IT.	Khalat, ... TURK.
Talikalat, . . . MALAY.	

Ropes are made of fibrous materials, spun into [illegible] yarn, of which several strands are twisted [illegible]er, usually by means of a wheel. In common all the different kinds of rope, from a [illegible]-line or whipcord to a cable, go by the [illegible] name of cordage. Among the cordage [illegible]o the Great Exhibition of 1851 were ropes [illegible]cellent quality made of Jubbulpur hemp, at [illegible]qual, if not superior, in strength to that of [illegible]an hemp. When a Petersburg hemp broke [illegible]160 lbs., one of Jubbulpur hemp did not [illegible] with less than 190 lbs.

[illegible]India the mode of making ropes is singularly [illegible]e. One man sits on the ground and lets out [illegible]yarn; another retires half-bent, and spins it [illegible]means of a spindle, the yarn being passed [illegible]ough a wooden hoop hung round his neck. [illegible]gives the spindle a jerk betwixt the palms of [illegible]hands, and keeps its motion up at a very con[illegible]rable degree of speed indeed. When several [illegible] of fine yarn are to be twi[illegible] [illegible]with a spindle is placed at [illegible] whole series are supported [illegible]es of bamboo; a spinner [illegible] [illegible]emity twists all the strands into one, [illegible] [illegible]t piece of board is being passed along, whe[illegible] [illegible]cords are meant to be hard plaited and strong, [illegible]p them from running too rapidly together. [illegible] case of ropes, after the single strands are [illegible]gether, the rope is made up by men twisting [illegible]ger strands by a stout piece of wood,—a [illegible]stronger and longer piece being used for [illegible]tire rope, a man sitting by a board with [illegible]through which the several strands pass, to [illegible]at all go properly together.

[illegible]ndel straw rope is made from Eleusine [illegible]aria. The straw is flat and excessively [illegible]h, so much so that in gathering the crops the [illegible]s are pulled off by hand, leaving the whole [illegible]v standing.

[illegible]anilla rope is made of plantain fibre, and used [illegible]running rigging for ships, or tackling for land [illegible]oses.

Hemp rope from the Cannabis sativa is used for [illegible]nding rigging for ships, or for use in water.

Rope of Sesbania aculeata is used as running [illegible]ging for ships, and tackling for land purposes.

Coir rope from the cocoanut fibre is used for [illegible]ats' and ships' running gear, and for hawsers and [illegible]bles, also for all tackling purposes when exposed [illegible]wet, especially salt water.

Ropes made of Crotalaria juncea are employed [illegible]tackling in dry places without exposure to wet.

Ropes are made at Lahore of a fibrous plant [illegible]lled Chuyan, from Sunn Okra, from the Dib [illegible]d the Putta, from a fibre called Bugar, from [illegible] leaves, Dah grass, and plantain leaves.

[illegible]e of Saccharum moonja is made near the [illegible] Jumna, and Indus. Twine is made from [illegible] of the leaf-sheath; a little thicker kind is used for towing boats; when dry it does not possess much strength, when wet it is strong and durable. The moonja is used also for thatching, etc.

A rope is made at Balasore of Sealee fibre.

Rope of rattan made at Penang, Malay Peninsula, used for drawing water, and as halters for cattle.

Cotton rope is used for hanging and pulling punkahs and tent ropes.

The principal cordage plants of British India are enumerated under the heading Fibrous Plants, *q.v.*, to which the following may be added, viz. :—

Æschynomene cannabina.	Saccharum spontaneum.
Ailanthus Malabaricus.	Smilax ovalifolia.
Aloe vulgaris.	Sterculia fœtida.
Arenga saccharifera.	S. ramosa.
Arundo donax.	Strychnos potatorum.
Bignonia coronaria.	Urtica heterophylla.
Boehmeria argentea.	U. atrofusca.
B. dichotoma and other *sp.*	U. crenulata.
Broussonetia papyrifera.	U. dolabriformis.
Calamus rotang.	U. heptandra.
Celtis caucasica.	U. filiformis.
C. capsularis.	U. funicularis.
Cordia myxa.	U. longispina.
C. angustifolia.	U. nivea.
C. Rothii.	U. paniculata.
Crotalaria tenuifolia.	U. pentandra.
Eleusine coracana.	U. reticulata.
Leptadenia, *sp.*	U. tenacissima.
Morus Indica.	U. virulenta.
Nussiessya hypoleuca.	

ROR. HIND. Kunkur, or broken brick, used in Bengal for gravelling roads.

RORI BAROLLI has a grand temple 58 feet in [illegible]and in the ancient form peculiar to the [illegible] The body of the edifice, in [illegible]um of the god, and over which [illegible]dal sikr, is a square of only 21 [illegible] addition of the domed vestibule [illegible]nd portico makes it 44 by 21. The whole [illegible]s covered with mythological sculpture, without as well as within, emblematic of Siva as Mahadeo, who in Saiva Hindu belief is the giver as well as the destroyer of life. In a niche outside, to the south, he is armed against the Dytes (Titans), the roond mala or skull-chaplet reaching to his knees, and in seven of his arms are offensive weapons. His cap is the frustrum of a cone composed of snakes interlaced with a fillet of skulls; the cupra is in hand, and the victims are scattered around. On his right is one of the Jogini maids of slaughter, drunk with blood, the cup still at her lip, and her countenance expressive of vacuity; while below, on the left, is a female personification of death, mere skin and bone; a sickle (koorpi) in her right hand, its knob a death's head, completes this group of the attributes of destruction.

To the west is Mahadeo under another form,—a beautiful and animated statue, the expression mild, as when he went forth to entice the mountain-nymph Mera to his embrace. His tiara is a blaze of finely-executed ornaments, and his snake-wreath, which hangs round him as a garland, has a clasp of two heads of Sehesnag (the serpent-king), while Nanda below is listening with placidity to the sound of the damroo. His cupra and kharg, or skull-cap and sword, which he is in the attitude of using, are the only accompaniments denoting the god of blood. The northern compartment is a picture disgustingly faithful of death and its attributes, vulgarly known as Bhooka Mata, or the personification of

famine, loud and bare; her necklace, like that of her lord, is of skulls. Close by are two mortals in the last stage of existence, so correctly represented as to excite an unpleasant surprise. The outline is anatomically correct. The mouth is half open and distorted, and although the eye is closed in death, an expression of mental anguish seems still to linger upon the features. A beast of prey is approaching the dead body, while by way of contrast a male figure, in all the vigour of youth and health, lies prostrate at her feet.

Such is a faint description of the sculptured niches on each of the external faces of the mindra, whence the spire rises, simple and solid. In a Hindu temple is the mindra or cella, in which is the statue of the god; then the munduf, in architectural nomenclature, is the pronaos; and third, the portico. Like all temples dedicated to Bal-Siva, the vivifier, or sun-god, it faces the east. The portico projects several feet beyond the munduf, and has four superb columns in front. The ceilings, both of the portico and munduf, are elaborately beautiful; that of the portico, of one single block, could hardly be surpassed. The exterior is a grand, wonderful effort of the silpi or architect, one series rising above and surpassing the other, from the base to the urn which surmounts the pinnacle. The sanctum contains the symbol of the god, whose local appellation is Rori Barolli, a change from Balrori, from the circumstance of Balnath, the sun-god, being here typified by an orbicu[lar] stone termed rori, formed by attrition [in] chooli or whirlpools of the Ch[ambal] the temple stands, and to wh[ich] probably owed its foundation. [The] is not fixed, but lies in a groove [in] ring of the Yoni; and so nicely is it [bal]anced with a very moderate impulse it will continue revolving while the votary recites a tolerably long hymn to the object of his adoration. The old ascetic, who had long been one of the zealots of Barolli, amongst his other wonders, gravely told Colonel Tod that with the momentum given by his little finger, in former days, he could make it keep on its course much longer than now with the application of all his strength.—*Tod's Rajasthan*, ii. p. 706.

ROSARIES.

Tasbih, Masbaha, . ARAB.	Rosenkrans, . . . GER.
Rosaire, ... FR.	Rosario, ... IT.
Rosenbeet, ... GER.	Rosaro, ... SP.

Rosaries are used by Buddhists, Christians, Muhammadans, and Hindus. The Muhammadans, as each bead passes through their hands, recite one of the hundred attributes of the Creator. Their rosary has 100 beads; that of the Burmese Buddhists, 108. The thousand names of Vishnu and Siva are strung together in verse, and are repeated on certain occasions by Brahmans, as a litany accompanied sometimes with the rosary. As each name is mentally recited, with the attention abstractedly fixed on the attribute or character of which that name excites the idea, a bead is dropped through the finger and thumb; such operation is supposed to assist or promote abstraction, an attainment which enthusiastic Hindus think exceedingly efficacious. Brahmans and pious men of other castes are often seen with rosaries in their hands. These are composed of amber or of the rough seeds of fruits which are sacred to the gods. Images and pictures of Brahma and of Siva are frequently to be see[n] with a rosary in the hand, and the hand is some[times] times seen enclosed in a loose bag. There is n[o] authority for supposing that the Jews or th[e] earlier Christians used rosaries. The Christia[n] rosaries are of beads and seeds. The seeds of th[e] Abrus precatorius and of the olive, and beads of wood made by the turner, are used. Muham[madans] madans use beads made of quartzose mineral. Rosaries and charms are made at Kandahar fr[om] chrysolite, a silicate of magnesia quarried from hill at Shahmaksud. It is generally opaqu[e] varies from a light-yellow to bluish-w[hite]. *Bellew; Moor's Pantheon*, p. 24.

ROSCOEA, a genus of showy plants [belong]ing to the Zingiberaceæ; species occur[ring] 9000 feet in the Himalaya and on the Nei[lgherry] mountains, viz.:—

R. alpina, *Royle*, Simla, Chor, Landour, Neilgh[erries].
R. capitata, *Sm.*, *Wall.*, Nepal.
R. elatior, *Sm.*, Nepal, Kamaon.
R. lutea, *Wight Ic.*, Neilgherries.
R. exilis, *Sm.*, Nepal.
R. purpurea, B. procura, *Wall.*, Shivapur moun[tains].
R. spicata, *Sm.*, *W. Ic.*, *Voigt*, Nepal.

ROSE.

Ward, ...	ARAB.	Roos, ...	
Ying-shih, . . .	CHIN.	Rodon, ...	
Tsiang-wei, Tsiang-mi,	,,	Mawar, . . .	MA[LAY].
Muh-hiang, . . .	,,	Gul, ...	[PERS.]
Mui-kwai-hwa, . .	,,	Roza, ...	
Fu-kien-sian, . .	,,	Gulaba-pu, . . .	
		Roja-pu, . . .	

[TAM.-CH.]

[The] Rose tribe of plants of [the] the genera Agromonia, Dalib[arda], Geum, Hotelia, Neillia, Potentilla, [Rubus], Rubus, Schizonotus, Sibbaldia, Sieversia, Spiræa. Rose trees grow in India, both wild cultivated, and the flower is much prized. yellow roses are found in Kashmir, Laho[ul] Tibet. Lowther states they are sometimes and Thomson mentions double yellow r[oses] 11,000 feet in Ladakh. The yellow Persi[an] finds its eastern limit in Lahoul, but Fortun[e] China yellow rose in the gardens of the ma[rch] during the early months of the year. The had something of buff in it, which gave the f[low]er an uncommon appearance. It was a most b[eau]ful double yellow climbing rose from the northern districts of the empire. Another which the Chinese call the 'five-coloured,' also found in one of these gardens at this [time]. Sometimes it produces self-coloured blooms, b[ut] either red or French-white, and frequently ha[s] flowers of both on one plant at the same ti[me] while at other times the flowers are striped w[ith] the two colours. The rose was known in early tim[es] and was as great a favourite among the nations antiquity as it is in modern times. It is found almost every country of the northern hemisphe[re] both in the Old and New World. All the spec[ies] are included between lat. 70° and 19° N. I[t] found more generally on dry and free soils t[han] on those which are wet and tenacious. In north of Europe it occurs with single flowers, in Italy, Greece, and Spain more frequen[tly] double. The flowers of the rose have a gr[eat] variety of colours, from the deep-red to yellow and white, with every intermediate In India, the easiest mode of propagatio[n] layers at almost all seasons, or by cuttin[gs]

commencement of the rains. The Persian varieties, ed and white, require to have their roots opened nd the plants cut during the early part of the cold season, after which they must be watered well every second or third day. The roots must then be covered up with manure, when they will throw out flowers. The Rose Edward, which blossoms a great part of the year, requires pruning bout a month after it ceases to blossom, and hould be allowed to rest a short time without atering, when a fresh supply of water and anure round the roots will cause it to bear wering shoots immediately. This rose, and e Egyptian, are amongst the few that give seed-os, being perfectly formed on both. Some of e roses in China are peculiar from having trans-rent dots on their leaves, resembling those of myrtles, and with the Chinese the roots and its of rose trees are officinal.

Rosa brunonis, *Lind.*

o, Kuji, Gangari, BEAS,	Gulab-ghuri, . . PUSHTU.
ar, ... CHEN.	Kajer, Kui, Kajri, SUTLEJ.
liari, Chal, . JHELUM.	Gulab-ghurei, TR.-INDUS.
lwari, Krur, KANGRA.	

This fine wild white rose climbs luxuriantly r bushes and even tall trees. It is common in outer Himalaya from 2400 to 7000 feet, up to probably beyond the Indus. It furnishes a ll-sized wood, which makes walking-sticks. Murree they call it 'chal;' but this they also ly to the jasmine.

ose canina, the dog rose, Kin-ying-tsze, CHIN., in Kiang-si and ot[illegible] ; fruits large and [illegible] edicine.

osa centifolia, *Linn.*

rovincialis, *Miller*.	R. centifolia muscos.
. . . . . ARAB.	Hundred-leaved rose, ENG.
ulab, . . BENG.	Gul-i-surkh, . . . HIND.
a-phul, . . DUKH.	Mawar, . . . MALAY.
rose, . . ENG.	Gul-i-sad-barg, . . PERS.

a native of Syria, is cultivated through-rope, British India, Persia, and China, and rose-water and atr or otto of roses are red. The stem or kubjak is used by the Hindu icians in medicine. Its fragrance is but par-destroyed by desiccation, and according to hereau is remarkably augmented by iodine. less astringent than the Provence rose, and e laxative. The petals are used as laxatives children, and also made into the conserve of s or gul-khand. The petals of this as well as the R. gallica are preserved with salt by the ropean apothecaries for the preparation of the tilled water.

Rosa damascena, *Mill.*, the damask rose, is cultivated in gardens in India for the sake of its owers; it is supposed to have been originally rought from Damascus, and to be a native of yria. It has many varieties. The essential oil f the petals sells at 2 rupees per tola.

Rosa eglanteria, *L.* Native country unknown.

Rosa gallica, the French rose, Provence red rose, supposed to be the species to which Pliny refers (Hist. Nat. xxi. pp. 18, 25, 72, 73). Is a native of ersia, found wild about Montalbanum, Walzen-erg, and Geneva, in Austria, Piedmont, and the aucasus; it has equal small prickles, erect wers, ovate sepals, and globose fruit. Hundreds varieties of this rose are found cultivated in dens. A great number of varieties of them e hybrids between R. gallica and R. centifolia. They mostly combine the long graceful shoots of the latter with the rich crimson hues of R. gallica. Hybrids are also produced between R. gallica and R. Indica, but differ from the last in not being perpetual. The petals contain tannic and gallic acid, essential oil, oxide of iron, and other unimportant principles. The petals are gathered before becoming quite ripe; they are deprived of the calyx and central attachments, and dried before the sun or in a stove. When dried they are sifted in order to separate the stamina and pistil. They are then gently compressed and kept in a dry place. From the cabbage rose, a variety of this species, a very fragrant distilled water is prepared in England.

Rosa glandulifera is the Gul seoti or Sewati of the Panjab.

Rosa inserta is the Nasrin kubjak.

Rosa macrophylla.

Gulab jikjik, . . CHEN.	Ban-kujru, Yal, . SUTLEJ.
Phulwar, Phulian, HIND.	Trind, Tumbu, . ,,
Ban-gulab, Akhiari, RAVI.	

This great red rose tree grows over a wide range in the N.W. Himalaya up to the Indus from 4500 to 10,500 feet. Its fruit is eaten, and is stated by Madden to become very sweet when black and rotten. In Kanawar, a perfume is extracted from the flowers for export towards the plains. It is one of the most beautiful Himalayan plants. Its single flowers are as large as the palm of the hand.

Rosa moschata, [illegible] the musk rose, is found native [illegible] frica, and in the temperate and [illegible] Spain.

[illegible] sweet-briar or gul-nasrin, is [illegible] ndian gardens; it sometimes [illegible] on the Persian rose stock. [illegible] propagation is by layers, but a much quicker and easier method is to bud it on the stock of a rose. Tenasserim residences are often filled with sweet odours from the graceful eglantine or sweet-briar, but the plant is kept alive with difficulty when exposed to the south-west monsoon.

Rosa semperflorens, the Yueh-ki-hwa of the Chinese, is the Chinese monthly rose, a common scrambling shrub bearing a regular profusion of red flowers, mostly barren, but used medicinally.

Rosa sericea is an erect, white-flowered rose, and is the only species occurring in Southern Sikkim. It is very abundant. Its numerous inodorous flowers are pendent, apparently as a protection from the rain, and it is remarkable being the only species having four petals, instead of five.

Rosa Webbiana, *Wall.*

Sikanda, Manyar, . CHEN.	Sia, Sea, . . . L.
Shawali, Chua, . . ,,	Ringgal, Kugina,
Kantyan, . . . KAGHAN.	

This rose is found chiefly in the rat[illegible] tracts of the Panjab Himalaya from 500[illegible] feet, up to near the Indus, and in Ladakh 13,500 feet. Its fruit is eaten, and [illegible] Spiti the stems are largely used for [illegible] *horn; Fortune's Wanderings*, p. 31[illegible] *Journ.* i. p. 168, ii. p. 43; *Mason; O[illegible] Riddell; Smith; Stewart; Roxb.* ii.

ROSE, HUGH, LORD STRATHN[illegible] guished politician, commander, an[illegible] In Europe public attention was [illegible] affairs of Syria, where Lord [illegible]

hazard of a war with France, effectually checkmated Thiers, drove Ibrahim Pasha back into Egypt, and restored Syria to Ottoman rule. The part taken by Sir Hugh Rose in that brilliant line of policy was prominent, and as a reward for his services he received from Great Britain the Companionship of the Bath, from Prussia the Cross of St. John of Jerusalem, and from the Sultan a sword of honour. After passing many years in the diplomatic service, he acted as British ambassador at Constantinople, in the absence of Stratford Canning, and at a critical moment he ordered the British fleet to the mouth of the Dardanelles, for which he received the thanks and support of the British Government. Subsequently, and throughout the whole of the Crimean war, Sir Hugh Rose served as Commissioner with the French army, and gained the respect of the British authorities, and also of the principal officers in the French army. For his services in the war with Russia, he was created K.C.B., and received the Crimean medal and clasps, the rank of Commander of the Legion of Honour, the third class of the Medjidi, and the Turkish medal.

When he landed at Bombay in the autumn of 1857, Lord Elphinstone at once gave him the command of the force to which was confided the duty of crushing rebellion in Central India, and of marching to join Sir Colin Campbell's army in Bengal. He took command of the field force [illegible] December 1857, captured Ratgurh 29th January 1858, Garrakota 13th February, and Chandaree 17th March; defeated Tantia T[illegible] 1st April; stormed Jhansi, 3d [illegible] mutineers at Golowlie, 22d A[illegible] 23d April; defeated the Gw[illegible] June; restored the Mahara[illegible] 1858; and became Comman[illegible] 4th June 1860.

This small column, few in numbers, was constantly engaged with vastly superior forces of the enemy, and marched for months from victory to victory, suffering fearfully from overexertion, terrific heat, and constant combats, until finally it joined Sir Colin Campbell's troops upon the banks of the Jumna at Calpee.

Leaving Indore at the end of 1857, Sir Hugh Rose first encountered the enemy at Ratgurh, which fort he captured in a few days, and again defeated the raja of Banpore on the Bina. This opened to him the road to Saugor, the garrisons of which had long been hemmed in by the enemy, and which he relieved in February 1858. Still advancing, Sir Hugh Rose's column again met the rebels at the fort of Gangakota, which he took, and he then closely pursued the enemy with loss [illegible] Beas. His next operation was in storming [illegible]ss of Mudunpore, and by his success there, [illegible] smaller forts fell into his possession, the [illegible] Jhansi was opened, and the territory of [illegible]h annexed. Sir Hugh Rose then marched [illegible]si, and on his way took the strong fort of [illegible] by storm. Arriving before Jhansi on [illegible] March, he found himself in the presence [illegible]ed city defended by a large army of [illegible] siege guns were few, and his troops [illegible]tly engaged and much overworked. [illegible]teen days the cavalry and artillery [illegible]ort and guarded the ground round [illegible]ok off their clothes, saddles, or [illegible] meantime, whilst the siege progressed and the artillery were endeavouring [illegible] make a breach, Tantia Topee, with an army [illegible] 20,000 men and 20 guns, appeared on the Betw[illegible] Still maintaining his investment of the city, an[illegible] withdrawing as few troops as possible, Sir Hug[illegible] Rose drew up his small force in two lines in orde[illegible] of battle, and by a masterly flank attack utterly[illegible] defeated and routed the rebel army in the fiel[illegible] capturing all their artillery, and pursuing them f[illegible] sixteen miles. In two days after the battle of t[illegible] Betwa, he assaulted and captured Jhansi by sto[illegible] and escalade, with a loss to the enemy of 5[illegible] men. In April, giving the rebels no rest, [illegible] Hugh again advanced towards Calpee, which [illegible] their great depot and arsenal on the Jum[illegible] On his way there he again met the rebels [illegible] Koonch at daylight, defeated and pursued th[illegible] throughout the day, capturing fifteen guns. [illegible] force, however, was becoming perfectly prost[illegible] from constant marching, fighting, over-exert[illegible] and heat. The thermometer stood at 120° in [illegible] shade. Many men dropped down dead from [illegible] stroke. Although to avoid the excessive heat[illegible] marches were made at night, the men wer[illegible] utterly exhausted that even during short halts [illegible] whole force would fall down into a deep sl[illegible] from which they were aroused with difficulty. [illegible] this jaded condition the column arrived, in [illegible] at the banks of the Jumna near Calpee, when [illegible] enemy attacked them at noon on the 23d, [illegible] after a severe encounter were repulsed, a po[illegible] of the Rifle Brigade Camel Corps from t[illegible] [illegible]na having come to the ass[illegible] [illegible]ose at a critical moment. [illegible]s day made Sir Hugh Rose mast[illegible] [illegible]with its arsenal and material of war. [illegible] [illegible]rwards it was announced that Sindia had [illegible] from his capital, and that Gwalior was in th[illegible] of the rebel army. Rapidly retracing his s[illegible] Hugh Rose again met the enemy in a batt[illegible] the walls of that great fortress, and by his [illegible] on that occasion restored the maharaja to his [illegible]

ROSE-ATTAR, the Atr of Asiatics a[illegible] of the English. In India, the perfumed [illegible] attar are obtained in the following manner. [illegible] layers of the jasmine or other flowers, four [illegible] thick and two inches square, are laid on the g[illegible] and covered with a layer of sesamum or any [illegible] oil-yielding seed. These are laid about the [illegible] thickness as the flowers, over which a second l[illegible] of flowers like the first is placed. The se[illegible] wetted with water, and the whole mass cov[illegible] with a sheet held down at the ends and sides [illegible] weights, and allowed to remain for 18 hours in [illegible] form. It is now fit for the mill, unless the pe[illegible] fume is desired to be very strong, when the fad[illegible] flowers are removed and fresh ones put in th[illegible] place. The seed thus impregnated is grou[illegible] in the usual way in the mill, the oil express[illegible] having the scent of the flower. At Ghazipur t[illegible] jasmine and bela are chiefly employed; the oil[illegible] kept in bottles of hide, called dubbers, and s[illegible] for about four shillings a seer. The newest [illegible] afford the finest perfume. In Europe a fixed [illegible] usually that of the bean or morunga nut, is employ[illegible] Cotton is soaked in this, and laid over layers [illegible] flowers, the oil being squeezed out so soon [illegible] impregnated with perfume. Dr. Jackson [illegible] describes the culture of the rose in India, [illegible] manufacture of rose-attar or rose-water. Ar[illegible] the station of Ghazipur, there are about 300 big[illegible]

or about 150 acres) of ground laid out in small detached fields as rose gardens, most carefully protected on all sides by high mud walls and prickly-pear fences, to keep out the cattle. These lands, which belong to zamindars, are planted with rose trees, and are annually let out at so much per a for the ground, and so much additional for rose plants,—generally 5 rupees per bigha, and rupees for the rose trees, of which there are 0 in each bigha. The additional expense for ltivation would be about 8 rupees 8 annas; so t for 38 rupees 8 annas you have for the season igha of 1000 rose trees. If the season be good, s bigha of 1000 rose trees should yield 1 lakh roses. Purchases for roses are always made at much per lakh. The price, of course, varies ording to the year, and will average from 40 to rupees. The rose trees come into flower at the inning of March, and continue so through April. ly in the morning the flowers are plucked numbers of men, women, and children, and are veyed in large bags to the several contracting ties for distillation into rose-water. The culti- rs themselves very rarely manufacture. The ve apparatus for distilling the rose-water con- of a large copper or iron boiler well tinned, able of holding from 8 to 12 gallons, having a e body with a rather narrow neck, and a mouth t 8 inches in diameter; on the top of this is l an old pot or deghchi, or cooking vessel, a hole in the centre to receive the tube or n. This tube is composed of two pieces of boo, fastened at an acute angle, and it red the whole length with a strong binding rded string, over which is a luting of earth t the vapour from escaping. The small t two feet long, is fixed into the hole in e of the head, where it is well luted with nd water. The lower arm or end of the arried down into a long-necked vessel or called a bhubka. This is placed in a pot which, as it gets hot, is changed. The the still is luted on to the body, and the n of the tube in the bhubka is also well d with a cushion of cloth, so as to keep in our. The boiler is let into an earthen e, and the whole is ready for operation. s a great variety of rose-water manufactured bazar, and much that bears the name is more than a mixture of sandal oil. The se-water, however, procurable in the bazar e computed as bearing the proportion of oses to a seer of water; from 1000 roses enerally a seer and a half of rose-water is d, and perhaps from this even the attar has emoved. The boiler of the still will hold 000 to 12,000 or 16,000 roses. On 8000 from 10 to 11 seers of water will be placed, seers of rose-water will be distilled. This, distillation, is placed in a carboy of glass, exposed to the sun for several days to be- puckah or ripe; it is then stopped with and has a covering of moist clay put over coming hard, effectually prevents the escaping. This is the best that can be d the price will be from Rs. 12 to 16. re the attar or otto of roses, the roses nto the still, and the water passes over ly, as in the case of the rose-water process; he whole has come over, the rose-water is in a large metal basin, which is covered with wetted muslin tied over to prevent insects or dust getting into it; this vessel is let into the ground about two feet, which has been previously wetted with water, and it is allowed to remain quiet during the whole night. The attar is always made at the beginning of the season, when the nights are cool. In the morning the little film of attar which has formed upon the surface of the rose-water during the night is removed by means of a feather, and carefully placed in a small phial; and day after day, as the collection is made, it is placed for a short period in the sun, and after a sufficient quantity has been procured, it is poured off clear, and of the colour of amber, into small phials. Pure attar, when it has been removed only 3 or 4 days, has a pale greenish hue; by keeping, it loses this, and in a few weeks' time it becomes of a pale yellow. The first few days' distillation does not produce such fine attar as comes off afterwards, in consequence of the dust or little particles of dirt in the still and the tube being mixed with it. This is readily separated, from its sinking to the bottom of the attar, which melts at a temperature of 84°. From one lakh of roses it is generally calculated that 180 grains, or 1 tola, of attar can be procured; more than this can be obtained if the roses are full-sized, and the nights cold to allow of the congelation. The attar purchased in the bazar is generally adulterated, mixed with sandal oil or sweet oil. Not even the richest native will give the price at which the purest attar alone can be obtained, and the purest that is made is sold only to Europeans, selling at from 50 to 90 rupees the tola.

In India, native stills are let out at so much per day or week, and it frequently occurs that the residents prepare some rose-water for their own use as a present to their friends, to secure their being provided with that which is the best. The natives of India never remove the calyces of the rose flowers, but place the whole into the still as it comes from the garden. The best plan appears to be to have these removed, as by this means the rose-water may be preserved a longer time, and is not spoiled by the acid smell occasionally met with in the native rose-water. It is usual to calculate 100 bottles to 1 lakh of roses. The rose-water should always be twice distilled; over 10,000 roses, water may be put to allow of 16 or 20 bottles coming out; the following day these 20 bottles are placed over 8000 more roses, and about 18 bottles of rose-water are distilled. This may be considered the best to be met with. The attar is so much lighter than the rose-water, that previous to use it is better to expose the rose-water to the sun for a few days, to allow of its being well mixed; and rose-water that has been kept six months is always better than that which has recently been made. At the commencement of the rose season, people from all parts come to make their purchases, and very large quantities are prepared and sold. There are about 36 places in the city of Ghazipur where rose-water is distilled. These people generally put a large quantity of sandal oil into the receiver; the oil is afterwards carefully removed and sold as sandal-attar, and the water put into carboys and disposed of as rose-water. At the time of sale, a few drops of sandal oil are placed on the neck of the carboy to give it a fresh scent, and to many of the natives it appears perfectly immaterial whether the scent arise solely

from the sandal oil or from the roses. Large quantities of sandal oil are every year brought up from the south of India and expended in this way.

The chief use the natives appear to make of the rose-water, and the sandal-attar or sandal-oil, is at the period of their festivals and weddings. It is then distributed largely to the guests as they arrive, and sprinkled with profusion in the apartments. A large quantity of rose-water is sold at Benares, and many of the native rajas send over to Ghazipur for its purchase. Most of the rose-water, so soon as distilled, is taken away, and after six months from the termination of the manufacture there are not more than four or five places where it is to be met with. The value of the roses sold for the manufacture of rose-water may be estimated at 15,000 to 20,000 rupees a year; and from the usual price asked for the rose-water, and for which it is sold, there may be a profit of 40,000 rupees. The natives are very fond of using the rose-water as medicine, or as a vehicle for other mixtures, and they consume a good deal of the petals for the conserve of roses, or gul-kand, as they call it. The delightful fragrance from the Ghazipur rose fields can be scented at 7 miles distance on the river Ganges. The most approved mode of ascertaining the quality of attar is to drop it on a piece of paper; its strength is ascertained by the quickness with which it evaporates, and its worth by its leaving no stains on the paper. The best otto is now manufactured at Constantinople, and it is largely made in France.—*O'Shaughnessy*, p. 326.

ROSE CHAINS, made of gold at Trichinopoly, are perfect marvels of the goldsmith's art. So minute is the chasing of the pattern of the rose in each link, that, unaided by a magnifying power, the eye is unable to trace its delicate outline and beauty of form. In some, the little links are drawn so close together as to be only visible on the closest inspection. It is difficult at first to believe that it is anything but a mere length of solid gold wire, and only when examined in the hand does its perfect flexibility betray its manner of construction. Waistbands are made, consisting of eight and sixteen of these fairy-like chains, which appear as bunches of golden thread, and they are fastened with gold clasps, set with emeralds and rubies for ornamental purposes.

ROSELLE.

Kaserica, . . . HIND.	Pulchay kiray, . TAM.
Hibiscus subdariffa, LAT.	Yerra gogu, . . . TEL.

This plant is cultivated in most gardens all over India, for its fleshy calyces, which have a pleasantly acid taste, and make excellent tarts and jelly; and in the West Indies, for refreshing drinks. The stems, if cut when in flower, and the bark stripped off and steeped immediately, a mass of minute fibres is displayed, of a fine silky nature.

ROSE MALOES. ANGLO-MALAY.

Non-t'yok, . . . BURM.	Liquid storax, . . ENG.
Su-hoh-you, . . CHIN.	Storax, ... ,,
Su-hoh-you-hiang, ,,	Rasa-mala, . . MALAY.

This semi-fluid resin is the product of the Liquidamber altingia, which grows in Tenasserim. The resin sold in China is a thick, scented, gummous oil, of the consistence of tar; it is brought from Persia viâ India to China, and when good has a pearly appearance. The price has declined much of late years; it used to sell for 30 dols. per pikul. It is used for medicinal purposes.

—*Morrison's Compendious Description; William Mid. King.* ii. p. 406; *Smith.*

ROSEMARY, the tops of Rosmarinus officinalis, *Linn.*, the Aklil-ul-Jabl or the mountain crown of the Arabs, a translation of Libanotis coronaria, its former European name.

ROSEN, FREDERIC, obiit 1837, aged 32 y... He was the editor and translator of the first ... of the Rig Veda.

ROSE OF JERICHO.

Kaf Mariam, . . ARAB.	Rose de Jericho, . .
Mary's Hand, . . ENG.	Jerore hygrometrique,

The rose of Jericho (Anastatica hierochuntica, *L.*), growing in the deserts of Arabia, Palestine, Barbary, and Egypt, is an annual; after withering its hygrometric stems roll themselves up in a ball, are loosened, and blown about by the wind, expanding again with the first rainfall. The wind hurry the round ball from place to place until it is left in some moist situation, generally the sea shore, where it is driven to and fro by the waves, winds along with the sand which forms the barriers of the beach. Here the seeds are expelled from the contracted seed-vessels on the plant recovering its original form, and receiving sufficient moisture for germination, and ... blown back to the deserts it puts out its ... and grows luxuriantly. The people believe that if put in water at the time when a woman's labour pains begin, it will expand the instant that the child is born. They say that it first blossoms on Christmas eve to salute the birth of the Redeemer, and paid homage to his resurrection, remaining expanded till Easter.—*Lind. Mur...*

ROSETTA STONE, a stone discovered ... redoubt of the town of Reshid, by an ... officer of the French army, when digging foundations of Fort St. Julian at Rosetta, ... 1799. It is of a dark syenitic basalt, and ... an inscription, the upper part in hieroglyphics, the enchorial or common Egyptian, and ... It was first in part translated in 181... Thomas Young, a physician of Great Br... is in the British Museum.

ROSETTA WOOD is a good-sized Eastern wood, imported into Europe in logs 9 to 1... diameter; it is handsomely veined, the ... colour is a lively red-orange (like the skin of Malta orange) with darker marks, which are ... times nearly black; the wood is close, hard, very beautiful when first cut, but soon gets ... —*Holtz.*

ROSE-WATER.

Siang-wei-lu, . . CHIN.	Ayar mawar, .
Gulab-ka-pani, . . HIND.	Ab-i-gul, . . .

The water distilled from roses, and put ... into large glass bottles of about three ... gallons capacity each, called carboys. A large ... tity is annually exported from the Persian ... Bombay; that sold in Benares is obtained ... Ghazipur, where it is largely distilled. ... water is much esteemed on account of its ... fragrance, and is chiefly used by the natives ... periods of their festivals and weddings.

ROSEWOOD.

Tze-tau, ... CHIN.	Lignum Rho...
Chinese rosewood, ENG.	Aspalathus, ...
E. Indian blackwood, ,,	Pao de rosada, ...
Bois du rose, . . . FR.	Leno de rosa, ...
Bois de Rhode, . . ,,	Biti-maram, . .
Rosen-holz, . . . GER.	Yerra gudda-chava...
Legno rodie, . . . IT.	Gunga ravi, . .

Like to ironwood, blackwood, redwood, etc., sewood is a commercial term given to the timbers several trees. Those used in Britain are pro- uced in the Brazils, the Canary Isles, the East ndies, and Africa. They are imported in very large labs, or the halves of trees, which average 18 ches wide. The best is from Rio de Janeiro albergia, *sp.*), the second quality from Bahia, l the commonest from the East Indies; the last called East India blackwood, although it happens be the lightest and most red-coloured of the e; it is devoid of the powerful smell of the e rosewood, which latter Dr. Lindley considers be from a species of mimosa. The pores of East India rosewood appear to contain less or e of the resinous matter from which the odour, that of the flower of Acacia armata, arises. of the rosewoods contains so much gum and that small splinters make excellent matches. colours of rosewood are from light hazel to p purple, or nearly black; the tints are some- s abruptly contrasted, at other times striped nearly uniform. The wood is very heavy; e specimens are close and fine in the grain, reas others are as open as coarse mahogany, ther are more abundant in veins. The black nks are sometimes particularly hard, and very ructive to the tools employed on it. Next to ogany, it is in England the most abundant he furniture woods. A large quantity is cut veneers for upholstery and cabinet work, and pieces are used for the same purposes, and great variety of turned articles of or[illegible] umption. Mr. Poole, in his [illegible] dinary merce, describes it as a [illegible] Statistics of [illegible] ghly-esteemed, dark- coloured fancy wood, principally used in ng and making costly furniture. That de- ed in England, he says, is imported chiefly Bahia and Rio de Janeiro, into London and rpool. It is in the form of the halves of trees aging 18 inches wide, and in weight 2½ cwt., d planks, of which the import in 1851 was 0 tons. Price, ordinarily, £9 to £19, but g occasionally to £90 per ton. The rosewood he Tenasserim Provinces is a very beautiful, l, compact timber, resembling Andaman wood, is occasionally seen in the bazar of Calcutta. m Siam and other places, a rosewood is largely orted by the Chinese. These woods are gener- esteemed according to the degree in which darker parts are distinct from the purple which form the ground. One rosewood was d Lignum Rhodium, Aspalathus, whence the m Rhodii is obtained; heavy, oleaginous, ewhat sharp and bitter to the taste, of a ong smell, and purple colour. The Chinese ewood, called Tze-tau, is odorous, of a red- h-black colour, streaked, and full of fine ns, which appear as if painted. The manu- tures of this wood are more valued in China n the varnished or japanned. There are baser ds of rosewood of inferior value. East Indian ckwood or rosewood, from the Dalbergia lati- a and D. sissoides, is an excellent heavy wood, ted for the best furniture. It can be procured large quantities, and of considerable size; the od contains much oil. In large panels it is ble to split.—*Faulkner; Morrison's Compendious scription; M. E. Jr. Rep.; Mason's Tenasserim; ltzapfel; Poole's St. of Commerce; M'Cul-*

ROSIN.

Ral, Rala, Ralla,	HIND.	Coongilium,	TAM.
Damar,	MALAY.	Gugalam,	TEL.

The rosin or common resin of Europe is obtained as a residuary matter in the process for obtaining the oil of turpentine. Turpentines are oleo-resins. In their natural state they are either solid or semi-fluid, the oil of turpentine being obtained by distillation of American turpentine with water, and is from the Pinus palustris; partly also from the Pinus tœda, and perhaps some other species inhabiting the Southern States, from North Carolina and the south-eastern part of Virginia. A hollow is cut in the tree a few inches above the ground, and the bark removed for the space of about eighteen inches above it. The turpentine runs into this excavation from about March to October; more rapidly, of course, during the warmer months. It is transferred from these hollows into casks. Old and concrete American turpentine is often sold as frankincense. Its imports into India are diminishing. See Dammer; Resin.

ROSMARINUS OFFICINALIS, Rosemary.

Aklil-ul-Jabl,	ARAB.	Hasalban-achsir,	ARAB.

A shrub three to four feet high, densely leafy, an inhabitant of the south of Europe and parts of Asia Minor. Eau de la reine d'Hongrie is the essential oil of this plant, stated most positively to possess the power of encouraging the growth of hair and of curing baldness. It is the colou[illegible] ingredient of gree[illegible]

ROSS, DANIEL [illegible] ns.—*O'Sh.*

[illegible], a naval officer who rose to the rank of captain in the Indian navy. Between 1828 and 1840, he surveyed the east coast of the Bay of Bengal, from the mouths of the Hoogly to the Straits of Malacca. He succeeded Captain Court in 1823 as Marine Surveyor-General at Calcutta, where he introduced a really scientific method of survey, and earned the title of the Father of the Indian Survey. He was succeeded by Captain Lloyd, on his resigning the office in 1833, and he became Master Attendant at Bombay until before his death.—*E. I. Marine Surveys, P.P.* 1871.

ROSS. Captain Sir James Clark Ross, an officer of the British navy, who discovered the north magnetic pole. He left in September 1839 with the *Erebus* and *Terror*, and voyaged along the antarctic continent, naming Mount Erebus, 12,400 feet, and Mount Terror, 10,900 feet. The former is volcanic, hurling columns of smoke 1500 and 2000 feet above the crater. He made other two voyages, and in the last discovered the south magnetic pole.

ROSTELLARIA PROCUMBENS. *Nees.*

Justicia procumbens, *Linn.*

Nireiputi,	TAM.	Naka puta,	TEL.

A shrub common on the Coromandel coast of India, used in medicine. There are other species.

ROT, a name given to a disease in the coffee plant. In this disease the young coffee leaves and shoots turn black and wither, caused generally by too much wet and cold, and is to be remedied by draining the ground well, laying down also, if possible, mana grass two to three inches thick. When grubs attack the tap-root, the coffee trees are observed to die off, and on digging round, grubs will be found about the tap-root. Grass-hoppers (locusts?) cut down young trees close to the ground, and saw off the branches of the older trees.—*Hull*, p. 274.

ROTANG, a pass in the Himalaya, in lat. 32° 24' N., and long. 77° 10' E., is 13,200 feet above the sea. The Rotang pass near Dharmsala leads to the heart of Central Asia. The Beas river rises in a sacred pool, called Vyas Rikhi, in the Rotang pass, at the head of Kulu valley. The scenery of the river valley is very beautiful, and is unlike that of the Chenab or Sutlej. The river is fringed with trees, and studded with green islands. There is a good riding path close along the bank, which does not exist upon any other river in the Panjab. Besides deodar in the Upper Beas valley, kail, P. excelsa, elm, maple, oak, and walnut are abundant; on the Parbati, box occurs; also olive and the twisted cypress (C. torulosa) are found in small quantity.—*Powell's Handbook; Lord Elgin.*

ROTH. Several prominent learned men of this name have had relations with India.

A. W. Roth, author of Novæ Plantarum Species, præsentim Indæ Orientalis.

Heinrich Roth, a German missionary, about A.D. 1650, resided in India. He was able to dispute in Sanskrit with the Brahmans.

Rudolph Roth, in 1844 published three dissertations on the literature and history of the Vedas. He was editor of the Atharva Veda.—*Sayce*, i. 44.

ROTHIA TRIFOLIATA. *Pers.*

Trigonella Indica, *Linn.*

Nullu [illegible]nithen kiray, TAM. | Ubbukada, ... TEL.

An annual, native of [illegible] Coromandel coast, with small yellow flowers. It is a small procumbent weed with trifoliate leaves, used by the natives as greens; abundant everywhere.—*Jaffrey.*

ROTI. HIND. Any bread; the chapatti or flat cake. Leavened bread is called nan, also rôti. Roti is also sweetened wheaten cakes besmeared with sandal, but is properly unleavened bread. Roti raughandar are wheaten cakes with a superabundance of ghi in them. See Bread; Sooji; Rolong.

ROTTBŒLLIA EXALTATA. *Linn.*

Stegosia Cochin-Chinensis, *Lour.* | Buru-Shunti, BENG.

A plant of British India, Cochin-China, and N. Holland.

ROTTBŒLLIA GLABRA. *Roxb.* Buska, Buksha, BENG. A grass of the family Panicaceæ, acceptable to cattle.—*Roxb.*

ROTTEN-STONE, a mineral, occurring massive; colour greyish, reddish, or blackish brown; dull, earthy, and opaque. Soft, soils the fingers, and is fetid when rubbed or scraped. It is employed in polishing metal, etc.; in 100 parts, alumina 86, silica 4, carbonaceous matter 10. Very fine silicious and magnesian earths, such as rotten-stone, alkaline loam, and Armenian bole, occur near Sundur, Bangalore, and Cuddapah.—*Eng. Cyc.; Mad. Ex. Jur. Rep.*

ROTTLER, Dr. A., a Danish missionary long resident at Tranquebar, in the south of India, who wrote a Tamil dictionary and collected a herbarium. He was esteemed the father of Indian botany.

ROTTLERA, a genus of plants, named in honour of Dr. Rottler. Its species are found in the tropical parts of Asia and throughout India, and contain handsome moderate-sized trees. R. tetracocca grows in Sylhet, and yields a hard and valuable timber; R. digyna, *Thw.* (Chloroxylon digynum, *Wight Ic.*), is a small tree growing at Caltura in Ceylon; R. eriocarpa, *Thw.*, grows in the hot and drier parts of Ceylon, but is not v[illegible] common; and R. fuscescens, *Thw.*, another sm[illegible] Ceylon tree, is not uncommon up to an elevat[illegible] of 2000 feet. In Ceylon, also, are found R. mu[illegible] cata, *Thw.*, R. oppositifolia, *Blume*, and R. rhomb[illegible] folia, *Thw.*, all small trees. Other defined speci[illegible] of India are R. alba, barbata, ferruginea, Indi[illegible] laccifera, and peltata. Some botanists h[illegible] arranged the species under the genus Mallo[illegible] and name above twenty of them. One of un[illegible] termined species, the Ya-gi-ne of the Burmes[illegible] a moderate-sized tree, common on the low gr[illegible] near streams; breaking weight from 153 to 170[illegible] A cubic foot weighs 35 lbs.; average girth, 6 f[illegible] The Mimasko, qu. Mimasho? is a Tavoy spe[illegible] furnishing a timber. The Keoun-lae, BURM. [illegible] large tree in Tavoy, the timber of which is [illegible] for rudders. The Otte of the Singhalese, an[illegible] species, is used for common house-building[illegible] poses; the tree grows in the western provin[illegible] Ceylon. It weighs 36 lbs. to the cubic foot, [illegible] little durable, lasting only 10 years.—*Dr. Wa[illegible] Thw.* p. 272; *Dr. Brandis, Cal. Cat. Ex.*, 18[illegible]

ROTTLERA LACCIFERA. *Voigt.*

R. dicocca, *Roxb.*	Aleurites lacciferum[illegible]
Croton lacciferum, *Linn.*	Wild arnotto.
Ank-kush, . . . BENG.	Konda-veltu, . .
Konda jap'hara, . . TEL.	Peyya rodda, . .
Karu jap'hara, . . ,,	Peyya rotta, . .
Konda kasina, . . . ,,	

A twining shrub of Coromandel, Benga[illegible] Ceylon; a very superior quality of gum lac [illegible] tained from it.—*Roxb.; Thw.*

ROT[illegible]TLERA MURICATA. *Thwaites.*

Chloroxylon mu[illegible]icata, *W.* | R. Aureo-punctata, [illegible]
Mallotus muricatus, *Muell.*

A small tree with smooth leaves, on the [illegible] Ghats, Andamans, and central provinces of C[illegible] grows at an elevation of 4000 feet.—*Thw.*

ROTTLERA OPPOSITIFOLIA. *Blume.* [illegible] gianthera oppositifolia, *R. et Zoll.* Comm[illegible] Ceylon up to an elevation of 2000 feet.—*Thw*

ROTTLERA RHOMBIFOLIA. *Thw.*

R. dicocca, *Roxb.* | Croton rhombifolium, [illegible]

A small tree not uncommon in Ceylon up t[illegible] elevation of 1500 feet.—*Thw.*

ROTTLERA TETRACOCCA. *Roxb.* [illegible] kanda-gass, SINGH. Grows in Sylhet, and in Ce[illegible] is common up to an elevation of 2000 feet. [illegible] yields a hard and valuable timber.—*Roxb.; W[illegible] Thw. Zeyl.* p. 272.

ROTTLERA TINCTORIA. *Roxb.* iii. p. [illegible]

R. aurantiaca, *H. and A.*	C. coccineus, *Lam.*
R. affinis, *Hassk.*	C. montanus, *Willd[illegible]*
Mallotus Philippensis, *L.*	C. punctatus, *Retz.* [illegible]
Croton Philippensis, *Lam.*	
Tung, ... BENG.	Punnaga, . . . SAN[illegible]
Tan tie den, . . BURM.	Keshoor, . . . ,,
Kinoon la, . . . ,,	Hamparandella, . SIN[illegible]
Memasho, . . . ,,	Kapilapodi, . . T[illegible]
Sarnakassary mara, CAN.	Çorunga munjemaram, [illegible]
Monkey-faced tree, ENG.	Chendurapu chettu, [illegible]
Dyer's Rottlera, . . ,,	Sinduri chettu, . . [illegible]
Kameel, Kamila, HIND.	Kunkumapuvvu chettu [illegible]
Tukla, Kapila, . ,,	Punnagamu chettu, . [illegible]
Rulya, Kembal, . ,,	Vasanta gundu chettu [illegible]
Reun, Reunah, KANAWAR.	Veligaram chettu, . [illegible]
Reini, . . . ,,	Bendu rapu, . . . [illegible]
Shendi, Sendri, . MAHR.	Soondoro-gundi, URIY[illegible]
Poonnagam, . MALEAL.	Koomala-gundi, . ,,
Kambha, . . . SANSK.	Bosonto-gundi, . ,,

A large tree, with alternate, ovate, oblong lea[illegible] of a ferruginous colour beneath; flowers in [illegible] cold weather. It is common in many parts [illegible]

tish India, from Peshawur, Assam, to Ceylon, rma, Java, Philippines, and China. The stellate bescence covering the 3-coccus capsule of this ge tree is collected for sale for dyeing silk. e colouring matter does not require a mordant, that is necessary being to mix it with water aining about half its weight of carbonate of

The colour imparted is a rich flame or ge tint of great beauty and extreme stability; material supplied by commerce contains 78 cent. of colouring matter, and the powder ists of hairs obtained from the outer part of first capsule, and when the fruit is ripe it rushed off and collected. It is also found ingly on the leaves, petioles, and flower- s of the plant. The powder is of a dark -red colour, with a peculiar heavy odour, ased on its being rubbed between the fingers. varieties of it are sold in the bazars in the ab, the one having been passed through e cloth to free it from impurities, such as ons of the withered flowers, dust, or insects, he only appreciable difference is that this quality is cleaner than the other. To cold the powder does not impart its yellow , but either floats on the surface or falls in quantities to the bottom. Boiling water es slightly tinged by it. If the powder iled in water to which any of the alkalies been added, a complete solution of the ing matter takes place, and it is by means property that the natives of India avail s as a dye. Alcohol and ether elves of it ve it with equal facility. All these pre- ons of the powder have a dark-red colour, e yellow colouring matter is only separated addition of certain re-agents. Thus, when ineral acids are added to the alkaline tion or infusion, a thick flocculent precipitate gamboge yellow colour is thrown down, and me effect is produced on the alcoholic and al tinctures on the addition of water or the al acids. Contact with the atmosphere to cause the development of this yellow it, as on exposing on glass a thin film of of the tinctures, before evaporation of the is completed, the previously transparent g becomes opaque and of a light-yellow r. The process of dyeing seems also to on this idea, as silk or cloth is merely d in a hot alkaline solution which is of a red colour, and on the drying of the cloth characteristic yellow colour is developed. esinous deposit, on which the active pro- es of the plant both as an anthelmintic and ve depend, is obtained in a large quantity an alkaline decoction of the powder by ng eight ounces of the powder in two pints ater, along with one ounce of the bicarbonate da. Filter when cool, and to the filtered d add nitric acid till the solution becomes al. A considerable quantity of yellow er then forms in the fluid, which is again ed, and this yellow residue, when dry, is d to weigh one and a half ounces, is of isky yellow colour, and adheres in lumps of iderable consistence. The substance pro- y exists in the plant as an essential oil, and formation of the yellow-coloured deposit, on neutralization of alkaline solutions, and the tion of water or the acids to the alcoholic and ethereal solutions, or by the action of air, consists in the change of the essential oil to a resin, by the loss of hydrogen and the absorption of oxygen. The silk dyers of Southern India use the following method:—4 parts of the powder, 1 part of powdered alum, 2 parts of salts of soda, rubbed well together with oil of sesamum and then boiled in water; it is sufficient, however, to mix it with water containing half its weight of carbonate of soda. The powder, as found in the bazars, is much adulterated, but some collected carefully by the Madras Forest Department, realized a high price in the English markets. In the process of dyeing, as pursued in Amritsar, where a large trade in silk is carried on, barilla, a coarse preparation of carbonate of potash, obtained by burning a herbaceous species of salsola common in the uncultivated portions of the Panjab, is mixed with water, in the proportion of one ounce of barilla to four ounces of water. To this solution, when filtered, the kamila is added, and they are then boiled together. When the boiling has been continued long enough to extract all the colouring matter, a small quantity of lime is dissolved in the fluid. The dye is then ready for use, with the exception of the addition of few grains of alum, in order to fix the colour. In some parts of India, gum is occasionally mixed with the fluid, but in the Panjab this is never considered necessary. The characteristic yellow colour is not developed in silk, etc., until after two or three immersions in the dyeing fluid. The kamila dye is sold in the drug mart of Amritsar at Rs. 18 a maund for the first quality, and Rs. 10 for the second. (This is at the rate of 2 lbs. for 6d.) It contains a yellow resin, rottlerine, soluble in carbonate of soda, and precipitated by acids. It acts as a purgative and very sure anthelmintic in cases of tapeworm, in doses of from one to two drachms. It is in some districts used as an application to cutaneous diseases, especially for itch and fevers, and it is said to be also an aphrodisiac.—*Cleghorn; Ind. Annals Med. Sc.* i. 85; *Irvine's Med. Top.*; *Hooker*, i. 14; *Ains.*; *Honigb.*; *Powell*; *Riddell*; *Ex. Jur. Rep.*; *Thwaites*; *Stewart*; *Beddome.*

ROTTO or Rotti and Lando are islands near Timor. Rotto is about 45 miles long, and of moderate height, with undulating hills, and its S.W. end extends to about lat. 11° 2′ S., and long. 122° 51′ E.

ROUGE. Yen-chi, CHIN.; Carmine, ENG. Rouge is a pigment of a beautiful rose colour. The Chinese rouge is wholly of vegetable origin; safflower is made into a paste, from which the colouring matter is extracted by repeated washing with acidulated water. For toilet purposes, the colouring matter is spread upon squares of paper, or laid on the surface of little saucers, the constant accompaniment of a Chinese lady's toilet. The lips and cheeks are coloured with this, the face is dusted with white powder, and the outline of the eyebrows and front of the wiry hair are often brought out with Chinese ink. The higher officers of the Chinese provinces use safflower rouge, to distinguish them from the ordinary vermilion stamp of the interior officers.

The common rouge of the theatres of Europe is prepared by pounding benzoin, red sandal-wood, Brazil wood, and alum in brandy. The mixture is then boiled until three-fourths of the

liquid has evaporated; a paint of an intense red colour remains, and this is applied to the face with a piece of soft cotton. Vinegar is sometimes substituted for the brandy; but as both fluids injure the skin, the colouring matter is sometimes extracted from the dye-woods, and unguents formed therewith, by means of balm of Mecca, butter of cacao, or spermaceti. If the colour be too intense it is mixed with chalk.

Rouge dishes are small saucers containing a layer of dry rouge. Those which are prepared in Portugal probably contain genuine carmine; clumsy imitations of these dishes are prepared in London. Spanish wool and oriental wool are also rouge vehicles. Wool is impregnated with the colour, and formed into cakes about the size of a crown piece by the Spaniards, and somewhat larger by the Chinese; the latter is most esteemed. Beautifully painted and japanned colour-boxes are imported from China. Each box contains 24 papers, and in each paper are 3 smaller ones, namely, a lovely blushing red for the cheeks, an alabaster white for the face and neck, and a jet black for the eyebrows. Rouge, used by jewellers for brightening gold, is a peroxide of iron.—*Smith.*

ROUMIA HEBECARPA. *Poit.* Katambilla, SINGH. A moderate-sized Ceylon tree, at Condasalle, Maturatte, etc.; prized in Colombo on account of its fruits, which are about the size of large cherries, somewhat ac[illegible]lous, with a very agreeable flavour.—*Wight's Ill.* i. p. 37; *Thw*[illegible]

ROUSHANAI, a Muhammadan sect which made a great noise among the Afghans in the 16th century, but by the beginning of the 19th century it was almost extinct. It was founded in the reign of the emperor Akbar, by Bayazid Ansari, who was called by his enemies the Pir-i-Tarik (or Apostle of Darkness), in derision of the title of Pir-i-Roushan (or Apostle of Light), which he had himself assumed, Roushanai meaning the Enlightened. He held the same tenets with the Sufi sect, but as he added a belief in the transmigration of souls, it is probable he derived his creed from the Yogi sect of Hindu philosophers, who add some of the dogmas of the religion in which they were educated to those of the Sufi school. On this, however, he ingrafted some doctrines of his own. Bayazid was a man of great genius, and his views spread rapidly among the Bardurani, till he was able to assemble armies, and to enter on a regular contest with the government.—*Elphinstone's Caubul*, p. 210.

ROVUMA, a river which disembogues on the east coast of Africa; its mouth, in lat. 10° 27′ 40″ S., and long 40° 29′ 39″ E., is a mile wide, but its navigable channel is narrow.

ROXANA, a Turkomani wife of Alexander the Great.

ROXBURGH, WILLIAM, M.D., a medical officer of the Madras army, in the service of the E. I. Company, who was their botanist in the Carnatic, and subsequently in charge of the gardens in Calcutta. He entered the Madras Service 1766, and died in 1815. He was author of Coromandel Plants, and of the Flora Indica. The former work was published by the order of the E. I. Company, in three folio volumes, under the direction of Sir Joseph Banks, Bart., in 1793 and 1816, with three hundred coloured plates, and it was the first contribution of the British Indian Government to the illustration of botani[illegible] science. His Flora Indica remained in manuscri[illegible] for some years after his death. Two editions of [illegible] have since that event been published; one, whi[illegible] is incomplete, was edited by Drs. Carey an[illegible] Wallich; it extends to the end of Pentand[illegible] Monogynia, but contains many additional pl[illegible] not contained in Roxburgh's manuscript; [illegible] other, which is an exact reprint of the manusc[illegible] as left by its author, is in three volumes, [illegible] was published in 1832. A new edition of [illegible] appeared in 1878? He also published the Hor[illegible] Bengalensis and Catalogue of the Calcutta Gard[illegible] He was the first to describe fully, accurately, [illegible] reduce to the form of flora, according to [illegible] Linnæan system, the botanical riches of the [illegible] During the earlier part of his career he res[illegible] in the Peninsula, particularly about Samulcot[illegible] where he had ample opportunities of exami[illegible] the botany of the neighbouring Circar mount[illegible] In the autumn of 1793, he was removed to[illegible] superintendence of the Company's Botanic Ga[illegible] in Calcutta. Here he remained till 1814, ad[illegible] new descriptions to his manuscript, when il[illegible] compelled him to return by the Cape and St. H[illegible] to England. During his lifetime there app[illegible] from his pen,—Plants of the Coast of Coroma[illegible] fol., 3 vols., Lond. 1795-1819; Hortus Bengal[illegible] or a Catalogue of the Plants growing in the [illegible] India Company's Botanic Garden at Calc[illegible] edited by Wm. Carey, 8vo, Serampur 1814: a[illegible] the Asiatic Researches—Essays on the La[illegible] (ii. p. 361); on the Buteа Pl[illegible] [illegible] (iii. 369) [illegible] the Prosopis Aculeata (iv. p. 405); on the S[illegible] nard of the Ancients (iv. p. 432); on the C[illegible] chouc of Penang (v. p. 167); on a New Sp[illegible] of Delphinus (vii. p. 170); on the Monan[illegible] Plants of India (xi. p. 318). And after his d[illegible] there were published, his Flora Indica, or [illegible] scriptions of Indian Plants, with Descriptio[illegible] Plants more recently discovered, edited b[illegible] Wallich and Dr. Carey, 2 vols. 8vo, Sera[illegible] 1820; Flora Indica, or Description of In[illegible] Plants, 3 vols. 8vo, edited by Dr. Carey, Se[illegible] pur 1832.

ROXBURGHIACEÆ, a natural order of pl[illegible] natives of the hot parts of India. There is [illegible] one genus—Roxburghia. The roots of one [illegible] species are prepared with lime-water, can[illegible] with sugar, and taken with tea. The flavou[illegible] insipid. Dr. Wight gives R. gloriosoid[illegible] *Lindley; Eng. Cyc.*

ROYLE, JOHN FORBES, M.D., F.R.S[illegible] the Bengal Medical Service. Author of the [illegible] graphical Description of the Flora of India, [illegible] Brit. Ass., 1846, part iii. p. 74; Illustrations [illegible] the Botany, etc., of the Himalayan Mounta[illegible] 1839; Productive Resources of India, L[illegible] 1840; on the Culture of Cotton in India, L[illegible] 1852, 1 vol. 8vo; on the Fibrous Plants of I[illegible] In 1820 Dr. Royle commenced his Indian ca[illegible] and died at Acton, 2d January 1858. Sh[illegible] after his appointment as Assistant-Surgeon on[illegible] Bengal Establishment, he was placed in ch[illegible] of the Botanic Garden at Saharunpur, where [illegible] remained for nearly nine years. On his re[illegible] to England in 1832 or 1833, he commenced [illegible] publication of his work on the Botany of [illegible] Himalayan Mountains, which contains also [illegible] accumulation of valuable information respec[illegible] the economical, medicinal, and other veget[illegible]

ducts of India. In 1838 or 1839, he was pointed Botanical Adviser to the E. I. Company, which he published a work on the Productive urces of India, which contains a great amount seful information culled from various sources, bined with his own experience and research; in 1851, a work on the Culture and Commerce otton in India and elsewhere.

ter the breaking out of the Russian war of , Dr. Royle, in 1855, wrote on Fibrous Plants dia fitted for Cordage, Clothing, and Paper. addition to these, he published on the Anti- of Hindu Medicine; an Essay on Medical cation; a Manual of Materia Medica and apeutics; besides contributions to Kitto's lopædia, Holtzapfel's Turning and Mechanical ipulation, to the Catalogue of the Great bition of 1851; on the Hyssop, and on the ard Plant of Scripture; on the Culture of hina Tea Plant; and very shortly before his , a pamphlet reviewing the measures which been adopted in India for the improved re of cotton. The districts investigated by oyle and by his collectors were chiefly the o-Gangetic Doab, the upper part of the etic plain, and the mountains of Garhwal, re, Kanawar, and Kashmir. His Illustrations e Botany of the Himalayan Mountains, in olumes quarto, with 100 plates, is still the book, except Dr. Wallich's Tentamen Floræ ensis, devoted to the rich flora of the us; and it further contains the first [illegible] pt. to demonstrate the prominent features e geographical distribution of Northern plants in reference to the elevations and es they inhabit, and to the botany of sur- ing countries.—*Hooker and Thomson's Flor. ; Indian Field.*

YLEA ELEGANS. *Wall.*

ta cinera, *D. Don.* | Phlomis calycina, *Roxb.*

shrub of the Himalaya valleys, with small, pale rose-coloured flowers. It is deemed a uge by the people of the Himalaya, like species of Teucrium in Europe.—*O'Sh.* p. *Voigt.*

ZA, a fast. Roza-ka-fittra, fast offerings. Rak'hna, keeping a fast, a duty in the mmadan religion. Roza Kholna, to terminate .

ZAH, Rodah, or Rawdat. ARAB. Any n, applied in India by Muhammadans to a -place. There are many of these. The known is that on the hill eight miles from tabad, where the Emperor Aurangzeb is ed. Those of Bawa Alisar and Ganja h, at Maqraba, in Ahmadabad, are admir- built. The island opposite Old Cairo, known oda, is the Egyptian form of the Arabic sound given to the letter zwad. This name is also to a part of the southern portion of Great Mosque of Medina, because the pro- said, 'Between my tomb and my pulpit is den of the gardens of Paradise.' It is a ent term for a book, as Rawzat-ul-Athar, at-us-Safa, and Rauzat-us-Shahada, the book artyrs.

UBIA CORDATA is used in Japan by the try people for dyeing.—*Thunberg's Tr.* iii. 63.

UBIA CORDIFOLIA. *Linn.* Indian madder.

munjistha, *Roxb.* | R. secunda, *Moon.*
unjith, *Desv.*

Runas, ... ARAB.	Mitu, ... RAVI.
Aruna, Munjith, BENG.	Munjistha, . . . SANSK.
Khuri, Sheni, . CHENAB.	Munzul, . . . SUTLEJ.
Runa, ... ,,	Runang, . . . ,,
Si-tsau-ken, . . CHIN.	Sawil kodi, . . . TAM.
Kukar-phali, . JHELUM.	Manjitta, ver. . . ,,
Tinru, . . . ,,	Manjishtatige, . . ,,
Dandu, Fahar-ghas, KANA.	Tamravalli, . . . ,,
Puat, . . . MALEAL.	

Rubia cordifolia is a native of Siberia, but is cultivated largely in China, Assam, Nepal, Bombay, Sind, Quetta, etc., for its dye-stuff. A small quantity is exported from China and India. It fetches in the London and Liverpool markets from 20s. to 30s. per cwt., duty free. In 1851, at the Great Exhibition, the jury remarked that some of the colours dyed with it are quite as permanent as those dyed with madder, and even more brilliant. Botanists have been inclined to regard R. cordifolia and R. munjistha as distinct in habit, form of stem, etc.; there are differences sufficient to make them distinct species. R. munjistha, Dr. Gibson observes, is not such a large climber as the other; Bancroft was informed by Dr. Roxburgh that the stem of R. munjistha, unlike the stem of R. tinctorum, seemed to be preferred to the roots for dyeing; Roxburgh, in his Flora Indica, adds that, not only the roots and the stems, but the large branches also, are used to dye red with. It is imported into Bombay, of an apparently inferior quality, from Muscat, and into the Panjab from Afghanistan, forming a considerable part of the large annual investments of the Lohani merchants. From the Panjab, as well as from Afghanistan direct, it goes to Sind, and thence to Bombay, where it realizes 40 per cent. more than the Muscat article, and is re-exported to England. It is extensively used in the Panjab, in Sind, and in the North-Western Provinces, as a dye-stuff, and is found in every bazar of any extent.

The munjit brought from Afghanistan answers exactly to the description given in Ure's Dictionary of Arts. It is either the true madder of Europe, or is produced by a species of rubia found in almost all parts of India distinct from R. munjistha.

An infusion of it is given as a grateful and strengthening drink to weakly women after lying-in. Camel loads of madder are brought from Banu and Tonk, on the west side of the Indus, to Lahore.—*Roxb.; Smith; Stewart; Mason; Irvine; Ains.; Honig.*

RUBIA TINCTORUM. Madder. This tree has a diffuse brittle-branched stem, angular, very rough, with sharp hooks, and madder is the product of the long slender roots. The tree is only known in its cultivated state in Asia. Dr. Brandis first found it being grown in small quantity on the Sutlej at about 8000 to 8500 feet, for home consumption to dye wool red. Dr. Stewart found it in Kanawar. Irvine mentions that a little is collected in Gandaya, Baluchistan, and parts of Turkestan, but that the chief tract for its cultivation is from Kābul to near Kandahar. According to Cleghorn, madder has been grown in the Panjab from French seeds.

It is a native of Europe and Asia Minor, is extensively cultivated in Holland and France; the culture has likewise been successful in Great Britain, but it is largely imported, though cochineal has become cheaper, and is much used for

the same purposes. The principal supplies are obtained from Holland, Belgium, France, Turkey, Spain, and the Balearic Isles, the Italian States, India, and Ceylon. The plant is generally raised from seed, and requires three years to come to maturity. It is, however, often pulled in eighteen months without injury to the quality; the quantity only is smaller. A rich soil is necessary for its successful cultivation, and when the soil is impregnated with alkaline matter, the root acquires a red colour; in other cases it is yellow. The latter is preferred in Britain, from the long habit of using Dutch madder, which is of this colour; but in France the red sells at two francs per cwt. higher, being used for the Turkey-red dye. Madder does not deteriorate by keeping, provided it be kept dry. It contains three volatile colouring matters,—madder purple, orange, and red. The latter is in the form of crystals, having a fine orange-red colour, and called alizarin. This is the substance which yields the Turkey-red dye. The slender creeping roots are the thickness of the little finger, very long and branching, provided with numerous articulations, and tough fibrils; epidermis thin, pale brown; bark and meditullium intensely red. The odour is weak and peculiar, taste bitter and styptic. According to Kuhlman's analysis, the roots contain red colouring matter (alizarin, *Robiquet*), yellow do. (xanthine, *Kuhl.*), woody fibre, mucilage, gum, sugar, bitter matter, resin, salts, and ulmin, etc. Alizarin occurs in orange-red crystals, tasteless, inodorous, little soluble in cold, but soluble in boiling water, also in alcohol, ether, the fixed oils, and alkalies. The alcoholic solution is rose-coloured, the ethereal golden, the alkaline violet or blue. A solution of alum added to a solution of alizarin, and precipitated by potash, gives a rose-lake of the most charming tint. Xanthine is yellow, very soluble in water and alcohol, slightly in ether; the solution passes to orange-red by contact with alkalies, to lemon-yellow by acids. It is devoid of odour, but has a sweetish-bitter taste. The red-colouring matter of madder tinges the bones, milk, and urine of animals if fed on the roots. The great consumption of madder is as a dye-stuff for giving a red colour to wool, silk, and cotton. In pharmacy the roots are sometimes used for colouring ointments.—*O'Shaughnessy.*

RUBINA, once the most celebrated tribe in Arabia, is now a small broken clan. The Anazah Arabs come of this race.—*Rich's Kurdistan.*

RUBRUQUIS, WILLIAM DE, made a journey in A.D. 1253-1256 to Kara-korum, in the reign of Louis IX. of France, and of Mangu Khan, the grandson of Chengiz Khan.

While St. Louis of France was engaged in the seventh crusade, A.D. 1248-50, and the lieutenants of Octai or Okkadai Khan were at the same time attacking the Saracens from the side of Persia, the Tartars and the Crusaders became united in a common interest. To cement their connection, the general who commanded the Tartar forces in Persia sent an embassy to the French king, expressing the respect he felt for Christianity, and recommending that they should make common cause against their Saracen enemies. A French embassy was at once sent into Persia; and at the same time the pious St. Louis, anxious to lose no opportunity, sent the Minorite Friar William de Rubruquis to the Tartar chief Sartakh, whose territories bordered on the Black Sea. Fro Constantinople, Rubruquis sailed to Soldaia in t Crimea, one of the entrepots at that time of Black Sea trade in Russian furs, and Indian spi drugs, and silks, through Constantinople, w the rest of Europe; and thence he journe northward through the region of Comania, u he came to the camp of Sartakh, by whom he sent on to the court of his father Batou at S or Sarai. Here he was furnished with a guid the court of Mangu, who had succeeded his co Kuyuk as Khakan or Great Khan at Kara-kor on the verge of the great Mongolian desert. F the Mongol capital he returned to the court Batou on the Volga, and thence to Europe, by the Crimea, but over the Caucasus, thro the country of the Lesgi (Lesghis) and G (Georgians), Armenia, and Iconium, where had an interview with the Ottoman Sultan, by the Cilician port of Ayas to Cyprus, wher Nicosia, he found his provincial.

Rubruquis described Turkey (*i.e.* the king of Iconium) at this time as having 'no treasure, warriors, and many enemies.' He also stro deprecated the system of sending poor friars himself as ambassadors to the Great Khan, w out office, presents, or any of the things command the favour and respect of the pro From his report, Nestorian Christians abound the courts and in the territories, as well of B Khan as of his superior Mangu Khan; that had great influence with many at court, es with the wives and daughters of these and chiefs. Rubruquis relates that the reply of M Khan to the letter of king Louis was writt the Mongolian language, but in the charact the Jugures or Chakars, which had been i duced by Nestorian Christians, and was de from the Syrian, but written in lines down page, commencing from the left. Mongolian written at the present day.—*Prinsep's Tibet, tary, and Mongolia.*

RUBUS, a genus of plants of the order R ceæ. The following East Indian species are better known, viz.:—

R. asper, Nepal.
R. biflorus, *Sm.*, Panjab.
R. ellipticus, *Sm.*, Nepal.
R. distans, Nepal.
R. gowreephul, *Roxb.*, Neilgherries and other m tains of India.
R. gracilis, *Roxb.*, Nepal.
R. hexagynus, *Roxb.*, Peninsula.
R. micranthus, Nepal.
R. Moluccanus, *L.*, Tavoy, Moluccas, Khassya.
R. lasiocarpus, *Sm.*, Neilgherries.
R. paniculatus, *Sm.*, Nepal.
R. parviflorus, *L.*, China, Nepal.
R. pauciflorus, *Wall.*, Nepal.
R. rugosus, *Sm.*, Peninsula, Mahabaleshwar.
R. Wallichianus, *W. and A.*, Peninsula.

Griffith says there is a species of rubus in Tenasserim Provinces, and Wallich found one the Irawadi.—*Roxb.* ii. p. 517; *Voigt; Mason*

Rubus biflorus, *Sm.*

Ankren, ... BEAS.	Karer, ... R
Kantanch, . . CHENAB.	Bumbal, Iasra, . SU
Khariara, ... ,,	Batang, Kalkalin, ,,

Common from 5000 to 10,500 feet up to Indus in the Panjab Himalaya. It has a coloured, palatable fruit. Its stem is covere a white pulverulent epidermal layer, lookin though whitewashed.

…avus, *Ham.*

. . . . Eng.	Unsri, . . . Panjabi.
Guracha, Jhel.	Akhi, Kimachi, . . Ravi.

…ellow-fruited bramble is found in the …lley between Rampur and Sungnam, at …ion of 5000 to 7000 feet up to near …s. The fruit is very pleasant, used for …s.

…us fruticosus, *Linn.*

. . . . . Beas.	Shali-dag-ganch, Kangra.
…n-tiau-tsze, . Chin.	Unsri, ... Sutlej.
…mble, Blackberry, Eng.	Karwarei, . . Tr.-Indus.
…sh, . . . Kangra.	

Rubus fruticosus, like R. idæus, grows at Kash-…, and in the N.W. Panjab from the plains up …5000 feet, and in China in the Yang-tze valley. …as dark-purple fruit, used to make a preserve, …the hills.

…ubus gowreephal, *Roxb.*, Wild raspberry.

…ndicus, *Rottler.*	Gowreephal, . . Hind.

… plant with small white flowers, grows in …lon, the Neilgherries, Kamaon, Khassya, …am, Taong Dong, common amongst the woods …vixt Hardwar and Srinuggur; also grows plen-…ly in Mysore and Wynad.

…ubus idæus, Mount Ida bramble.

…pw'an-tsze, . . Chin.	Si-kwoh-tsau, . . Chin.

…his wild raspberry grows in Kan-su, Ho-nan, …-si, and Hu-peh. It is inferior to the culti-…d plant. It is a native of woods in Europe … Norway and Sweden to Spain and Greece. … found also in Asia on the Himalayas, in the …n of Africa, and in America from Canada to …nsylvania. It is found abundantly in almost …y part of Great Britain and Ireland.

…ubus lasiocarpus, *Sm.*, Country raspberry.

…bescens, *Roxb.*	R. Mysorensis, *Heyne.*
…acemosus, *Roxb.*	
…reephal, . . Dukh.	Pukuna, . . . Hind.
…kberry, . . . Eng.	Pakania, . . Kaghan.

… plant of Neilgherries, Mysore, Ceylon, the …alaya up to 8000 feet, now cultivated gener-…in the Dekhan. It grows easily from seed; …w of the ripe fruit rubbed on a sheet of …er, and dried in the sun, will enable one to …ard the seed to friends at any distance. The …e with the strawberry. The plants should …er be nearer than four or five feet, and may …ut down at the commencement of the rains, …n they will throw out fresh shoots, and bear fruit …bundance. As it requires little care, and only …ccasional supply of water, this bramble forms …ry perfect and secure hedge to a kitchen …en. The finest fruit is very inferior to a …mon raspberry.

Rubus purpureus, Himalayan raspberry. Akhi Kulu.

Rubus tiliaceus, *Sm.*, Pulla of Kangra. A black-…ited species, not uncommon from 4500 to 8500 …t, up to the Indus. The fruit is black, and … much prized.—*Ainslie; Cleghorn; Eng. Cyc.; …nigberger; Riddell; Powell; Stewart; Voigt.*

RUBY.

…ut, . Arab., Pers.	Merah, Manikam, Malay.
…in, . Da., Ger., Sw.	Rubim, . Port., Rus.
…bijn, ... Dut.	Lanka-ratti, . . Singh.
…bis, ... Fr.	Kembu kallu, . . Tam.
…. . . .Hind., Rus.	Kempu rai, . . . Tel.
…bino, ... It.	

The true oriental ruby, the sapphire, the topaz, … the emerald, though differing greatly in …earance, are chemically the same substance, pure alumina; but jewellers give this name to several other minerals possessing brilliant red colour. The oriental ruby is the most valuable of all gems when of large size, good colour, and free from flaws. The ruby in colour varies from the highest rose tint to the deepest carmine, but the most valuable tint is that of pigeon's blood, a pure, deep, rich red, and generally occurs in 6-sided prisms.

The best come from India, Burma, and Ceylon; Bohemia furnishes an inferior article. They are found in Ava, Siam, the Cupelam mountains, ten days' journey from Syrian a city in Pegu, Ceylon, India, Borneo, Sumatra, on the Elbe, on the Espailly in Auvergne, and Iser in Bohemia. The ruby and sapphire mines of Burma are 25 miles south of Moongmeet. Many of the rubies and other precious stones that the Shans bring with them in their annual caravan from the north of Burma, are made of rock-crystal, coloured artificially. These are heated and plunged into coloured solutions. Fine rubies have from time to time been discovered in many of the corundum localities of Southern India, associated with this gem, particularly in the gneiss at Viralimodos and Sholasigamany. It occurs also in the Trichingode taluk and at Mallapollaye, but it is, comparatively speaking, rare.

In Ceylon, at Badulla and Saffragam, and also, it is said, at Matura, rubies, sapphires, and topaz are found. Badakhshan has been famed since the time of Marco Polo as the country producing the true balas ruby. Its ruby mines are in the Gharan district, 20 miles from the small Tajak state of Ishkashm, on the right bank of the Oxus. They have not been worked since the Kunduz chief took Badakhshan. Irritated by their small yield, he marched the inhabitants of the district, 500 families, to Kunduz, where he sold them as slaves.

Of the accounts of the ruby mines of Burma, one was written by Père Giuseppe D'Amato, an Italian Jesuit missionary to Burma, a translation of which appeared in the Journal of the Asiatic Society of Bengal in 1833; and another account by Mr. Bredmeyer, who about 1870 was in charge of some minor ruby mines within 16 miles of Mandalay. The mines visited by Père D'Amato are said to be 60 or 70 miles distant from Ava in a north-east direction, and separated from the Irawadi valley by the Shoay-doung or Golden Mountain range, which are only occasionally visible from the town of Male, owing to the constant fogs and mists that hang around, and snow lies on them for four months of the year, beginning with the middle or end of November. They are situated north-east from Mandalay, and distant about 60 or 70 miles. The principal road to them leaves the Irawadi at Tsinguh-Myo, and passes through Shuemale. There are other roads, from Tsampaynago and other villages to the north. The mines lie nearly due east from the village. The villages in the immediate neighbourhood of the mines are Kyatpen, Mogouk, and Katheyuwa. The gems are procured over an area of probably 100 square miles. The mode of seeking for them is simply sinking pits until the gem-bed or ruby earth is met with; this is then raised to the surface and washed. The gem-bed is met with at various depths, sometimes not more than two or three feet from the surface, and occasionally not at all.

When the layer of earthy sand containing the rubies is met, lateral shafts are driven in on it, and the bed followed up, until it either becomes necessary to sink another pit in it, or it becomes exhausted. It varies in thickness from a few inches to two or three feet. The rubies are, for the most part, small, not averaging more than a quarter of a rati, and when large are generally full of flaws. Well-marked crystals occasionally occur, but the vast majority of stones are well rounded and ground down. It is very rare to find a large ruby without flaws; and Mr. Spears states that he had never seen a perfect ruby weighing more than half a rupee. The same authority mentions that sapphires are also found in the same earth with the rubies, but are much more rare, and are generally found of a larger size. Stones of ten or fifteen rati without a flaw are common, whereas a perfect ruby of that size is hardly ever seen. The largest perfect sapphire he ever saw weighed one tikal. It was polished, but he has seen a rough one weighing 25 tikal. For every 500 rubies, he does not think they get one sapphire. You see very small sapphires in the market, while small rubies are abundant and cheap. The value of the gems, rubies, and sapphires obtained in a year may be from £12,500 to £15,000. They are considered the sole property of the king, and strictly monopolized, notwithstanding the care that is taken, but, nevertheless, many are smuggled. There are considerable quantities are smuggled ones about 20 lapidaries or polishers of the at Amarapura; they are not allowed to carry on their trade at the mines. For polishing, small rubies and worthless pebbles brought from the mines, being pounded fine and mixed up with an adhesive substance, and then made into cakes some ten inches long by four broad, are employed to rub down the gem. After it has been brought to the form and size required, another stone of finer grain is employed. The final process is performed by rubbing the ruby on a plate of copper or brass until it is thoroughly polished, when the gem is ready for the market. Rubies of Burma are not exported to any large extent, and then only stones of inferior value. But a pink spar found in the ruby district is a more important item of export. It is believed to be used for one of the classes of distinctive mandarin cap-knobs. Great numbers of these gems are brought down to Rangoon for sale, but a heavy price is always demanded for them, and it requires an experienced eye to purchase them with a view to profit. Topazes are also found in the vicinity of the rubies and sapphires, but they are scarce, and fetch a higher price in Burma than they would realize in England. Recently, rubies and sapphires have been found in Siam, about four days' journey from Bankok, in a very feverish locality. The stones, though inferior to those obtained in Upper Burma, are said by the Burmese to be so plentiful near Bankok, that even women are anxious to proceed to the mines. Ceylon ruby is a term applied in England to the garnets and carbuncles which come from Siam through Ceylon, and also to peculiar tinted almandines. The stones are of a rich red tinged with yellow. They are superior to those of the mine of Zobletz in Silesia, from the Tyrol, and from Hungary. Under the designation Ceylon rubies, jewellers obtain a large price for them from the ignorant. A stone of a fine rich tint, free from flaws, of a ce will range from £8 to £10.

Balas ruby is a term used by lapi designate the rose-red varieties of spinel is seen of all shades,—blood red, the pro ruby; rose red, the balas ruby; oran rubicelle; and voilet-coloured or almandi

Red tourmaline is sometimes mistaken ruby, and the pink topaz for the balas Spinel and balas rubies are found in Ceylon, Mysore, Baluchistan; the spinel ruby is compar ively of little value, but they are often sold a true ruby, and the true ruby is occasiona parted with as a spinel ruby.

Tavernier gives the figures of a ruby that longed to the king of Persia. It was in sh and bigness like an egg, bored through in middle, deep coloured, fair, and clean, except flaw in the side. They would not tell what cost, nor what it weighed; only it had b several years in the treasury. He likewise gi the figure of a balas ruby, sold for such Giafer Khan, uncle of the Great Moghul, who 9,50,000 rupees = 1,425,000 livres for it. But old Indian jeweller affirming afterwards tha was no balas ruby, that it was not worth al 500 rupees, and that Gaifer Khan was cheated, his opinion being confirmed by Shah Jahan, most skilful in jewels of any person in the emp Aurangzeb compelled the merchant to take it ag and to restore the money back. Tavernier gives the figure of a ruby belonging to the king of V pur. It weighed fourteen mangelin, or seven carats and a half, a Visapur mangelin being five grains. It cost the king 14,200 new pag or 74,500 livres. Also, he figures a ruby th Banya showed him at Benares; it weighed 58 or 50¾ carat, being of the second rank in bea in shape like a plump almond bored through end. He offered 40,000 rupees or 6000 livres it, but the merchant demanded 55,000 rupees.

The largest oriental ruby known was brou from China to Prince Gargarin, governor Siberia; it afterwards came into possession Prince Menzikoff, and now constitutes a jewe the imperial crown of Russia.—*Eng. Cyc.; K* p. 56; *Emmanuel; Tavernier's Tr.* p. 149; *A slie, Cal. Cat. Exh.*, 1862; *Newbold in Madr L. and Sc.; Mason; Ferrier's Jour.; Da Ceylon.*

RUDHI, also Vriddhi, TEL., are two diffe names of the ashta varga or eight roots, celebr in the Indian Materia Medica. They are from Nepal or Northern India, and have n been identified.—*As. Res.* xiii. 410.

RUDIKI, about the close of the 9th centu translated the fables of the Pancha-Tantra Bed-pai from Arabic into Persian, and receiv 80,000 dirhams for his labours. He was a ce brated poet. See Abul Hasan.

RUDOK, a district in the neighbourhood Lake Tso Mognalari, lat. 33° N., and long. 80°

RUDRA, in the Rig Veda, is spoken of as inferior god, the god of storms, from Rud, to c one of a kind of semi-divine beings (eight number), who, in the Vedic ages of Hindu myt ology, were connected with the worship of Vayu the wind. Brahmanical Hinduism considers Ru to have been the god Siva, and he is first call Mahadeva in the White Yajur Veda; and t Vishnu Purana says the god Rudra

rehead of Brahma, and multiplied himself. Rudra enumerated in the Vishnu Purana udra, Bhava, Sarva, Isana, Pasupati, Bhima, Mahadeva, most of which are regarded now erely other appellations for Siva. Brahma led to have assigned to them as their respect- stations, the sun, water, earth, air, fire, ether, ministering Brahman, and the moon. These their types or representatives in this world. her places the Rudra are described as eleven umber, and as children of Kasyapa and Sur- i.—*Williams*, p. 40; *Vishnu Purana*, p. 58.

RUDRA BHATTA, author of Sringara Tilaka, mark of love, on the emotions and sentiments lovers, as exhibited in poetry and the drama.—*wson.*

RUDRA BHUMI. TEL. The place of incre- ion of deceased Hindus.

RUDRAKSHA, the fruit of the Elæocarpus erculatus, also of E. ganitrus, made into a ry, and worn by the Saiva Hindus.

RUDRA PRAYAG, a temple in the Garhwal rict of the N.W. Provinces of India. It is at junction of the Alaknanda with the Manda- , which drains the southern slopes of the arnath and Badarinath peaks. It is one of five sacred prayag or confluences of the dus, and a halting-place for pilgrims to Hima- . A dome-shaped rock, 30 feet in height by diameter, bears the name of Bhim-ka-chūlha, he kitchen of Bhim, a famous giant of Hindu nology. It is completely excavated, and has tures at the top, where they believe that used to place his cooking utensils.—*Imp.* viii.

UDRA SAMPRADAYI, a sect of Vaishnava dus, founded by Vallabhacharya, who origin- the worship of Bala Gopala, the infant hna. This worship is very widely diffused ngst all ranks of Indian society, but is perhaps known as the religion of the Gokalastha ains, the title of its teachers. Vallabha was son of a Telinga Brahman. He taught that ation was not sanctity, and that it was the of the teacher and his disciples to worship r deity, not in nudity and hunger, but in ly apparel and choice food; not in solitude mortification, but in the pleasures of society the enjoyment of the world. The gosains or hers, like Vallabha, are always married men, ys clothed with the best raiment, and fed with intiest viands by their followers, over whom have unlimited influence. The followers of order are especially numerous amongst the rcantile community, and gosains are constantly velling over India under the pretence of pil- mage, but reconcile to themselves on these asions the profits of trade with the benefits of otion. Zealous disciples devote to the guru threefold Samarpana, Tan, Man, Dhan, or dy, mind, and wealth. The temples and houses the sect have metal, often gold, images of pal, of Krishna, and Radha, and other divine ms connected with the incarnation. The idol richly decorated and sedulously attended in ly ceremonials. Besides their public demon- ations of respect, this sect keep pictures and ages of Gopal in their houses; and before sitting vn to any of their meals, they take care to offer ortion to the idol. Those of the disciples who e performed the triple Samarpana, eat only from the hands of each other; and the wife or child that has not exhibited the same mark of devotion, can neither cook for such a disciple nor eat in his society. Vitala Nat'h, the son and successor of Vallabha, had seven sons, all of whom were teachers, and their followers, though in all essential points the same, form separate communities. Those of Gokalnath, however, look on their own gosains as the only legitimate teachers of the faith. The worshippers of this sect are very numerous and opulent, the merchants and bankers, especially those from Gujerat and Malwa, belonging to it. Their temples and establishments are numerous all over India, but particularly at Muttra, and many hundreds at Bindraban. But at Sri Nat'h Dwar, at Ajmir, is the most celebrated, most highly venerated, and most richly endowed of all the gosain establishments. It is a matter of obligation with members of this sect to visit Sri Nat'h Dwar at least once in their lives, and the head gosain presents them with a certificate to that effect. The indecent and immoral character of this sect was notoriously brought before the public of India in a trial for libel instituted in 1862, at Bombay, by one of the teachers of the sect, and known as the 'Maharaja case.' It was shown by the evidence then adduced that the women of the wealthiest of this sect deemed it an honour to receive their priest's attentions, for which the priest withdrew [illegible] woman of his selection, selected in the midst of and from amidst hundreds of her fellow-worshippers, and it was also in evidence that the maharaja allowed people to see him associating with his selection. In 1868, in Bombay, during the holi, indecent pantomimes were shown by this sect before a concourse of men and women. It is the Banya and Bhattya races who chiefly support this sect.—*Rev. Dr. Wilson; Times of India.*

RUDRAYA-MALA and Jati-mala, a book containing an enumeration of castes and professions.

RUE, Ruta. IT., LAT.

Raute, ... GER.	Ruda, ... SP.
Sadab, Saturi, . . HIND.	Arooda, ... TAM.

In India, this name is given to the herbs of Ruta angustifolia, R. graveolens, and R. Indica. R. graveolens, an evergreen shrub, grows freely in any good soil, propagated by cuttings in damp weather, used for fowls in the roup. Leaves dried and burnt are much used in Southern India for the purpose of fumigating young children suffering from catarrh; also used fresh, bruised and mixed with arrack, as an external remedy in the first stages of paralytic affections. When dried in the shade and powdered, the vytians prescribe this substance in conjunction with certain aromatics in cases of dyspepsia; they entertain the same notion regarding it that Dioscorides did of old, viz. that it is inimical to the fœtus in utero when given together with camphor and the sugar of the palmyra toddy. In making confection of rue, the herb of dried rue, the sadab of the bazars of N.W. India, may be substituted.—*Jaffrey; Ains.; O'Sh.; Beng. Phar.*

RUELLIA, a genus of plants of the natural order Acanthaceæ. From one wild species, called in Assam Room, a very valuable dye is prepared after the manner of indigo. This plant (or a species very nearly allied to it) is also cultivated with the same object in all parts of Burma, under the name of Mai-gyee. It is believed that the

room contains indigo allied to that produced by species of Isatis and Wrightia. The source of this dye has been referred to Ruellia comosa, also to R. indigotica. That produced at the hills occupied by the Murree and Dofla tribes of North Assam, and produced at the hills occupied by the Mishmi and Abor tribes, Suddiya, Luckimpore, Upper Assam, is of value R. 1½ per lb. The room is employed in its raw state by the Khamti and Singpho to dye their clothes of a deep blue. It was described by Griffiths as a valuable dye, and highly worthy of attention. It might perhaps be usefully employed as the ground for black dye. Ruellia cernua, *Roxb.*, grows in Mysore; R. comosa, *Roxb.*, is a plant of the Moluccas; R. hirta, *Vahl*, grows in Telingana; R. indigofera, *Griff.*, is the Mai-gyee of the Burmese.—*Roxburgh; Voigt; Wall.; Hooker.*

RUELLIA INDIGOTICA. *Fortune.* The Room of Assam and Tien-ching of China. In one part of the Che-kiang province of China, and also amongst the Fung Hwa mountains to the westward of Ningpo, large quantities of a blue dye are produced, which is, in fact, the indigo of that part of the country. Fortune (Wanderings, 1846) gives an account of a valuable kind of indigo, made from a species of woad (Isatis indigotica), which is cultivated extensively in the level country a few miles to the westward of Shanghai. The kind in Che-kiang is equally valuable, if not more so. It is made from a species of Ruellia, which until it gets a better name may be called R. indigotica. The same plant apparently has been discovered in the Assam country in India, where it is also cultivated for the blue dye it affords; alongside of the Chinese kind, they bear a most striking resemblance. This Ruellia seems to be easily cultivated, it grows most luxuriantly, and is no doubt very productive. In the province of Che-kiang it is planted, in the highland valleys, in the end of April or beginning of May, after the spring frosts are over, and is cleared from the ground in October before those of autumn make their appearance. During this period it attains a height of a foot or a foot and a half, becomes very bushy, and is densely covered with large green leaves. When the stems are cut down for the manufacture of indigo, a sufficient quantity have their leaves stripped off, and are afterwards taken into a house or shed to be properly prepared. The leaves thus stripped from the cuttings are thrown into the tanks with the stems and leaves, so that nothing is saved except what is actually required for the purposes of propagation. The stems are now tied up firmly in large bundles, each containing upwards of 100, and the ends of each bundle are cut across, so as to leave them perfectly neat and even both at top and bottom. These bundles are each about a foot long, and, of course, nearly round. They are carried to a dry shed or outhouse, where they are packed closely and firmly together, and banked round with very dry loam. A portion of the dry soil is also shaken in between the bundles, and this being done the operation is complete. Should the winter prove unusually severe, a little dry straw or litter is thrown over the surface of the cuttings, but nothing else is required. During the winter months, the cuttings remain green and plump; and although no leaves are produced, a few roots are generally found formed, or in the act of forming, when the winter has passe
the season for planting has come round.
state they are taken to the fields and pl
The weather during the planting season is g
ally showery, as this happens about the chan
the monsoon, when the air is charged with n
ure. A few days of this warm showery wea
is sufficient to establish the new crop, which
goes on growing with luxuriance, and requ
little attention during the summer; indeed n
except keeping the land free from weeds. In
district where this dye plant is grown, there
numerous pits or tanks on the edges of the fiel
These are usually circular in form; one measu
eleven feet in diameter and two feet in dep
About 400 catties of stems and leaves are thro
into a tank of this size, which is then filled to
brim with clear water. In five days the pla
are partially decomposed, and the water
become lightish green in colour. At this per
the whole of the stems and leaves are remo
from the tank with a flat-headed broom mad
bamboo twigs, and an admirable instrument
the purpose. When every particle has been
moved, the workmen employed give the wat
circular and rapid motion with the brooms
noticed, which is continued for some time. Du
this part of the operation another man has
ployed himself in mixing about thirty cattie
lime with water, which has been taken out of
tank for the purpose. This is now thrown
this tank, and the rapid circular moti
the t
water is kept up for a few minutes longer.
the lime and water have been well mixed in
way, the circular motion is allowed to c
Four men now station themselves round
tank, and commence beating the water
bamboo rakes made for this purpose. The bea
process is a very gentle one; as it goes on
water gradually changes from a greenish hue
dingy yellow, while the froth becomes of a bea
ful bright blue. During the process the l
workman takes a pailful of the liquid out of
tank, and beats rapidly with his hand. Under
operation it changes colour at once, and its v
is judged of by the hue it presents. The bea
process generally lasts for about half an h
At the end of this time the whole of the sur
of the tank is covered with a thick coating of f
of the most brilliant colours, in which blue
dominates, particularly near the edges. At
stage, it being desirable to incorporate the
with the liquid below it, there is made a most b
ful chemical operation. A very small porti
cabbage oil, only a few drops, is thrown on
surface of the froth, the workmen then stir a
beat it gently with their flat brooms for a seco
or two, and the whole disappears as if by so
enchanter's wand. So small a quantity of oi
necessary for this purpose, that even when
cup has been emptied, and has only the oil t
is necessarily adhering to its edges, it is thro
into another tank, and produces the desired eff
The liquid, which is now darker in colour
allowed to stand quiet for some hours, until
colouring matter has sunk to the lower stratu
when about two-thirds of the surface is drawn
and thrown away. The remaining third part
then drawn into a small square tank on a lo
level, which is thatched over with straw, and h
it remains for three or four days. By this t

he colouring matter has separated itself from the ater, which is now entirely drained off, the dye ccupying three or four inches of the bottom, in he form of a thick paste, and of a beautiful blue olour. In this state it is packed in baskets, and exosed for sale in all the country towns in that part China, at rates varying from 50 to 100 cash a y, say from 2d. to 4d. per lb. Some is sold as as 30 cash, but this is very inferior; the greater t produced is sold at from 60 to 80 cash a ty, and it must be of a very superior quality if cash is paid. Like the Shanghai indigo made Isatis indigotica, it is called Tien-ching by inese. During the season of its preparation ery mountain stream is coloured and polluted h the refuse liquid drawn off from the tanks, the stench which fills the air is almost unenable.—*Fortune's Residence*, p. 189; *Fortune's nderings.*

RUELLIA RINGENS. *Linn.* Upu-dala, MAL juice of the leaves of this plant, boiled a little salt, is supposed, on the Malabar st, to correct a depraved state of the humours. llia intrusa, *Vahl*, R. secunda, *Vahl*, R. lanica, *Roxb.*, are syns. of Asystasia Coromanna.—*Nees.*

UELLIA STREPENS. *Ainslie.*

ndio tagarum, SANSK. | Kirendinyagum, . TAM. he small purple-coloured leaves and berries of low-growing plant are sub-acid and bitterish he taste. When bruised and mixed with or-oil, they form a [illegible] application [illegible] s of children's carp[illegible] abar.

UG, this kind of carpet is in extensive use for carpeting of rooms and for individual use ughout all Central and Southern Asia, those otton being usually styled Bisat, Shatranji, and rri, and the woollen fabrics Gallicha. The rri or dharri of Shahabad are made wholly otton, and almost invariably striped. They cool and pleasant, and are in invariable use he richer natives of India, and by all Euros. The smaller kinds are used as quilts for s, and European soldiers use them for that pose. The manufacturers are called Kalleeun , and are almost invariably Muhammadans, who e carpets of any size and pattern given, and in stripes. The two local seats of manufacture Shahabad are Bubbooah and Sasseram. In former place, from Rs. 10,000 to 12,000 th are yearly manufactured and sold, and he latter from Rs. 30,000 to 40,000. The rris generally made for sale are either 6 ds long and 2 yards broad, thick, and strong, any colour, sold at from Rs. 6 to 6.8 each, or mall kind used as quilts, or to spread in lieu of other bedding on the ground. They weigh m 2 to 3 lbs. each, and are 1¼ to 1½ yards ad, by about 2 yards long; they sell at from annas to 1 rupee 8 annas each, according to kness and quality.

The Hauzhassica is a better kind of carpet, and en displays much taste in the arrangement of e striped colours. It is made of any size to fit y room, and is always sold by weight. The ce varies according to quality from Rs. 1.4 to 2, and sometimes as high as Rs. 2.4 per r. It is sold in all the fairs and in all the ge cities around, and no merchant or banker's p, and no rich native's reception room, is complete without these being spread. This kind is generally used by Europeans for their drawing and public rooms.

The Dhurri panch rangha is a small kind for use in small cutcherries, and much used from its portability. It is from 3 to 4 yards long, and from 1½ to 2 yards broad, and sells at from Rs. 3 to 4 each carpet.

Gallicha carpets are almost always woollen, of florid but neat patterns, in imitation of the Persian carpet. They are used to a considerable extent by the rich natives in their zananas, and by Europeans also. The size usually manufactured is 2 yards long by 1 yard broad, and they sell at from Rs. 2 to 4.8 per carpet. Any other sizes and patterns can be made, and some of the patterns are extremely pretty. The wool costs but little; the coarse local wools, which would not pay for exportation, answer for carpet work, and the native dyes answer admirably. The colours are harmonious. A principal site of the manufacture of the woollen rugs was long the town of Ellore, but they are made in the Dekhan and in Mysore, of any size, to order. They are usually 3 feet broad and 6 feet long, and much used as sleeping rugs, and rugs for the drawing-room. They have been exported largely to Europe, where they are employed as hearth-rugs; they are of various colours, prettily arranged, and sell at from Rs. 4 to 14, according to size. With some felted [illegible] the patterns are [illegible] produced by laying on the [illegible] loured [illegible] and felting them into the substance of the carpet.

Serviceable and cheap woollen rugs and very substantial cotton rugs can be got at Multan. Many carpets are made at the jails at Lahore, Agra, Allahabad, Bhagalpur, Tanua, and Mirzapore. Warangal was long famous for its silk carpets, and the harmony of colours and speciality of pattern are notable. The woollen carpets from the same place are also peculiar. The craftsmen at Warangal claim Persian descent, and their patterns seem to be of Persian origin.

RUGTRORA, in the Bombay side of India, a vernacular name of several plants, the Tecoma undulata, *Don;* Rhamnus Wightii; Soymida febrifuga; Maba nigrescens, *Dalz.;* and Polygonum glabrum.

RUH. ARAB. The spirit, the soul, the countenance. Ruh Allah, the spirit of God, Jesus Christ. Ruh-ul-Qadas, the Holy Spirit, supposed to mean the angel Gabriel, whom Muhammadans call also Ruh-ul-Amin, the faithful spirit. Ruh-i-sifiin is lower spirit; Ruh-i-Jari, travelling spirit; Ruh-i-Moqeen, a resident spirit; Ruh-i-Aowlee, the lofty spirit.

RUKAIAH BEGUM, Akbar's first wife. She died at 84 years of age, about a year and a half before Jahangir's death.—*Cal. Rev.*, Jan. 1871.

RUKCHU, in lat. 33° 14′ N., long. 77° 50′ E., in Ladakh, a pasture ground in an old lake basin between the Lacha Lung and the Takelang pass. The mean height of the lake basin is 15,764 feet above the sea. Rukchu is the most elevated district of Ladakh, and one of the loftiest inhabited regions of the known world, the mean height of its plains being 15,634 feet.—*Schl.*

RUK-HARA, a Saiva religious sect of mendicants, similar to the Ukhara, but do not carry a stick nor wear the Rudraksha ear-rings, but in their place metallic ones. See Ukhara.

RUKHENG, the name given to the language of Arakan.

RUKMINI, the only lawful wife of Krishna. According to the Harivansa, Rukmini was the daughter of Bhishmaka, king of Kundina, and was solicited in marriage by Krishna, of whom she was enamoured; but the son of Bhishma, Rukmi, jealous of Krishna's fame, and being incensed by the death of Kansa, his friend, was hostile to the match, and negotiated his sister's marriage with Sisupala, king of Chedi, likewise inimically disposed towards Krishna. All the kings of India were invited to the wedding, and amongst them came Krishna, who, seeing Rukmini proceed to offer her devotions at a temple, waylaid her on her return, and, with the assistance of his brother Bala Rama and his kinsmen, carried her off to Dwaraka. A hot pursuit followed, and an engagement took place, in which Rukmi was struck to the ground by Kesava, but his life was spared at his sister's intercession, and Krishna remained possessed of his prize. The marriage was solemnized at Dwaraka, and Rukmini remained the chief of Krishna's wives. He had ten sons by her, of whom Pradyumna is the most celebrated. The rape of Rukmini is also narrated nearly in the same words as in the Harivansa, in the 5th section of the Vishnu Purana, and more in detail in the tenth book of the Bhagavat, and in the Krishna Janma Khanda of the Brahma Vaivarta Purana. —*Cal. Rev.* p. 41; *Hind. Theat.* ii. 82.

RUKNABAD, a brook near Shiraz, c[illegible] by Hafiz. It is an insignificant stream.

RUKSAT. ARAB., HIND., PERS. Dismissal of a visitor; permission to depart; the Muhammadan etiquette being for a visitor to await dismissal, on the principle that he came at his own pleasure, but should await his host's time to depart.

RUKU. ARAB. Plural, Rukat, prostrations in Muhammadan prayer ritual; the stooping posture in prayer. Ruku-ki-tasbeeh, beads held in the hand at prayers. In Muhammadan ritual, reading or repeating a number of prayers from the Koran, accompanied with prostrations and genuflections. Rukat dogana, two rukat prayers.

RUM, a spirit distilled from the sugar-cane. The best is made from molasses, and it is preferred when well kept, of good age, considerable body, smooth oily taste, and a brownish transparent colour. Bengal, the West India Islands, and Guiana are the countries chiefly distinguished for the produce of rum.—*Faulkner.*

RUM or Room. The Persians designate Asia Minor by this term. The Muhammadans of India apply it to the Turkish dominions generally, also to Constantinople. Kaisar-i-Rum, the 'Cæsar of Rome,' always meant the Byzantine emperor, and the title was transferred to the Turkish Sultan.

RUMAL, a pocket-handkerchief (Ruh, the face, Mal, wipe); also a square shawl, used as veils in Peshawur by women. The term applies to any handkerchief, the soft silk one of Bokhara, etc., and to square shawls. A rumal is used in the place of a turban by all the poorer natives of India.

RUMEX ACETOSA. *Linn.* Sorrel.

Swan-mo, . . . CHIN. | Chuka, Kautli, . HIND.

It is found in the Sutlej valley between Rampur and Sungnam at an elevation of 6000 to 8000 feet, also in Kaghan. It is widely distributed. It is cultivated in Ajmir; the seed is considere[d] cooling and astringent.

Rumex Alpinus (Swan-mo, CHIN.), or Monk[s] rhubarb, is found on the European Alps, th[e] Crimea, and Mount Caucasus. The roots ar[e] large and purgative like rhubarb, and the whol[e] plant so resembles the rheum that Linnæus hi[m]self mistook one for the other.

Rumex dentatus, *W.*, is the Gul-Hamaz [of] Persia; R. hydrolapathum, *Smith*, is the Chin[ese] Yang-ti and Ye-ta-hwang; and R. undulat[us] *Royle*, is the Hamaz or Pulki. One species [is] known to Europeans as Indian red sorrel. F[rom] the decoctions of the dried roots of various so[rts] of sorrel, by the addition of alum, a fine r[ed] colour can be obtained at a low price, and va[ry] able to painters.

Rumex obtusifolius vegetates in Kashmir, [and] is eaten by the natives. Its root, under the na[me] of Radix spathiacuti, was formerly used a[s a] purifier of the blood in chronic cutaneous disea[ses] but is now obsolete both in India and in Euro[pe] its active principle, Lapatin, must, however, h[ave] peculiar properties.

Rumex vesicarius, *Willde.*

Hamaz, ... ARAB.	Tursha, Hamaz, . [illegible]
Humbæjt, . . . EGYPT.	Shutavedhi, . . SA[NS.]
Sorrel, Bladderdock, ENG.	Suri, ... SI[ND.]
Chuka, Chok, . HIND.	Sukh gu kire, .
Chuko, ... ,,	Sukan kire, . .

Cultivated for greens, etc., but it grows pl[entifully] [illegible] fields dr[y] [illegible] ing the ra[ins] [illegible] sorrel from the Bi[rit.] in India, owing to its great resemblance to Rumex acetosa in taste and other natural qual[ities]. It is an article of diet, and is considered by natives as cooling and aperient. This, w[here] water is abundant, may be had for eight mo[nths] in the year; it is sown in drills, or on the e[dges] around other beds; the leaves are sold in bun[dles] from one to two pice a seer.—*Cleghorn; Ir[vine]; O'Sh.; Riddell; Ains.; Honig.* p. 338.

RUMI KHAN, a Turk of Constantinople, [who] was commandant of the artillery of Bahadur S[hah] of Gujerat. He afterwards served under Huma[yun] at the siege of Chunar, which he conducted. Portuguese early endeavoured to obtain posses[sion] of Diu. Their first effort was defeated by R[umi] Khan, commander of the Gujerat army. In 15[34], however, Bahadur Shah of Gujerat permitted th[em] to erect a fortress there. It was complete[d] 1538, from which time the Portuguese bec[ame] the terror of the sea, and were able to resist [the] efforts made to subdue them by the empero[r] Turkey, the kings of Bijapur and Ahmadnagg[ar] and the Zamorin of Calicut. He afterwards ser[ved] under the Nizam Shah dynasty at Ahmadnagg[ar] and is buried there. He cast there the gr[eat] gun now on the ramparts of Bijapur.

RUMINANTIA, the ruminants or ruminat[ing] animals, such as camels, deer, horned cattle, [and] sheep. The ruminants are a tribe of mammal[s of] the order Ungulata, which comprise the fami[lies] Bovidæ and Cervidæ, *q.v.*

RUMPA, a tract of country situated on a p[lain] of the northern frontier of the Rajamundry d[is]trict. It is very thinly populated, wild, a[nd] mountainous, and the climate during most part [of] the year unhealthy. It formed part of the Kottapille taluk, which, under the new territo[rial] arrangement of the district, was included un[der]

ajamundry, with a sub-magistrate, however, esident, not far from the Rumpa border.

RUMPH, GEORGE EVERHARD, native of anau in Hesse Cassel, was born in 1626, and in Amboyna in 1693. He studied medicine, ent to Batavia when 28 years old, and red the service of the Dutch East India Com- at Amboyna, where he passed the remainder life. At the age of 42, when contemplating t to his native country, he suddenly became d, and therefore never left his island home. t he continued to prosecute his favourite studies natural history till his death in 1693, when he d attained the age of 67. His great work on shells of Amboyna was not published till . His chief work, however, was the Hortus boinense, which was only rescued from the tch archives and published some years after his th. D'Amboinische Raritertkammer, fol. 1705, passed through several editions. It has never n translated into English. It contains all con- ted with the plants of that region. Drs. ker and Thomson say that having become d, he obtained the assistance of some young in completing the work, and translated the riptions into Dutch; it was finished in 1690. manuscript remained upwards of thirty years he possession of the Dutch East India Com- y, but was at length rescued from oblivion Professor John Burmann of Amsterdam, who ed it between the years 1741 and 1754, illustrated it with several remarks and nyms, besides giving a translation into Latin Rumphius' original one appears to have lost. This work consists of six volumes, supplemental or seventh one not published 1757, and contains 696 plates, representing e than twice that number of plants. The es are much less valuable than those of ede, but the descriptions, on the contrary, much superior. A most elaborate commen- on the Herbarium Amboinense was com- ced by the late Dr. Francis Buchanan Hamilton he Transactions of the Wernerian Society of nburgh; what is printed only extends to the dle of the second volume, but the remainder he manuscript was presented to the Society ore his death. He had at the same time pre- ed a commentary on the Hortus Malabaricus Van Rheede, which is in the possession of the næan Society of London; that on the four volumes is all which has yet appeared in r Transactions.—*Wight's Prodromus Fl.* i. p. 8.

RUNDUR or Kyampo, lawless tribes of bers in the middle districts of Tibet.

RUNGIA REPENS. *Nees.*

sticia repens, *Linn.* | Dicliptera repens, *R. et S.*
cliptera retusa, *Juss.* | Kadag saleh, . . TAM.

A plant used in medicine growing in Peninsular lia. Its leaves resemble those of thyme in te and appearance. R. parviflora, *Nees*, also ws throughout British India.

RUNN, a flat tract lying between Sind and tch, which is inundated with brackish water ring the three monsoon months, and is covered salt incrustations when dry. Salt is manu- tured on it at Janjorra and Patri. The Runn Rin is a remarkable feature of the Rajputana sert. It is 150 miles broad; into it the Loni Looni or salt river enters, and then runs on the sea. The Looni rises in the Aravalli, and in Marwar it separates the fertile land from the desert, afterwards runs through the Chohan territory, dividing it into the eastern part called Raj-Bah or Sooi-Bah, and the western part called Park'har or 'beyond the Khar or Looni.'

The word Runn or Rin is a corruption of Aranya, or 'the waste;' nor can anything in nature be more dreary in the dry weather than this parched desert of salt and mud, the peculiar abode of the khar or wild ass, whose love of solitude has been commemorated in Job. That this enormous depository of salt is of no recent formation, we are informed by the Greek writers, whose notice it did not escape, and who have preserved in Erinos a nearer approximation to the original Aranya than exists in our 'Rin' or 'Runn.' Although mainly indebted for its salt to the Looni, whose bed and that of its feeders are covered with saline deposits, it is also supplied by the overflowings of the Indus, to which grand stream it may be indebted for its volume of water.

The Runn of Cutch has been subjected to repeated upheavals and depressions within even historic times. A vast space from the Indus eastward, which is now dry land, was, in the time of Alexander, covered by the waves. The ruins of Balabhipura, near Bhownaggar, are 10 to 15 feet below the surface of the soil. On the 16th June 1819, the Runn was partly submerged during an earthquake, and is now in part a lake and in part a salt-water marsh.

North of the Runn, in the collectorate of Ahmadabad, are the Null and Bohe, two hollows some distance apart, containing salt water, which they receive from rivulets, but give off none.

The Runn extends from the Indus to the western confines of Gujerat, a distance of full 200 miles. In breadth, from the islands, it is about 35 miles, and, taking into consideration its different belts, its area, exclusive of the elevated tracts called Bunni and the islands, is about 7000 square miles; including Bunni and the islands of Pacham, Khuren, etc., it is 9000 square miles. It is a dry, sandy flat, without herbage, and during a great part of the year a few tamarisk bushes alone are seen on it. Fresh water is only to be had on its islets. The mirage is there witnessed in all its surprising beauty. So long as the sun shines, the Runn resembles a vast expanse of water, which only those accustomed to it can distinguish from the reality. Its islands are Carir and Pacham. Bunni, south of Pacham, is a tract of grass land. Lieut. M'Murdo, writing in 1815, and Lieut. Burnes, writing shortly afterwards, pointed out that the Runn had formerly been an inland sea; and about the middle of the 18th century a vessel was found at Wawania sunk 15 feet deep in the mud.

During the S.W. monsoon, water is driven up its eastern inlet from the Gulf of Cutch, and up the eastern branch of the Indus, and covers its whole surface, augmented by the freshes which come down the Looni and Banas rivers.

The Runn of Cutch is called the Great Runn. The Small Runn commences near the Great Runn in the N.E., and continues to the Gulf of Cambay, and in the N.W. a narrow Runn separates the district of Okhamandul from the rest of the peninsula of Kattyawar, connected only by a narrow bank of sand at Mudhe.—*Tod's Rajasthan;*

Memoirs of Lieut. M'Murdo, 1815; *Lieut. Burnes*, 1827–28; *Captain Grant, Geol. of Cutch; Capt. G. Le Grand Jacob.*

RUPA, author of Vidaydha Madhava, a drama in seven acts on the loves of Krishna and Radha, written A.D. 1533.

RUPA. HIND. Silver, but generally means alloyed silver, debased by the addition of copper or zinc, or both.

RUPA-MATI was born at Sarungpur, a town in Malwa, 55 miles N.E. of Ujjain and 80 miles west of Bhilsa. Malcolm describes her as a dancing girl, and famed more for her good sense than her beauty. Malwa, for a short time in the middle of the 16th century, became independent under Baz Bahadur, and he made Rupa-mati one of his wives, and they passed through seven years of great happiness, hawking in the day, with poetry and music at night. But in A.D. 1560 Akbar sent Adam Khan to re-occupy Malwa, and Baz Bahadur, deserted by his soldiers, fled. Rupa-mati destroyed herself by poison or the dagger. Her songs are in the Hindi dialect of Malwa. Their style is simple and natural, and are the outpourings of a fervent heart, and many of them are still sung by professional songsters and musicians all over the province of Malwa. She had more than a common share of the poet's power.—*Tr. of Hind.* ii. p. 198.

RUPAR, a municipal town in the Ambala district of the Panjab, in lat. 30° 57′ N., and long. 76° 33′ E.; pop. (1868), 8700. The Sirhind canal draws its waters from the Sutlej at this point. A Muhammadan fair is held at the tomb of Shah Khalid, in the month of Jaishtha, attracting 50,000 persons; and another fair at a Hindu bathing festival on the banks of the Sutlej.—*Imp. Gaz.* vol. viii.

RUPA SIDDHI, a work by Buddha Priya. See Pali.

RUPEE, a coin of India, value under 2s. The Sicca rupee, the Madras or Arcot rupee, and the Bombay rupee, have been displaced from British India by the Indian rupee of 1835. The following are the assay reports of Shah Jahan, Multani, Kābuli, and Duraniwall rupees:—

Description of Coin.	Weight.		Touch.		Pure Metal.		Value of 100 in Company's Rupees.	
	Grs.	Dec.	P. c.	Dec.	Grs.	Dec.	Rs.	Dec.
Shah Jahan,	177	15	97	76	173	181	104	958
Multani,	171	89	94	90	163	123	98	862
Kābuli,	144	80	93	63	135	576	82	167
Duraniwall,	145	17	78	30	113	668	68	889

The weight and intrinsic purity of the British rupees were as under:—

	Troy grains.	Pure contents.
Sicca rupee, 1773,	179·666	175·923
,, ,, 1818,	191·916	175·923
,, ,, 1823,	192·000	176·000
Benares rupee, 1806,	174·760	167·000
Farrakhabad rupee, 1803,	173·000	165·215
,, ,, 1819,	180·234	165·215
,, ,, 1824,	180·000	165·000
Madras rupee,	176·400	166·480
,, ,, 1818,	180·000	165·000
Bombay rupee, 1800,	179·000	164·680
,, ,, 1829,	180·000	165·000
H.E.I. Co.'s rupee, 1835,	180·000	165·000

Rupee of Nepal is worth 13 annas; it is calle after an ancient dynasty, the Mahendra Mall and commonly Mohāri.

The Bhoti rupee is called the Kala Mohāri, an ought to be the same as that of Nepal. Nanak Shahi rupee had a pipal leaf as a sy

The purchasing value of the rupee has la greatly diminished. In Madras, from un rupees the maund of rice in 1859–62 to and above 4 rupees from 1863 to 1868; i Panjab, from over 3 rupees in 1853 to u and over 5 rupees since 1861. From 1835 1854, paddy per maund in Madras sold fro half to three-quarters of a rupee, and since th till 1868 has ranged up to 2 rupees. Wheat maund in Dinapur has risen from over 1 rup above 2 and 3 rupees; in the Panjab, from a 1 rupee to above 2 rupees; and in Bombay average from 1842 to 1855 was Rs. 1.9.8 maund; and from 1856 to 1868 it was Rs. 3.1

RUPNATH, a famous place of pilgrimag the foot of the Kaimur Hills, 35 miles N. Jubbulpur. It has one of Asoka's rock insc tions.

RUPPELL, a botanist who described Hortus of the Red Sea, and southwards to Moz bique, and the fishes near the Cape.—*Dr. Sm*

RURKI, a small modern town of 10,778 habitants, in the Saharunpur district of the Me division of the N.W. Provinces. It is situate one of the most elevated sites in the Doab betw the Jumna and the Ganges, in lat. 29° 52′ 25 and long. 77° 55′ 40″ E.; distant 68 miles N E. of Meerut, 1000 miles from Calcutta. The tricts of Meerut division are Aligarh, Bul shahr, Dehra Doon, Muzaffarnagar, and S runpur. It has a college organized by Mr. Ja Thomason and Colonel Maclagan, at which subordinate engineers of the Bengal Presid are trained. It was opened in January 1848. has a museum of economic geology, 997 above the sea, a lithographic and typogra press. Rurki stands on an elevated ridge o looking the bed of the Solani river, 22 miles of Saharunpur city.—*Imp. Gaz.*

RUSA ARISTOTELIS. *Jerd.* Sambur.

Cervus hippelaphus, *Cuv.*	C. jarai, *Hodgson.*
C. equinus, *Cuv.*	C. heterocercus, *Hodgs*
C. Leschenaultii, *Cuv.*	C. saumur, *Ogilby, Ho*
C. niger, *Blainv.*	*son.*
Ghous, Gaoj, . . BENG.	Jarao, Maha, Jarai, H
Kadavi, Kadaba, . CAN.	Bara singha, . . .
Kannadi, . . . ,,	Meru, MAH. of the GH
Ma-ao, ... GONDI.	Sambur, . MAHR., DU

. The different Indian names of Hippelapl Aristotelis, Equinus are applied to the sam stag, the great Indian stag, originally describ by Aristotle under the designation of Hippelaph and discriminated as such by M. Duvaucel the Asiatic Researches, xv. p. 174. The ho of different individuals present great diversities form. The only common characters are those a basal antler, springing directly and equally w the beam from the burr; and the beam termin ing in a bifurcated extremity, formed by a bran or snag separating posteriorly, and pointi obliquely to the rear. But Mr. Elliot met wi instances of medial antlers with trifurcated extre ities, and in one case with the extremities sho ing a fourfold division. The size of the rusa large, sometimes exceeding 14 hands in heig The colour varies from dark greyish-black

ate-black, with the chine, the inner sides of the nbs, the under part of the tail, and the space tween the buttocks yellowish-white, passing to orange-yellow, but never extending into a re circular disc on the buttocks. In several ces he met with hinds of a pale yellow or esnut colour. These were young indi- t the shikaris always declared them to as the common kind, and no other erceptible. The cranium of one of oured females presents no structural rom that of a young black female. have canine teeth in the upper jaw, from the suture between the maxillary r-maxillary bones. The neck and throat othed with a long mane. The suborbital s is very large. When the animal is excited, or ry, or frightened, it is opened very large, and be distended at pleasure. The new horns are and tender during the monsoon from June to tember, about which time the rutting season mences. The stags are then fierce and bold. Elliot had seen one, when suddenly disturbed, the intruder for a moment, shaking his head, tling his mane, distending the suborbital s, and then dashing into the cover.—*Tennent's lon*, p. 59.

USHES, grasses, and sedges are extensively in India for the manufacture of mats, ropes, ets, and thatching. The Cyperus textilis, and er kind of grass called kooray or koaray, are for making mats. The celebrated mats of hat and Cochin are of several species of a, juncus, and saccharum, which abound, and applied to useful purposes. The Phrynium otomum of Bengal is used for making the sital e mat.

utch rushes (Equisetum hyemale, *L.*) are used scouring and polishing. Their roughness is to a deposit of silicious particles in the epi- is. A species of rush called sweet rush or el's hay is sometimes brought into China from key and Arabia, tied up in bundles about a long. The stalk, in shape and colour, re- bles a barley straw. It is full of fungous pith, the British rush; leaves like those of wheat. en in perfection, it has a hot, bitterish, not leasant taste, and a very fragrant smell. It formerly used in medicine.—*M. E. J. R.; p. Descr.*

USOT. HIND. Extract of the bark and l of the barberry (Berberis), several species; yellow colour, totally soluble in water. It e Lykionendikon of Dioscorides.—*Beng. Phar.*

USSELCONDAH, 736 miles from Madras, 50 miles from Ganjam, in lat. 20° 56′ N., and g. 84° 37′ E., a military cantonment, named r Mr. Russell, who was Commissioner during Gumsur war of 1835-36-37. It lies at the of a hill.

USSELL, DR. PATRICK, a Madras medical er who succeeded Koenig as botanist to the I. Co. He devoted much time to the investi- ion of snakes and fishes, and edited Roxburgh's romandel Plants. In 1802, there appeared Dr. trick Russell's book in two volumes, containing descriptions and figures of 200 fishes collected Vizagápatam, on the coast of Coromandel; and 6 to 1801, Account of Indian Serpents collected the Coast of Coromandel, 2 vols. folio.

USSIA, a great dominion in Europe and Asia, ruled by an autocrat emperor from St. Petersburg. The historical and geographical future of Russia impels her farther and farther towards the south, in spite of all obstacles; and, yielding to these natural impulses, she has advanced, on one side, from the Irtysh to the upper courses of the Syr Darya or Jaxartes and Amu Darya or Oxus; on the other, from Orenburg to the Sea of Aral, thus incorporating within her boundaries the greater portion of the steppes dividing Europe from Asia proper. A necessity arose for connecting her Central Asia settlements firmly together, and with this object roads were contructed, stations erected, steamers introduced, as on the Amur and Syr Darya, and telegraphic lines established from the Chinese frontier to St. Petersburg. The Amu Darya (Oxus) is for many reasons of greater importance to Russia than even the Syr Darya. It disembogued at one period into the Caspian, and its bed to that sea still remains. Many are of opinion that the course of the river can be again directed to its ancient bed. The importance of this connection will readily be understood when it is remembered that a water route, in continuation of the Volga, will be thus created, which will extend for 3000 versts into the interior of Asia, and that the extreme points of this uninterrupted water-way will be St. Petersburg and the northern slopes of the Hindu Kush, almost reaching the boundaries of the British possessions, and very closely approaching the Indus. The number of Turkoman, Kirghiz, Kazak, and other nomade hordes in Central Asia is computed at 3 millions, and the settled population at more than 5 millions.

Russia's Asiatic dominions are estimated at 6¾ million square miles, with 18,000,000 of population. Russia has pushed forward her outposts to within 300 miles of the British frontier on the north. But there intervenes between the Russia in Asia and British India the barriers of the Hindu Kush and Kouen Lun, which rise like a wall, 17,000 feet high, with scarcely a crest or depression throughout their entire extent,—none certainly practicable for an army with the material and appliances of war as waged by the 19th century civilisation. In the far east, a settlement of the Amur was effected in much the same manner as Muhammad Toghlúk once attempted to transfer the population of Dehli to Dowlatabad in the Dekhan, but with a more successful issue. Whole colonies of Cossacks, men, women, children, and household goods, were moved from their homes, and settled at distances varying from 100 to 500 miles.

In Europe, the people ruled by Russia are of various races. In Finland, the people are Scandinavians, if not altogether by blood and language, at least by long-cherished traditions, by culture and habits. In Esthonia, Livonia, and Courland — the Russian Baltic provinces — the native races exhibit engrafted, far-advanced German civilisation. In St. Petersburg, there is an amalgam of all European nations, with little, if anything, in its trade, in its various social ranks, in the court itself, that is not of alien birth, or at least descent. On the Volga, Tartar, Kalmuk, and other Asiatic tribes mix everywhere with the crowds of the cities, and are still at home throughout a vast extent of the country. In the Caucasus, what has been rescued from its savage tribes is either a desert, or is being seized by Arme-

nians, everywhere superseding the less energetic and thrifty Georgians. In the Crimea and the adjoining mainland, what has been taken from the Tartars belongs in a great measure to German, Bulgarian, Greek, and other settlers. Odessa is a cosmopolitan commercial town, formerly Greek and Italian, now mainly Jewish. Between Odessa and Kief the Polish element preponderates. According to Russian official statistics, the population of the empire amounted at the last census, in 1872, to 86,952,347, which may at the present time have risen to 98,323,000. Of these, 55,000,000 is assigned to the 'ruling race,' the East Slavs, divided into 'Great' and 'Little' Russians.

'Great Russia,' or Russia proper, extends from the walls of Smolensk to the neighbourhood of Viatka, from the Gulf of Onega to the Kazak settlements on the Don. It covers an empire fifteen or sixteen times as large as France, the empire of Ivan the Terrible, that Russia which lay around the four ancient capitals,—Novgorod the Great, Vladimir, Pskow, and Moscow.

South of these boundaries, in Southern Russia, is 'Little Russia,' the ancient Ukraine or borderland, Kief, Chernigoff, Poltava, Charkoff; and farther south are the provinces of 'New Russia,' Bessarabia, Kherson, Tauris, or, as the Russians call it, Taurida, comprising the Crimea and the adjoining mainland, and Ekaterinoslaf. West of Little Russia, again, is the 'Black Earth country,' Podolia, Volhynia, and part of Kief.

In Great Russia, the ruling race is thoroughly modified by the admixture of at least 3,000,000 Fins (exclusive of those in Finland) in the north, and of 2,500,000 Tartars in the east, the former rapidly blending with the Slavs, who have squatted among rather than invaded or conquered them; the latter, as Muhammadans, resisting amalgamation with the Christians in recent ages, but have left deep traces of their features and character among the Slavs at the time of their all-sweeping inroads, at the end of which the court, the army, and the nobility of the victorious Ivan the Terrible were more than half Tartarized; when the king and his Boyars kept their wives and daughters shut up in their harams, some of which may still be seen in some odd wings of old Russian mansions, and buried them in separate cemeteries. Even in Russia proper, the population is, Scandinavia alone, perhaps, excepted, a mixture of various Slavo-Finnish-Tartaric races. But the mixing is far more observable in the other two divisions of European Russia: in Little Russia, the mass of the people are Ruthenes or Russines, long swayed over by the West Slavs, the Poles, and Lithuanians, who still constitute the aristocracy of the land; and in New Russia, where the Tartars are still at home, at peace with Germans, Greeks, Roumanians, Bulgarians, and other colonists, flourishing among them; while over both roam the Kazak, exhibiting the features and roughly adopting the habits and manners of the various peoples among whom their lot is cast,—nomades among Tartars, wasteful husbandmen in settled districts, wild marauding soldiers whenever their old trade is allowed to them.

The Statesman's Year Book for 1872 gives the estimated population of Russia in Europe, including Finland and Poland, at 68 millions and a quarter. That empire in 1722 stood at 14 millions; in 1803, at 36 millions; in 1829, at about 50 millions; and in 1863, at 65 millions. In the time of John III., that is to say, in the second half of the 15th century, its area occupied only 18 million square miles. In the reign of Alexis in 1650, its extent had already reached 237 millions; under Peter the Great, 280 millions; Catherine II., 335 millions of square miles; now the area of the Russian empire, Finland, Poland, Russia, and Siberia, nearly 370 millions of square miles; the Caucasus add nearly 9 millions; lation of the entire empire, which th nearly as possible, at 77 millions.

Russia in Central Asia has a popula millions, including in this the Kirghiz 1¼ million, and Russian Turkestan, 1½ mil Siberia has 3¼ millions, Russian Caucasus, u 5 millions; total, 12 millions.

In 1879, the entire dominion in Europe and Asia was—

	Sq. kil.	Pop.		
European Russia,	4,888,713	74,493,809		
Poland, . . .	127,310	7,104,760		
Finland, . . .	378,603	2,028,021	Sq. kil.	Po
Sea of Azof, . .	37,496		5,427,124	83,62
Russia in Asia—				
Caucasus, . . .	472,666	5,546,550		
Trans-Caspian Territory, . .	327,068	203,000		
Siberia, . . .	12,495,109	3,911,200		
Central Asia, .	3,017,760	5,036,000	16,312,604	14,6
		Grand total,	21,739,728	98,32

Russia has been conquering to the east s the latter part of the 15th century. In 1487, Kasan was made subject to Ivan IV., reigned from 1533 to 1584, subdued the Ta khanates to the south, with the exception of Crimea. Astracan fell in 1554; the Bashkir 1556. Peter the Great, in 1727, conquered provinces to the west of the Caspian Sea, w Russia lost again in 1734. In 1806, the great te tory of Darbend came into her possession; in 1 two Caspian provinces, Daghestan and Shir were restored to her. In 1828, she acqui Arran, and by 1868 she had advanced in Cen Asia till conterminous with the Chinese emp To secure her Asiatic conquests over a popu tion of 12 millions, she requires to keep an a of 163,759 men,—one soldier for every 70 of population. Britain garrisons India with its millions of souls by an army of 180,000, of wh 60,000 are British, being one to every 1400 s

Asiatic Russia is bounded on the north the Arctic Ocean, in a coast line of 7 English miles. On the east the shores of Pacific, from Cape Chukotst to the mouth Tumen ula, are 6067 miles. The shores of Caspian and Aral Seas extend 1167 miles. T land frontier on the south, from the Caspian a Aral Seas to the mouth of the Tumen ula, about 6667 English miles, viz. 2200 along course of the Jaxartes, Charyn, Argun, Amur, a Usouri, about 2233 by the Celestial, Alat Altai, and Sayan mountains, and an equal part open land frontier.

Russia in Asia has about 3,768,000 mi unfitted for a settled life, and only 1,930,0 square miles of culturable land. The unsuita steppes in W. Siberia and in the Orenburg reg are 753,000 square miles. The tundra or mars and frozen land in W. and E. Siberia are 2,584,0 square miles, and the mountainous country

highlands in the Tian Shan, Alatau, Sayan, Altai, Yablonoi, and Stanovoi mountains, 431,000 square miles. There are numerous lakes, the largest of [illegible] are—

[illegible], . .	12,400 sq. m.	Piasino, . .	2,410 sq. m.
[illegible]ash, .	8,530 ,,	Zaisau, . .	1,490 ,,
[illegible]i, . .	1,420 ,,	Alakul, . .	600 ,,
[illegible], . .	1,270 ,,	Dengiz Citter,	560 ,,
[illegible] . .	410 ,,	Abyshkau, . .	540 ,,
[illegible]ndonsk,	280 ,,	Chukchagyr,	260 ,,
[illegible]-kul,. .	2,500 ,,	Barun-torei,	210 ,,

[illegible]e northern half of Central Asia consists of [illegible] Kirghiz desert, which is mountainous and [illegible]d on the east, and full of saline steppes on [illegible]t. In the midst of the southern half lies [illegible]Sea of Aral, on the western side of which, up [illegible]he Caspian Sea on the west, there stretches a [illegible]d tract of desert. But it is in a fertile tract [illegible]t the conquests of Russia were made between [illegible]4 and 1868. After long years spent in forti[illegible]g posts, in 1864 Russia made a sudden [illegible]ption into the upper valley of the Jaxartes or [illegible] Darya, and in that year took three forts of [illegible]okand, viz. Aoulietta, Turkestan, and Chem[illegible]d. In the spring of 1865, the chief of Khokand [illegible]in battle, and in June 1865 the city of Tash[illegible]d was stormed. On the 20th May 1866, they [illegible]ght and won the battle of Irdjar, against the [illegible]hariotes, and later in the year captured the [illegible]s of Oratepe and Juzak, within 40 miles of [illegible]arcand. On the 13th May 1868, a great [illegible]le was fought under the walls of Samarcand, [illegible] the city surrendered, and later in the year [illegible]hara yielded.

[illegible]reat Britain has so recently become paramount [illegible]ughout India, that this approach of Russia to [illegible]orders may inspire hopes among martial races [illegible]e who would welcome any change from the [illegible]ongenial quiet of civilised settled life. Cir[illegible]stances may drive Russia on, as, in 2500 [illegible]s, Scythic Getæ, Alexander, Arabs, Shahab-ud[illegible] Ghori, Chengiz Khan, Timur, Baber, Ahmad [illegible]h, and Great Britain have been. The only [illegible]sible routes for Russia would be from Balkh by [illegible]y of Kābul and the Khaibar pass, or through [illegible] Kara-korum pass, or to establish her base at [illegible]at, march via Kandahar and the Bolan pass. [illegible] this may be a dream for many centuries to [illegible]e. — *Russians in Central Asia, Capt. Valinof and M. Vemukof; J. R. Mitchell*, p. 4.

RUSSIA LEATHER.

[illegible] de Russie, . .	FR.	Jachta, ...	POL.
[illegible]en, ...	GER.	Juft, Youf, . . .	RUS.
[illegible]har, ...	HIND.	Moscovia, . . .	SP.
[illegible]o di Russia, .	,,		

The tanned hides of oxen, manufactured in a [illegible]culiar manner. The leather is soft, has a [illegible]ongly prominent grain, a great deal of lustre, [illegible]d a powerful and peculiar odour. The colours [illegible] principally red or black; the former is much [illegible]eemed for binding books and making articles [illegible]ere a fine durable leather is required; the latter [illegible]hiefly in demand in Russia for shoe and boot [illegible]king. It is occasionally brought to Peshawur. [illegible]nother kind of leather, having a metallic lustre, [illegible]lled kimsana, is imported also from the north[illegible]st; also a beautiful leather, used in the manu[illegible]ture of the bright blue-green shoes from Kash[illegible]r and Peshawur, which is called kimakht. This [illegible]not made in the Panjab. Peshawur sword scab[illegible]rds are often covered with a black leather, looking like morocco; it is probably an imitation. Russia leather is said to be made of horse's skin; it is thick but pliant, and of most grateful fragrance. The skins are much valued for the preservation of merchandise, as insects will not attack them.—*Faulkner.*

RUST, red rag, red robin, red gum, Uredo rubigo and U. linearis, are fungi which attack wheat in England.—*Hassel.*

RUSTAM, a king of Persia, who was born in Segistan, B.C. 1072; established the Seoraja dynasty at Kanouj, where the worship of the sun was introduced. The dynasty survived 286 years. —*Prinsep*, p. 283.

RUSTUM, a hero famed in Persian romance. Felamorz, son of Rustum, was defeated by Behram near the fort of Fessa, between Shiraz and Darab. Behram caused Felamorz to be hanged, and his tomb existed in the village until, it is said, a European traveller removed it away as a relic.

RUTA ALBIFLORA, white-flowered rue, is common on the Himalaya, at an elevation of 5000 to 8000 feet; is sometimes cultivated, and very common, truly wild, at elevations of 3000 to 7000 feet. It is generally used for roup and all diseases of fowls, mixed with their food. The rue tribe of plants, Rutaceæ, comprise—3 Ruta, 2 Cyminosma, 1 Aplophyllum, 1 Evodia, 1 Dictanonus.

Ruta graveolens, *Linn.*, Rue.

Sudab, ...	ARAB.	Sadab, . . .	MALAY.
Pegamon of Scripture,	ENG.	Sudap, ...	PERS.
Herb of grace, . .	,,	Somalata, Brahmu,	SANSK.
Rue of Luke xi, 42,	,,	Aruda, ...	TAM.
Satari, Aruda, . .	HIND.		

This rue is a plant of Europe; its variety, Ruta angustifolia, *Pers.*, is met with in gardens in India, and used medicinally, its seeds being officinal and given in colic; those of Euphorbia dracunculoides? are sometimes substituted. The leaves contain a quantity of an acrid volatile oil and bitter extractive matter. Used by natives in a peculiar rheumatic pain, called rhi, caused by exposure to draught. It also acts as an emmenagogue, and in pregnancy causes abortion. R. tuberculata grows wild in Sind.—*Stewart; Powell; J. A. Murray.*

RUTNAGHERRY, in lat. 16° 18′ N., and long. 87° E., is a straggling open town 160 miles S. of Bombay. Rutnagherry, on the Konkan coast, in lat. 16° 59′ N., and long. 73° 15¼′ E., is a fortified neck of land, on the south side of which is a large bay into which a river disembogues.

RUY GONZALEZ DE CLAVIJO. The account of his journey in his embassy to the court of Timur, at Samarcand, is the oldest Spanish narrative of travels of any value. These ambassadors were present at the battle of Angora, between Timur and the Turk Bayazid, in the year 1402.—*Markham's Embassy*, p. 3.

RYE.

Rug, ...	DAN.	Senteio, Centeo, .	PERS.
Rogge, Rog, . . .	DUT.	Sel, Jar, ...	RUS.
Segala, Seigle, . .	FR.	Rosh, Rozh, . .	,,
Rocken, Roggen, .	GER.	Centeno, ...	SP.
Segala, ...	IT.	Rag, ...	SW.
Secale cereale, . .	LAT.		

The grain of Secale cereale comes nearer in its properties to wheat than any other grain. It is the bread corn of Germany and Russia; being of less value to the English farmer than barley, oats, or peas, it is in consequence very little cultivated

in Great Britain. The seeds are met in the market, deprived of husk. Rye flour is said to be somewhat laxative. The roasted grains are not unfrequently employed in the adulteration of coffee. Rye flour does not form a paste like wheat flour.—*Hassel; Faulkner; M'Culloch.*

RYOT. ARAB., HIND., PERS. A cultivator, a client, subject, but is more especially applied to the agricultural population; properly Raiat, plural Riaya.

RYOTWARI, a revenue term applied to a system under which the land taxes are collected, in all those parts of India in which the village communities have been broken up by the distracted state of the country for generations, or in which the exclusive title of the representatives of the old proprietors has been superseded by the prescriptive rights acquired by the actual cultivators.

In Madras and Bombay, generally, the normal state of the ryot is to hold under the Government.

In Coorg, the janam or hereditary ryot pays direct to Government at a light rate, but on condition that he shall not alienate or sublet the land or even cultivate it otherwise than by his own household or by his slaves.

In Coimbatore and south of Madras generally, the Nutamkar or Gour ryot is recognised as the absolute proprietor of the soil.

In Tanjore, the mirasdars have a transferable right of property in their holdings, and they have sub-tenants, called parakudi, who cultivate on their own stock, but are liable to be ousted.

In Malabar, the janam tenure is a fee-simple or hereditary right of possession, which can be leased or mortgaged. The janam kār assigns a portion of land to be fenced and stocked, in consideration of which the holding is enjoyed free of charge for twelve years. If resumed, which is seldom done, compensation for improvements is given, otherwise the tenure is maintained on easy terms. Kai kanum patum, or a usufructuary tenure by labour, also prevails.

In Canara, the mulgueni or proprietory tenants are of the two classes,—Nair Mulgueni, whose tenure is by ancient prescription; and Shud Mulgueni, by purchase. The Chailgueni is the tenant-at-will, from whom the landlords may get additional rent whenever there is a higher offer.

In Peddapur and Cuttamur a right is vested in the ryot, which partakes more of what is termed in the southern provinces the Pashangary tenure, in which no sale of the right of occupancy is customary, than of the Adhkari tenure, under which the right of occupancy is considered transferable, subject to the obligations annexed to the possession of it.

In the Tamil country, under the mirasdar, there are non-proprietary tenants, who are divided into oolcoody or permanent, and paracoody or temporary, cultivators. The oolcoody farmer has rented the same farm at a given rent (in money or grain) for several generations, and enjoys a right by prescription; he cannot be ousted so long as he pays the rent, which cannot be raised. The tenure is hereditary, and can be mortgaged, but not sold.

The paracoody farmer has no privileges beyond the terms of his contract.

Where there are no mirasdars, the ryots are considered as ool-paracoody, holding from Government.

The Pycary tenure is of two kinds,—resident where there is a continuing interest, and non-resident where there is no such interest, and where the stranger is tempted by low rents. The tenure of the first of these is like that of the copyholder of England. It is hereditary by prescription, but they cannot alienate, for the [illegible] extends to the use of the soil only, and not to substance.

The Pariah, Puller, and Pulli of the [illegible] country, who are predial slaves and serfs [illegible] the Hindu landowners, claim hereditary property landed property as the incident of their villeinage, and it is generally allowed to them and their descendants on proving former residence in the village.

In Bombay, there are three classes of ryots: (1) Mirasdars or landed proprietors, possessed of watans, which are privileged holdings that command a price in proportion to the lightness of the assessment. Half the produce is the Government rent of an ordinary cultivator. (2) Oopree or permanent tenants; and (3) Warwunda-kurri or temporary tenants. The rights of these can be traced to the remotest antiquity. It may be conferred by the heads of villages, and implies a hereditary right so long as the ren[illegible] village usage is paid. The second, bating some privileges, is almost as valuable.

In Sind every man in the south who hol[illegible] few acres, is called a zamindar. In the north there is a class of hereditary cultivators called mari, who pay lapa to the zamindar over and above the Government assessment.

In Malwa there are three classes—(1) the Janmi or Watani Kursan, (2) the Sukbasi, and (3) Pykashti. The first of these can sublet, and possess a title to the fields their forefathers cultivated, which is never disputed so long as they pay the Government share. The second are settlers, who at first have no immunities, but after two or three generations their descendants may rise into the first class. The third are non-resident, and have no rights beyond their contract.

In Nimar, cultivating occupancy resembles that of other Mahratta districts, but is weaker, as in Oudh, under native rule; the ryot, if not properly treated, moves off to an adjoining village under another farmer, and cultivates there.

In Mewar the ryot is proprietor of the soil. He compares his rights to Dubh grass (Cynodon dactylon), which no vicissitudes can destroy. He calls his land his bapota, which is the watan of the Mahrattas, and the miras of the south of the Peninsula. The military vassal in Rajputana called bhumia, the caniatchy of Malabar.

In the Himalaya, besides the proprietors, there are khaekur, with rights of occupancy so long as they pay the Government share of the revenue, and a few serthan who hold a lease.

In Orissa the ryots are divided into—(1) Thanees, who seldom hold under a patta or lease, and (2) Pahee, who always do so. The Thanee hold a hereditary non-transferable right of occupancy, and their rent is usually restricted to that portion of the Government demand that remained due when the Pahee payments had already been appropriated to its liquidation.

In Benares are resident and non-resident ryots, and the farmer or proprietor could not disturb the former, so long as they paid the stipulated rent, but the latter were cultivators-at-will.

In Saharunpur right of occupancy prevails, and the rent could not be raised above the customary ates; the rents on non-proprietary cultivations djusted according to the different kinds of ce.

Moradabad rents in kind are the rule, money the exception, and the only real Khudt ryots were of the zamindar's family, and not be dispossessed.

Bareilly, on the expiration of a lease, the ord was generally considered free to let the to whom he pleased, but it was generally to the last tenant.

Shahjahanpur, if a higher rent be offered what the resident ryot may choose to pay, he be ousted.

Muttra the proprietor has the rights of oust- the tenant if he refuse to pay the estimated e of rent.

Agra the proprietor cannot oust a cultivator essing the right of inheritance in the soil; those who have no such hereditary right can dispossessed in favour of another willing to more.

Mynpuri, Farrakhabad, Etawa, Gorakhpur, Allahabad, the proprietor cannot dispossess any on having a right by inheritance in the soil; hose who have only a tenancy can be put out vour of another person willing to pay more, latter how regularly the tenant may have paid ent.

Bundelkhand the cultivators are all pro- ors, and (apparently even if sold out) have t of occupancy at customary rates.

Cawnpur the ryot is a tenant-at-will, culti- g from year to year; popular opinion prevents tion.

tenant is also called in the Mahratta districts, r, Kunbawa, or Kul. They are distinguished eir holdings as Thulwaluk, Mundwaluk, Oopri, Owundkari. Cultivators of Central Oudh who y rent privileges are styled Amnek. A family elatives cultivating their own lands are called yachara or Bhayad. Ordinary cultivators are d ryot, plural ryaya, or arzal, meaning humble mmon.

the Bengal Presidency, during the administra- of Lord Cornwallis, in the provinces of Bengal, r, and Benares, the Government settled, anently, the persons' names, and the amount x to be raised, solemnly engaging never to ase it. The persons thus raised to a social ion similar to the landlords of Britain, were ed zamindars. There is no doubt that many hem were persons of hereditary influence and us in the country, and that their connection h the land, of which they were then recognised the proprietors, had in general been of a per- nent character. But their position, neverthe- was essentially that of middlemen, collecting revenue, not for themselves, but for the Moghul ernment, accounting to that government for r receipts, and remunerated by a percentage he collections. It is now, however, universally nitted that they never had the power of dis- ing arbitrarily of the land. There were every- ere at least large classes of tenants whom they ld not lawfully eject, except for non-payment revenue, and from whom they could not law- y exact more than the customary payments.

The ryotwar system of Madras was principally followed out by Colonel Reade and Sir Thomas Munro. Under this system, the peasant himself, the cultivator or farmer, is regarded as the proprietor of the soil, subject to the payment of the Government demand. The position which the Madras ryot holds is somewhat similar to that of the feuars of Scotland, whose feu is held in perpetuity, subject to a permanent feu-duty; with this difference, that in Scotland the rent or tax or feu is permanent, or for a long lease of 999 years, but in Madras the amount charged is settled annually. And this has given rise to the term Annual Settlements in Madras, as the system introduced by Lord Cornwallis has been named Permanent Settlements, the latter leaving the farmer entirely at the mercy of the landlord, as was the case until after the middle of the 19th century, when Government passed Acts to protect the ryots. The Madras ryot can increase or diminish his holding annually, and has thus all the benefits of a perpetual lease, without its responsibilities, inasmuch as he can at any time throw up his lands, but he cannot be ejected so long as he pays his dues. He also receives assistance by remission of assessment in unfavourable seasons. The practical disadvantages of the ryotwar system consist in the annual meddling and supervision required on the part of Government for valuation of cultivated lands. The advantages are this, that as the land furnishes in India the great bulk of the revenues, and as the taxes of a country must ever be regulated by the wants of the State, the annual collection affords the best opportunity for realizing moneys for State purposes.

In the North-Western Provinces the lands were acquired principally in consequence of Lord Wellesley's Mahratta wars, but the settlement of their land revenues was commenced and completed between 1834 and 1844, principally by Mr. Robert Mertens Bird. It is called the village system or settlement, and has been acted on, in the belief that the village community consists of the descendants or representatives of those by whom the village was, at some remote time, conquered or reclaimed from waste. In most cases these are a part, and in some form the whole, of the agricultural population of the village; but the ordinary peasants or cultivators are descendants of persons who have settled in the village with the permission of the proprietors. But some of them have by grant or prescription acquired a fixity of tenure, while others have remained tenants-at-will. The village proprietors formed prescriptively the municipal government of the village,—a fact of great importance, village government being the only institution properly so called which the Hindus possessed. The time occupied in thus settling the N.W. Provinces was about ten years, and the expense incurred in it was upwards of £500,000. It comprehended a detailed survey of a country about 72,000 square miles in extent, containing a population of more than 23,000,000, producing a land revenue exceeding £4,000,000. The proprietary rights, as ascertained and recorded at the survey, were confirmed in perpetuity; but the Government assessment was fixed for twenty, and in some cases for thirty years.

The Panjab Settlement was on leases for terms of years, usually shorter than in the N.W. Provinces, and the cess does not exceed one-fifth of the gross value of the produce in rich tracts, and one-sixth or

one-eighth, or even less, in poor. In the Bombay Presidency the Madras ryotwar system was introduced after the Mahratta wars terminating in 1818; but since a recent survey, the land, cultivated and waste together, is divided into fields of an extent cultivable by one yoke of bullocks, and on each field the Government demand is fixed for a period of years, at a very moderate rate. While the contract is binding on the Government, the ryot, on his side, can throw up his engagement at pleasure, and he is not required to pay the assessment for any year on any field which he has not cultivated or undertaken to cultivate in that year. This assessment holds good for a term of thirty years. The ordinary rates vary in different districts, from 4s. 6d. an acre in the rich black-soil lands of Gujerat, to 10d. an acre in the hills of the Konkan. In the Madras Presidency, a great improvement was introduced in the year 1837, by ruling that the land tax should not be increased because on such land a more valuable article was cultivated; and in 1855 an entire revision of the Madras cess was undertaken and carried out during the administration of Lord Harris.

Nearly two-thirds of the revenue of India consists of the rent, or cess, or tax on land; the second in amount is from opium, a third is from salt.

The land in the south of India belongs firstly to the family, secondly to the village community. Joseph bought up the whole land of Lower Egypt for the king; every man sold his field, and the whole soil, except that which belonged to the priests, into which class he had himself been adopted by marriage, then became the property of the crown. He then made a new division of the land, allotted out the estates to the husbandmen to cultivate, and gave them seed to plant, and required them for the future to pay one-fifth part of the crop, as a rent, to the royal treasury. Thus did that Asiatic minister, copying the customs of the east, make the king the landlord of the whole country except the estates of the priests; and the land was then held by what is now known in Asia as the ryotwar tenure. In Asia, generally, the landholders are tenant-proprietors at a changeable rack-rent of about one-half of the crop; whereas the Egyptians paid a fixed and low rent of one-fifth. The Egyptian landholder was therefore rich enough to have peasants or slaves under him, while the Indian ryot is himself the peasant-proprietor. This rent was in the place of all direct taxes.

Throughout the Bundi territory by far the greater part of the land is the absolute property of the cultivating ryot, who can sell or mortgage it. There is a curious tradition that this right was obtained by one of the ancient princes making a general sale of the crown land, reserving only the tax. In Bundi, if a ryot become unable, from pecuniary wants or otherwise, to cultivate his lands, he lets them; and custom has established four annas per bigha for irrigated land, and two annas for gorma, that dependent on the heavens, or a share of the produce in a similar proportion, as his right. If in exile, from whatever cause, he can assign his share to trustees; and the more strongly to mark his inalienable right in such a case, the trustees reserve on his account two seers on every maund of produce, which is emphatically termed 'huk bapota ka bhom,' the dues of the patrimonial soil.—*Tod's Rajasthan*, ii. p. 540; *Sharpe's History of Egypt*, i. p. 36; *Carnegy; Imp. Gaz.* iv.

RYTINIA STELLERI, the sea-cow of Behrin Straits. It lives on sea-weed. The Kolush t have nearly exterminated it.

S

S, the 19th letter of the English languag a sibilant consonant, and has a hissing so It has two uses,—one generally at the begin or end of words, to pronounce a mere hissing, Sabbath, sack, sin, etc.; the other a vocal hiss precisely like that of z, as in muse, music, wi but its sound in the middle and end of words only be learned by practice. In a few Eng words it is silent, as in isle. The simple sibil of Europe occurs in Arabic, Sanskrit, and in Indian alphabets. The palatal s of the Na alphabet, in use in words of Sanskrit origin commonly pronounced as sh somewhat softe The Arabic alphabet has two letters to which India, is given the sound of s. One of th called in India sad or swad, has, amongst Arabs, the sound of dad or dhad; the other Ar letter is called in Arabia, say or thay, but in I it has only the sibilant sound of s. The Persian l sin has the simple sound of the English lett The Persian and Nagari letter sh has the s of sh of the English alphabet. On the we districts of British India, and along the lin the Indus river, the letters h and s are intercha able, so that Sind becomes Hind, and sing lion, is changed into hing, garlic. S, t, an are interchangeable letters, also s and t in all anian, Turki, and Dravidian tongues are i changeable,—sri or shri becomes tiri, sar-t or head-dress, head-tie, becomes tarband. Cassius remarking on the term Assyria or At noticed that the barbarians change the sigma tau,—Ashur becomes Athar. Tiri or tira is the cognised Dravidian pronunciation of the Sans sri or shri, sacred or holy. Ss was pronou as th by the ancient northern races, who w Sol or Sor, the sun, as Thor. In Tamil y an are constantly interchangeable. Thus uyir or is life; uyaru and usaru is to be exalted or li up; in Canarese usar is life, power. S of Sanskrit changes into h in most of the H dialects, and also in the Greek. In the Z the Sanskrit s, as in asura, changes to h, a ahura.

SA. KOL. A grove.

SAA. ARAB. A grain measure of 7 lbs. or 8

SAAD ALLAH KHAN, vizir of the empe Shah Jahan, died about the year 1653. He the most able and upright minister that e appeared in India. He makes a conspicu figure in all the correspondence of Shah Jah and is constantly referred to as a model in correspondence of Aurangzeb, during the l reign of that monarch. Khafi Khan says that his time the descendants of Saad Allah Kha near a century after the death of their ancest were still distinguished for their virtues and telligence, and he contrasts the respectability their conduct with the frivolity and effemin of the other nobles of that era.—*Elphin.* p. 51

SAADAT, ARAB., pl. of Syud, lords, descend-

ts of Mahomed through his daughter Fatima
d his son-in-law Ali.

SABA, of Ezekiel xxvii. 22, an ancient town in
strict of Balad-ul-Jahaf in Yemen, and the
al of the ancient Sabæans, and to this day the
ict is termed Ard-es-Shaba, or 'land of
ba.' It is doubtless identical with the realm
ace the queen of the East came to visit
non. Mareb, the present capital of the dis-
, is built on the site of the ancient Saba. It
ains about three hundred small houses and
ral ruins, which are attributed to Queen
ees. A dyke or dam of masonry, famous in
history, was drawn across the valley, between
ills called Balak, six hundred paces asunder.
Sail-el-Arim or Sedd Mareb.) Haram Bal-
, the palace of the queen of Sheba, is west of
town of Mareb. About one-fourth of the
is still standing, and covered with Himyaritic
iptions. The ancient residence of the queen
heba, who formed the city, is about a mile
a half in diameter. At the time of the Peri-
of the Erythræan Sea, the Sabæans monopol-
the commerce of India, and acted as inter-
ate agents between the merchants of India
Egypt. In the reign of Ptolemy Phileter
177), the Greek sovereigns in Egypt had
traded directly to India, but imported their
n commodities through Saba, the capital of
ia Felix. The port of Berenice was not used
nat commerce, but Myos Hormos or Arsenoe
still the emporium, and the only trade down
coast of Africa was for elephants' teeth.
rade to the east had been monopolized by
erchants of Sabæa, from the patriarchal days
ob. The period at which the kingdom of
or Himyar flourished was the golden age of
ic poetry. The religion of the Himyarites,
eir devotion, was directed to a multitude of
es, of which the principal were represented
e sun, moon, and planets. Saba, surnamed
r, was the father of Kahtan (Joqtan), father
oorab, father of Yahsab, father of Abd-us-
ns. Abul Fada ascribes the construction of
Mareb-dam to Abd-us-Shams, but other his-
ns ascribe it to Loqman, king of that remnant
he Adites who renounced idolatry on the
ching of the prophet Hud, and who are
ly styled the second Adites. Saba was also
me applied to Abd-us-Shams, founder of
ba. Amongst his sons were Himyar, Amru,
an, and Ashaar.—*Playf. Aden; Early Chris.*

BA, said to signify a host, particularly the
of heaven, or the celestial bodies, in the
ation of which the Sabæan ritual is believed
ave consisted; the celestial bodies, the planets
constellations, were personified in the genii
ood and evil.

ABAB, a mountain of Siam, near which and
he frontiers of the Xong tribes, precious
es, consisting of rock-crystal, cat's-eye, topaz,
et, sapphire, and rubies, are found.

ABADILLA, fruit of Veratrum sabadilla, of
græa officinalis, and of several other of the
anthaceæ.—*Ben. Phar.*

ABÆAN or Sabean, the people of Saba in
en, the traditional descendants of Saba or
ba, the rulers of the Cushite kingdom in
thern Arabia, now known as the Himyarite.
y are quite distinct from the Sabians men-
tioned in the Koran. Sabæan is a term which has been variously applied to the ancient inhabitants of Southern Arabia; also to the philosophical sectaries of Haran; and likewise also to the pseudo-Christian remains of Babylonian astrolatry. The Arabian writers, on the other hand, apply it to the pagans of all parts of the world, to all who are neither Jew, Zoroastrian, Christian, or Muhammadan. The true Sabæans of to-day are the 'Subba' of Mesopotamia. They are descendants of the Nabathæans, the Chaldæans. They have a great reverence for the planets; they call themselves Mandæans (Mando-Yahya, disciples of John), and they have various sacred books; but though called Christians of St. John, they are Chaldees in speech and religion. They have 360 divinities, amongst whom are Yahya, also Babram Rabba and God, whom they style Alaha. In the environs of Babylon they retain a great number of Babylonian religious traditions; they designate the tree of life in their Scriptures as Setarvan. Sabæism was formerly re-introduced in Kuseem by Darim, about the year 1200, and prevailed till the Wahabee revival. In the Vedic Sabæanism only the elemental powers are invoked. Sabæan worship once extensively prevailed in South America. There is a curious passage in Tavernier concerning the aversion of the Sabæans to blue; and there exists a similar antipathy among the Kurdish sect of the Yezdi (who appear to have been once Christians) for that colour, grounded on a different, although not less absurd, reason. Tavernier makes mention of another peculiarity of the Sabæans, and calls it the ceremony of the fowl, which their priests alone have the right to kill; but he does not explain in what this ceremony consists, so that we cannot now judge whether it has any connection with a custom prevalent among the Yezdi. Arabian authors who lived with the Sabæans state unanimously that they worshipped the seven planets (Masudi, i. p. 218), and that their faith did not materially differ from that of the Chaldæans. It resembled that of the idolatrous nations around them; they addressed their devotions to numerous deities, of which the principal were represented by the sun, moon, and stars; but there were many who acknowledged one deity as the supreme Lord of the universe. They believed in the immortality of the soul, and a future state of rewards and punishments, while many held the doctrine of transmigration. The Sabæan, called Sabi by Muhammadans, who are known to Europe as the Nazarenes, also Christians of St. John, designate themselves Mandæan. They are in two small tribes of artisans, about 4000 in number, one tribe settled in Haran and one in Babylonia; those of Haran only took the name of Sabæan in A.D. 830, during the khalifat of Mamun, in order to bring themselves within the 5th Sura of the Koran, which recognised as people of the faith, Jews, Sabæans, and Christians. Those of Haran have a confused belief framed of biblical legends, Jewish ceremonial laws, Greek gods. Those of Babylonia speak an Aramaic dialect closely allied to Syriac and Chaldee. They have two Scripture books,—one the Sidra Rabba, also Ginza or Treasure, and the other the Qolasta hymns. John the Baptist is their lawgiver. They have frequent baptizings and purifications by ablutions.—*As. Res.* ii. p. 374. See Ali Ilahi; Veda; Yezdi.

SABAGRÆ, according to Orosius, a people who made their submission to Alexander the Great during his halt at the confluence of the Panjab rivers. According to Curtius, they were called Sambracæ or Sabracæ; and according to Diodorus, who placed them to the east of the river, Sambastæ. They were a powerful nation, second to none in India for courage and numbers. Their forces consisted of 60,000 foot, 6000 horse, and 500 chariots. The military reputation of the clan suggested to General Cunningham the probability that the Greek name may be descriptive of their warlike character, just as Yaudheya means warrior or soldier. He thinks therefore that the true Greek name may have been Sambagræ, for the Sanskrit Samvagri, that is, the united warriors, or Συμμαχοι, which, as they were formed of three allied tribes, would have been an appropriate appellation. In support of this surmise, he mentions that the country of which Bikanir is now the capital was originally called Bagar-des, or the land of the Bagri or warriors, whose leader was Bagri Rao. The word Bhati also means warrior or soldier, and thus at the present day the tribes calling themselves warriors form a large proportion of the population in the countries to the east of the Sutlej, namely, the Johiya or Yaudheya along the river, the Bagri in Bikanir, and the Bhati in Jeysulmir. All three are of acknowledged Lunar descent. He thinks it possible that the name Sambagri might have been applied to these three clans, and not to the three tribes of the Yaudheya, but he thinks that the Yaudheya have a superior claim, on account of their undoubted antiquity. To them he attributes the foundation of the town of Ajudhan or Ayodhanam, the battlefield, which is evidently connected with their own name of Yaudheya or Ajudheya, the warriors, and he thinks the latter form of the name is most probably preserved in the Ossadii of Arrian, a free people who tendered their allegiance to Alexander at the confluence of the Panjab rivers.—*Cunningham's Geog. of Ind.* p. 246.

SABAKHIA, a predatory race in Orissa.

SABAKTAGIN, the second ruler over the southern tribes of modern Afghanistan. In the reign of Abdul Malik, the fifth prince of the house of the Samani, Alptegin, A.D. 961, A.H. 350, rose to be governor of Khorasan. He had been a Turki slave of Abdul Malik, but, having incurred the ill-will of his successor, he retreated with 3000 disciplined slaves to Ghazni, and till his death held the strong tract between the Suliman mountains and the Indus, against all attacks. He died A.D. 976, A.H. 365, fourteen years after assuming independence. He was succeeded by Sabaktagin, a Turki slave, who had married the daughter of Alptegin. Raja Jeipal of Lahore advanced into Laghman to oppose him, but entered into agreements, which he subsequently refused to fulfil, and formed a combination with the rajas of Dehli, Ajmir, Kalinjar, and Kanouj. Sabaktagin advanced to meet their army, which he defeated and pursued with great slaughter to the Indus. He found a rich plunder in their camp, and took possession of all the country up to the Indus, and occupied Peshawur. The Afghan and Khilji of Laghman immediately tendered their allegiance. He subsequently twice carried a large force to the aid of Nuh or Noah, the seventh of the Samani kings, whom Bog Khan of the Hoie-ke Tartars had forced to across the Oxus. Sabaktagin on the seco occasion totally defeated them (A.D. 995, A.H in the neighbourhood of Tus, now Meshid. Sa tagin made Ghazni his capital. He died on way to Ghazni. The name is also written Sa taghi. He was succeeded by his son Ismail, Ismail after a few months was put aside his younger brother Mahmud. Mahmud, died A.D. 1028, enriched Afghanistan with spoils of India. In the reign of the cruel Bah one of the Tartar's descendants, the Sabakt dynasty were deprived of all but the Panjab. this too, in A.D. 1160, they lost.—*Elphin* 274–76; *Ferrier's Afghanistan*, p. 14.

SABALA, one of the two dogs of Yama.

SABALIA, in Gujerat, a low caste, empl in tending cattle; a cowherd race.

SABAL UMBRACULIFERA, the West In fan-palm, growing in Jamaica to a height o to 80 feet, bearing leaves 4 to 6 feet in diame it might be introduced into India.

SABAR, wash-leather, soft leather of the bur deer in the Kangra and Hoshiarpur distri

SABARÆ of Ptolemy are the Suari of P and both have been identified with the abori Savara or Suari, now a wild race of wood-cu who live in the mountainous parts of the n eastern districts of Peninsular India. The S or Saharia of the Gwalior territory occupy jungle on the Kotah frontier to the westwa Marwar and Guna.—*Cunn. Geog. of Ind.* p. See Chensuar; Suar.

SABAT, amongst the Dyak race, adoption brother.

SABA'TA-AHRAF. ARAB. The seven di current in Arabia in the time of Mahomed, Quraish, Tai, Hawazin, Ahl-i-yaman, Saqif, ail, and Bani Tamin.

SABATHU, in lat. 30° 51′ N., and long. 7 E., a military station a few miles N.E. of S The cantonment is 4205 feet, and the fort is feet, above the sea.—*Ger.*

SABERNARIKA, properly Suvarnarika, a that separates Bengal from Orissa, and o into the Bay of Bengal.

SABHA. SANSK. A committee, any c an assembly, a club. Sabha-mandap, HIN portico, or an erection in front of a Hindu te where people assemble; the open space temple in front of the apartment of the ido audience hall, an assembly room; a sacred or apartment in a Hindu temple. Sabhapa Chilambara, a name of Siva.

SABLE.

Zobel, . DA., GER., SW.	Sohol, ...
Zibelline, . . . FR., IT.	Cebellina, . . .
Zibelina, ... POR.	

One of the weasels, Mustela zibellina, a n of Northern Europe and Siberia, with a fine the hairs of which turn with equal ease in e direction. Its colour is generally of a deep gl brown or black, and sometimes, though rarely, yellow and white. Throughout the seve of a Siberian winter it retains its rich brown It subsists on fruits and berries in winter, an small birds. Bargouzine is famed for its sab no skins have yet been found in any part of world equal to them. The fur is of a deep jet-bl with the points of the hairs tipped with white

nd this constitutes their peculiar beauty. For a ngle skin a hunter demanded the sum of £18.— aulkner; Bingley; M'Culloch.

ABLE FISH of Europeans, the Willam-min ne Tamil, a species of Clupea.

ABZAH. ARAB., HIND. The large leaves and sules of the hemp plant; also an intoxicating rage prepared from them by washing them, after drying, reducing them to powder with k pepper, cardamoms, and sometimes poppy, ander, and melon seeds, and sugar, and then sing the mixture in milk and water, or in water alone. Another recipe for this intoxi- g liquor is Cannabis sativa or hemp leaves, black pepper, cardamoms, poppy seeds, Cu- is utilissimus, and C. sativus. It exhilarates out injurious consequences.

ABZAWAR. The town and district of Sab- r lies between that of Turbut-i-Hyderee and ; since the death of Nadir Shah it has been e possession of a chief of a Turkish tribe.— colm's Persia, ii. p. 230.

ABZ-MITTI. HIND. An earth used to wash air.

ACÆ, Gete, Aswa, and Takshak are names h have crept in amongst the thirty-six royal ut races, common with others also to early sation in Europe. Sacæ are supposed by ssor Lassen to be the Szu Tartar who were led about B.C. 150 from the Ili valley by the chi or White Huns, whom he supposes to be ochari. After occupying Tahia or Sogdiana time, they are stated by the Chinese to have driven thence, also, by the Yengar some years wards, and to have established themselves in , in which name Lassen recognises the en valley in Kohistan. The Sacæ country Turkestan, and they seem to have been one e Central Asia tribes to whom the vague Scythian was applied. Little is known of acæ and their migrations, but they seem to been widely diffused, occupying and coloniz- ountries remote from Central Asia. It is well n to geographers that the Segistan of the s, whence Seistan, is the same as the Sake- or country of the Sacæ of the Greeks. The are located by Strabo and Ptolemy on the of the Himalaya, but they were also on the . The Sacæ were known as Sakko on the of Cheban, in Assyria, and Sacæ are men- in the Behistun inscription. Tod states Sacæ in Sanskrit has the aspirate, Sac'hæ, ng literally the branches or tribes. This frequently occurs in Hindu annals, and nel Tod believes that the Saka of the Hindu ls cannot be other than the Sacæ or Sakai of ical geography. They seem to have been n on the borders of India or in its western icts in the first century preceding Christianity. amaditya, king of Ujjain, became known as Sakari or conqueror of the Sacæ; and as his dates B.C. 56, it would appear that about his some northern tribes had settled themselves g the Indus, constituting the Indo-Scythi of ian. Their attempt to penetrate farther to the by way of Malwa, was not improbably arrested Vikramaditya, whence the epithet Sakari. e tribes penetrated early into India, making way in force from the Hindu Kush into Orissa. have been supposed to give their names to the Sassani, Saxani, or Saxons. Sacæ or Buddhii took possession of Kashmir, B.C. 340; some tribes opposed Alexander; others of the Sacæ over-ran India in the reign of Asoka, who, according to the Ain Akbari, were expelled by his successor Jaloka. The following passage occurs in D'Anville's Eclaircissemens Geographiques sur la carte de l'Inde, p. 42: 'On ignore le temps auquel les Scythes sont venus occuper le Sindi. Dans le Périple de la mer Erythrée, la ville de Minnagra, le même que Monsora, est qualifiée de capitale de la Scythie. Denys Périegete dit que les Scythes meridionaux habitents sur le fleuve Indus. Eustathe les nomme Indo-Scythes; et ce que Ptolémée appele Indo-Scythie, remonte le long de l'Indus jusqu án fleuve Coos.'

A tribe bearing the name of Sacæ is still found in Jhalawan. It is supposed that they are the descendants of Sacæ from between the Paropamisan mountains and the Sea of Aral who accompanied Alexander, and, returning with Craterus through the Moolla pass, settled in their present position.

Strabo says, 'All the tribes east of the Caspian are called Scythic, — the Dahæ next the sea, the Massagetæ (Great Gete), and Sacæ more eastward; but every tribe has a particular name. All are nomades, the best known being the Asi, Pasiani, Tachari, Saccaranli, who took Bactria from the Greeks. Sacæ made in Asia irruptions similar to those of the Cimmerians; they possessed themselves of Bactria and the best district of Armenia, called after them Sacasenæ.' Of the first migrations of the Indo-Scythic Gete, Takshak and Asi, into India, that of Sehesnag (Takshak) from Sehesnagdes (Tacharisthan?) or Sehesnag country, six centuries, by calculation, B.C., is the first noticed by the Hindu Puranas. About this period a grand irruption of the same races conquered Asia Minor, and eventually Scandinavia; not long after, the Asi and Tachari overturned the Greek kingdom of Bactria, and the Romans felt the power of the Asi, the Catti, and Cimbri from the Baltic shore. The Asi and Tachari are the Aswa and Takshak, or Toorshka races of the Puranas of Saca-Dwipa. 'C'est vraisemblablement d'apres le nom de Tachari, que M. D'Anville aura cru devoir placer les tribus ainsi denommées dans le territoire qui s'appele aujourd'hui Tokarist'han, situe, dit ce grand geographe, entre les montagnes et le Gihon ou Amou.' Bryant gives the following as a passage from Chærilius in the history of the Sacæan Cuthites, of whose ancestry he speaks with great honour in describing the expedition of Alexander the Great:

> 'Next marched the Sacæ, fond of pastoral life,
> Sprung from the Cuthite nomades, who lived
> Amid the plains of Asia, rich in grain;
> They from the shepherd race derived their source,
> Those shepherds who in ancient times were deemed
> The justest of mankind.'

A branch of the Sacæ on one occasion invaded the inhabitants on the borders of the Pontic sea; whilst engaged in dividing the booty, the Persian generals surprised them at night and exterminated them. To eternize the remembrance of this event, the Persians heaped up the earth round a rock in the plain where the battle was fought, on which they erected two temples, one to the goddess Anaitis, the other to the divinities Omanus and Anandate, and then founded the annual

festival called Sacæa, long celebrated by the possessors of Zela. Such is the account by some authors of the origin of Sacæa. According to others, it dates from the reign of Cyrus only. This prince, they say, having carried the war into the country of the Sacæ (Massagetæ of Herodotus), lost a battle. Compelled to fall back on his magazines, abundantly stored with provisions, but especially wine, and having halted some time to refresh his army, he departed before the enemy, feigning a flight, and leaving his camp standing full of provisions. The Sacæ, who pursued, reaching the abandoned camp stored with provisions, gave themselves up to debauch. Cyrus returned and surprised the inebriated and senseless barbarians. Some, buried in profound sleep, were easily massacred; others, occupied in drinking and dancing, without defence, fell into the hands of armed foes; so that all perished. The conqueror, attributing his success to divine protection, consecrated this day to the goddess honoured in his country, and decreed it should be called the day of the Sacæa. This is the battle related by Herodotus, to which Strabo alludes, between the Persian monarch and Tomyris, queen of the Getæ. Amongst the Rajput Sachæ, all grand battles attended with fatal results are termed Saca. When besieged, without hope of relief, in the last effort of despair, the women and girls are immolated, and the warriors, decorated in saffron robes, rush on inevitable destruction. This is to perform saca, where every branch (sacha) is cut off. Chitore has to boast of having thrice (and a half) suffered saca. Chitore sac'ha ka pap, 'by the sin of the sack of Chitore,' is the most solemn abjuration of the Gehlot Rajput. If such is the origin of the festival from the slaughter of the Sacæ of Tomyris, it will be allowed to strengthen the analogy between the Sacæ east and west of the Indus. The Sakai who settled in Armenia were named Sacassani (lib. vi. c. 19), Saxons, the Sacosena of Strabo (lit. xi. pp. 776–788).

Sacasenæ, the ancestors of the Saxon race, dwelt in Armenia, on the confines of Albania. 'La Sacasene,' says a French author, 'etoit une contree de l'Armenie sur les confins de l'Albanie ou du Shirvan' (note 4, tome i. p. 191, Strabon).

This Scythic race adored the solar divinity under the name of Gæto-Syrus, the Surya of the Sacha Rajputs.—*Rennell's Memoir*, p. 185; *Isodore Char. in Hudson's Geog. Memoirs*, ii., *quoted in Ed. Ferrier Jour.* p. 428; *Hind. Theat.* ii. p. 179; *Tod's Rajasthan*, i. pp. 70, 164, *quoting Strabo*, lib. xi. p. 254; *Indian Infanticide*, p. 16; *Turner's Anglo-Saxons; Hallam.* See Afghan.

SACAM, or the White Island, mentioned in the Puranas, is England. It is mentioned in the Varaha Purana as in the possession of the Sacæ. —*Wilford.*

SACAMBARI or Sacambhari, a goddess, the tutelary divinity of the Chauhan tribes, whose statue is in the middle of a lake. Colonel Tod derives Sacambhari from Sacam, the plural of Sachæ, 'branch or race,' and Ambhar, 'covering, protecting.' The invocation is Om! Sacambhari Mata! Om!—*Tod's Rajasthan*, i. p. 95.

SACCHARUM, a genus of plants of the natural order Panicaceæ and section Sacchareæ. There are many species of the genus, all growing in warm countries, and those better known may be thus enumerated:—

S. canaliculatum, *Roxb.*, of Bengal.
S. cylindricum, *Roxb.*, Ajmir.
S. fuscum, *Roxb.*, Ajmir.
S. munja, *Roxb.*, Hindustan, Sind.
S. officinarum, *Linn.*, E. Indies, China, W. Ind[ies], Africa.
S. procerum, *Roxb.*, Bengal.
S. sara, *Roxb.*, Bengal.
S. semi-decumbens, *Roxb.*, Bengal.
S. Sinense, *Roxb.*, China, India.
S. spontaneum, *Linn.*, S. Asia.
S. violaceum, *Tussac*, Polynesia.

Some of the species, owing to the silex in t[heir] cuticle, are so durable that they are employe[d] India for thatching, such as S. canaliculatum, cylindricum, and S. spontaneum, which make good mats. The natives of Bengal m[ake] their pens of the narrow stems of S. s[emi]-decumbens, S. sara, and S. fuscum. The las[t] well as the culms of S. procerum, are also for screens and other economical purposes. officinarum is the sugar-cane, from which is duced a large quantity of the sugar used by It is a native of the south and west of Asia, was introduced by the Saracens into the sou[th] Europe. It has several varieties, of which o[ne] the—

Saccharum commune, or native cane of Indies,

β S. purpureum, Kajuli, of Bengal.
γ S. giganteum, Khuloa, of Bengal.
δ S. Tahitense, Otaheite cane.

Two other species yielding sugar are—

Saccharum violaceum, *Tussac*, said to be tical with the Otaheite cane.

Saccharum Sinense, *Roxb.*, cultivated in C[hina]

Saccharum cylindricum, *Roxb.*

Saguerus cylindrica, Horse's tail grass.

Oola, ... HIND. | Baroom biss, . . .

Grows on the Ajmir plains, and flowers ea[rly] the rains; also all over Bengal.—*Roxb.* i. p.

Saccharum fuscum, *Roxb.*

Khori, ... BENG. | Ishwalika, . . . S.
Pati kori, . . . ,, | Kandu rellu gaddi, .

Grows in Bengal. Natives make their pe[n]s its culms, and also use it for screens and fences. The best dark-coloured reeds with w[hich] the natives write are made from this species.

Saccharum munja, *Roxb.*

Sur-pata, . . . HIND. | Sirki, ...
Surr, ... SIND. | Ponika, Munja gaddi

This grass grows throughout India, but Panjab it covers immense tracts of inun[dated] lands, and forms the chief difficulty of the culturist, as it rapidly encroaches on the cul[ti]tion. Ropes made from its sheathing petiol[es] possessed of great tenacity, and used as rig[ging] in all the vessels above Sukkur, also as tow-r[opes] for tying up cattle, for drawing water, an[d] tying on the buckets of Persian wells. The t[ough] made from it is used for the bottoms of bedst[eads] The plant grows at Benares, all over Oudh in Northern Circars; is common at Ajmir, in valleys, and very abundant, along with S. cerum, near Jeypore. The best munj ro[pe] made from the floral leaves of this plant, an[d] best sirki rope from the culms. The pla[nt] distinguished from S. procerum by its inf[erior] height, the fineness of the culm, and narrow of the leaves. Two-inch ropes, often 50 fathoms

h length, are made of its fibres, being sufficient
r dragging the largest 1200-maund boats up the
ndus, and consequently against the full force of
stream, even round projecting points. The
e is light, bears without injury alternate
posure to wet and to subsequent drying.
nts growing beyond the range of the over-
wings of the river, or of the influence of the
s, are best. The upper leaves, about a foot or
n length, are preferred and collected. They
made up into bundles, and are kept for use.
en required for twisting into rope, they are
t moistened in water, then, two men sitting
osite to each other, take one of these moist
dles and beat it alternately with mallets, until
loose cellular are separated from the fibrous
ts. These are then ready for twisting into the
es which are so extensively employed on the
us. A continuation of the same process, or
employment of the dhenki, would afford a
y ample supply of half-stuff for paper-makers,
at a cheap rate. If the rope is not occasion-
wetted, and allowed to become too dry, it
ly breaks when used. The prepared fibre
s two rupees per maund. It was latterly
g exported from Kurachee, and brings £5
8 per ton.—*Roxb.; Voigt; Irvine*, p. 175.

ccharum officinarum, *Linn.*, Sugar-cane.

eh-us-sukr, .	ARAB.	Kamand, Paunda,	PANJ.
lar, Jand ? .	,,	Nai-sukr, . . .	PERS.
lk, Ak'h, .	BENG.	Ko, SANDWICH ISLANDS.	
, Ukyo, . .	,,	Itchutunda, . .	SANSK.
, ...	BURM.	Ikshu, Pundra, .	,,
chi, . . .	CHIN.	Rusala, ...	,,
, ...	EGYPT.	Tubu, ...	TAG.
. of FLORES ISLAND.		Karimbu, . . .	TAM.
'ch, Ghanna,	HIND.	Cheruku, . . .	TEL.
oa, Kajuli, .	,,	Kanupulu cheruku,	,,
. KYAN of BORNEO.		Aru, Lavu, . . .	,,
. MALAY of JAVA.		Potti, Tella, . .	,,
mba, . . MALEAL.		Aru - Kranupula	
MARQUESAS, TAHITI.		kranuga, . . .	,,

is species of the sugar-cane is supposed to
native of the East Indies, and to have spread
there to other countries, into Africa, the
h of Europe, the Canaries, N. and S. America,
the West Indies. A considerable portion of
sugar of commerce is manufactured from this
ies, but the S. violaceum is now extensively
ivated, and in the tropics the juices of the
yra and phœnix palms are also largely con-
d into sugar. In Europe, from beet-root.

The sugar-cane was introduced by the Saracens into the south of Europe, but the period is not well ascertained. Gibbon says they introduced it into Sicily soon after they got possession of the island. About the year 1420, it was much cultivated by the Portuguese in Madeira. In 1503 we read of sugar being imported from the Canaries, and in 1506 sugar-canes were carried thence to Hispaniola in the West Indies. But besides the Indian cane, another, and a much more prolific kind, that of Otaheite, was introduced into the West Indies about 1794; and about the same time, or in 1796, the China sugar-cane was introduced into India. The Chinese and Indians seem both, therefore, to have had distinct plants from which they could extract sugar; and, as history shows, they did so at very early periods. The Otaheite sugar-cane has been introduced from the Mauritius into India, and rapidly spread through the country. It is no doubt the same species that was introduced into the West Indies in 1794. It is probably the Canne de Haite of Tussac, or S. violaceum. S. officinarum, in the United States, is profitably cultivated up to lat. 32° N.; in China, to 30° N.; in Japan, up to 36° N. The yield in Japan of raw sugar is 3300 lbs. an acre.—*Roxb.; Voigt.*

Saccharum procerum, *Roxb.*

Sirkunda, . . .	HIND.	Sarkara, Sirki, .	HIND.

Grows 20 feet high in India, and is very abundant everywhere on the sandy ridges and plains. In November, when in full flower, it is highly ornamental. The leaf (sarpat) is used for thatch; the lower part of the stem (sentha, also sirkunda) is used for screens (chik) and low stools (mondha); the upper and tapering portion of the stem (sirki) is made into fans, mats, sieves, and for thatch, and to cover carts in the rainy season; the sheaths (munj) are dried and beaten, and made into twine and ropes; the flower, tied in bunches, is the house broom. The floral leaves are made into 'munj,' separating the fibres by beating the leaves; this is very much used to make string and rope.—*Roxb.* i. p. 243; *Irvine.*

Saccharum sara, *Roxb.*, Pen reed.

Shur, Sura, Sar, .	HIND.	Gundra, .	SANSK., TEL.
Sara, Gundra, .	,,	Sarut, .	SUTLEJ, RAVI.
Sar-pat, Sarar, .	,,	Kanda, . .	,, PANJ.
Sarkara, . . .	,,	Kura, Karre,	,, ,,
Jhund, ...	PANJ.	Sacha, Darga,	TR.-INDUS.

Common in the plains of India. Its culms are finer and stronger than those of S. procerum, and when obtainable are used to make arrows of in preference to the other species; it is also used for the common 'kalm' or reed pen with which in India Arabic, Persian, and other characters are written; it is said to be beaten into a rude fibre and then twisted into a rope. Mr. Henly informed Dr. Royle that the pen-reed grass is employed as a tow-line by the boatmen about Allahabad and Mirzapore, and esteemed there for strength and durability, even when exposed to the action of water.—*Roxb.; Irvine; Voigt; Royle.*

Saccharum semi-decumbens, *Roxb.*

Khori, Khuree, .	BENG.	Tat, Neja, . . .	HIND.
The Grass—Mora,	HIND.	The Culm—Kelik,	HIND.

The culms are used for screens and pens. It is a native of Bengal, where it delights in low, wet places, blossoms about the close of the rains and the beginning of the cold season.—*Roxb.*

Saccharum Sinense, *Roxb.* A plant introduced from China, named by Dr. Roxburgh. It was extensively distributed throughout India, and still is grown to some extent, as the canes are large, rich in juice, and hard enough to resist the attacks of the white ants. Its culms are from 6 to 10 feet high. Leaves flat, with margins hispid.—*Roxb.*

Saccharum spicatum is the Mau-ken of the Chinese.

Saccharum spontaneum, *Linn.*, Thatch grass.

S. biflorum, *Forsk.*		Imperata spontanea, *Trin.*	
Kash, Kashiya, .	BENG.	Kan, . .	MANIL., PANJ.
Thek-kay-gyi, . .	BURM.	Kahu, ...	SIND.
Kasa, Kus, . . .	HIND.	Relu-gaddi, . . .	TEL.
Kasha, Kagara,	,,	Kaki veduru, . . .	,,

This grass grows in every part of India; is common on islands, etc., and when in blossom in the rains has a beautiful silvery appearance. Brooms are made of the culms, string of its leaves, and the whole is used to thatch with. Elephants, horses, and horned cattle do not object to it as fodder. It grows from 3 to 15 feet high,

and it flowers in great profusion after the rains. A familiar couplet, in which the hunger and avarice of Brahmans are sportively alluded to, shows the correct pronunciation, as well as the season of its flowering—

'Aye kunagut phoole cas
Bamhan buet'he choolhe pas.'

'The time (kuar) for performing the ceremony in honour of deceased ancestors has arrived, the cas is in flower, and Brahmans surround the fire-place.'—*Stewart; Mason; Irvine; Roxb.; Elliot.*

Saccharum violaceum, *Tussac.*

Otaheite sugar-cane, ENG.	Turo, . KYAN of BORNEO.
Tau, . FLORES ISLANDS.	Tabu, Tubu, . . MALAY.
Khush-bas, . . HIND.	To, MARQUESAS, TAHITI.
Ghanna, Rickhu, ,,	Ko, SANDWICH ISLANDS.
Puna, Ponda, . . ,,	

The sugar-cane plant of Polynesia is grown in India, and is abundantly cultivated in the Saharunpur district; it gives a larger percentage of sugar, but it is objected to by the natives as being too hard for the pressure of the native mill; it is therefore principally cultivated for eating. In the Dehra Doon it has with much advantage been extensively cultivated for making sugar, but it is there pressed with European mills. —*M. E. J. R.; Royle, Ind. Fibres; Cal. Cat. Ex.*, 1862; *Powell; J. A. Murray; Smith; Von Mueller.*

SACCOLABIUM, a genus of Asiatic plants belonging to the natural order Orchiaceæ; found in the Indian Archipelago, the Malay Peninsula, and thence extending north along the Himalayan mountains to lat. 30° 4′ N., where S. guttatum is found on trees, as well as in more southern latitudes. The genus consists of caulescent epiphytes, with two-rowed coriaceous leaves, which are often oblique at the apex. The flowers are axillary, and either racemose or solitary. The following species are known:—

S. calceolare, *Lindl.*, N. E. India.	S. papilosum, *Lindl.*, Burma.
S. carinatum, *Wall.*, Khassya.	S. retusum, N. E. India.
S. guttatum, *W. Ic.*	S. Rheedii, *W. Ic.*
S. micranthum, *Lindl.*, N. E. India.	S. rigidulum, *Wall.*, Khassya.
S. niveum, *W. Ic.*	S. rubrum, *W. Ic.*
S. paniculatum, *W. Ic.*	S. speciosum, *W. Ic.*
	S. Wightianum, *W. Ic.*

These orchids are largely cultivated for their beauty. Their generic name has been applied to them from their lip forming a bag or spur.

Saccolabium papilosum, *Lindl.*

Cymbidium præmorsum, *Swz.*
Epidendrum præmorsum, *Roxb.*
Aerides undulatum, *Sm.*

Grows in the Circars and in Burma.

Saccolabium retusum.

Epidendrum retusum, *L.*	Aerides retusum, *Swz.*
Limodorum retusum, *Swz.*	A. guttatum, *Roxb.*
Sarcanthus guttatus, *Lind.*	Mo ma khan, . . BURM.

This, one of the noblest orchids in the Tenasserim Provinces, is profusely multiplied in the neighbourhood of Moulmein; grows in Java, Peninsula of India, Chittagong, Dacca, Khassya, Nepal, Burma, Tenasserim. The flowers are numerous, white, spotted with rose-violet, and stand on little pedicles all around the stalk, so as to form an elegant plume sometimes a foot long, which gives the trees on which they grow a most princely appearance.—*Mason; W. Ic.; Voigt.*

SACCOPETALUM TOMENTOSUM. *H. f.*

Uvaria tomentosa, *Roxb.* | Kirna, ... HIND.

A tall, handsome, good-sized tree of ver straight growth, of the order Anonaceæ, not un common about the foot of the Ghats on th western side of the Madras Presidency, and found in Chanda, Central Provinces, the Konk Behar, Orissa, and Nepal. Another species, longiflorum, *H. f. et T.*, occurs in Eastern Ben —*Beddome, Fl. Sylv.*

SACHIN, a Native State in Gujerat; about 300 square miles; pop. (1872), 18,0 gross revenue, £15,983. The nawab of Sachi of African descent, known in India as Sidi Habshi or Abyssinian. His ancestors were kn as the Sidi of Dauda, Rajapur, and Janj They were the admirals of the fleets of Ahmadnaggur and Bijapur dynasties, and sub quently of the emperors of Dehli, being appoin to that office by Aurangzeb about the year 16 with an annual assignment of £30,000 on Surat revenues. On the decline of the Mog power, the Sidis of Janjira became notor pirates, plundering the ships of all nations ex those of the English, whose flag by treaty they to have early cultivated friendship they Janjira during the wars between Sivaji and Moghuls, also during the war between the Pes and the British Government. Towards the of the 18th century, the heir, Balu, had expelled from his dominions by a younger br of the family (1784–91). He appealed for ai the Mahrattas and British, and an arrange was come to in 1791 by which Balu ceded Ja to the Peshwa in return for Sachin. Balu got possession of Sachin; but when the Pes claimed Janjira, the Sidis who held it succe in maintaining their independence. Sachin remained in the hands of Balu and his descend while Janjira is still held by the younger br of the family who had ousted Balu. Janji reckoned a maiden fortress to this day.— *Gaz.; Aitcheson's Treaties*, iv. p. 324, ed, 187

SACHUQ-ke-MATKIAN. HIND. Ear pots painted, in which the barri or bridal a ratus are conveyed in a Muhammadan marr ceremony.

SACKCLOTH, a coarse cloth from any co fibre. 'They would have repented long ag sackcloth and ashes,' says Matthew xi. 21. M Hindu mendicants cover themselves with c cloth and ashes, after renouncing a secular li

SACONTALA, or the Lost Ring, by Kalidasa, is a Sanskrit drama, first translated into English in 1789, and again translated in 1855 into English by Mr. Monier Williams from the Sanskrit of Kalidasa.

SACRED.

Maqaddas, ARAB., HIND.	Sacro, Sacrato, . . IT.
Sacré, ... FR.	Sagrado, ... SP.
Heilig, ... GER.	

Terms synonymous with this English word are applied in Asia to individuals, animals, books, places, stones, and plants.

Sacred books of the East is a title under which, towards the latter part of the 19th century, several of the orientalists of Europe published translations of books relating to the religions of the Eastern Asiatic races,—Hindus, Buddhists, Zoroastrians, Chinese, and Muhammadans. These have been edited by Professor F. Max Muller, who translated the Hindu Upanishads and the Dhammapada.

Georg Bühler translated the Apastambha and

Gautama, also the Vasishtha Baudhayana, the sacred laws of the Aryas.

James Legge translated the texts of Confucius, Shu-king, the religious portions of the Shih-g, and the Hsiao-king.

E. W. West translated Pahlavi texts, Vendidad d Zendavesta were translated by James Dur-steter, Julius Jolly translated the Institutes of hnu, and T. W. Rhys Davids translated Buddh- Suttas from the Pali. V. Fausboli translated Sutta Nipata, Julius Eggeling the Satapatha hmana, K. T. Telang the Bhagavat Gita, atsugatiya, and Anugita.

t the same time has been appearing trans-ons of other sacred books. Of these may be ntioned the Udanavarga from the Tibetan by W. Rockhill,—it is the Northern Buddhist ion of Dhammapada; Le Pantheon Egypten, Paul Pierret, conservator of the Egyptian eum of the Louvre; the Clarendon Society lished a catalogue of the Buddhist Scriptures; ures on Buddhist literature in China were vered and published by Samuel Beal; A. P. ett wrote on Esoteric Buddhism.

r. H. Oldenberg wrote on Buddha, his life, loctrine, and his order.

. Rhys Davids issued a volume on Buddhist stories or Jataka tales. It was a translation e Jattakatt'havannana, the oldest collection lk-lore extant.

W. Rhys Davids and H. Oldenberg translated Vinaya texts, viz. Patimokha, Mahavagga, and vagga.

e Yi-king or Yh-king, the oldest book of the se, was translated by Terrien de la Couperie.

E. Gough, M.A., wrote on the philosophy of Upanishads and ancient Indian metaphysics.

. C. P. Tiele wrote a history of the Egyptian ion, which James Ballingal translated from Dutch.

muel Beal translated the Fo Sho Hing Tsan-

E. H. Palmer translated the Koran.

e Vedas and the Puranas are the sacred books he Hindu religion. The sacred books of the stian religion are designated the Old and New ament, or, collectively, the Bible. The Old ament inculcates monotheism, and gives a his-f the Hebrews for about 2000 years, to B.C. . The New Testament gives a history of John the Baptist, and of Jesus, the Christ, the Messiah or Anointed, of His teachings, His doctrines, and those of His disciples. It was written in Greek, but was early rendered into Latin. Protestant missionary bodies have translated the Old and the New Testaments into nearly all written tongues, and into many languages which previously had no scriptory character, and millions of copies have been published. In many instances these sacred books have given a form to the various spoken dialects of a language without a literature.

The *Sacred cities* of the Hindus, sacred rivers, and sacred sites are exceedingly numerous, and at most of them they have erected the temples for their religion. Sacred cities of the Brahmanical Hindus, twelve in number, are—

1. Bhimasankar, at the source of the Bhima, N.W. of Poona.
2. Ellora.
3. Kedareswar, in the Himalaya.
4. Mahakala, at Ujjain.
5. Malikarjuna, on Srisaila mountain, in the S. of India.
6. Omkara, on an island in the Nerbadda.
7. Naganath, E. of Ahmadnaggur.
8. Rameswara, on an island opposite Ceylon.
9. Trimbuk, near Nasik.
10. Somnath, in Kattyawar.
11. Vaidynath, in the Bombay Dekhan.
12. Viswanath, in Benares.

Besides these twelve, Srirangam, near Trichinopoly, Benares, Puri, where Jaganath is, Badrinath in the Himalaya, Conjeveram and Tripati in North Arcot, with Dwarka, Gaya, and Mathura, may be indicated as sacred towns; and the Ganges, Brahmaputra, Godavery, Kistna, and Cauvery among the rivers, and hundreds of thousands annually visit them. Govardhana mountain is sacred to the Hindus, and Palitana to the Jains. Mount Meru and Mount Kailasa of the Himalaya are famed in Hindu mythology.

Sir George Birdwood mentions, in particular, other sacred cities of the Hindus,—Ayodhya or Oudh, the city of Rama; Mathura or Muttra, the city of Krishna; Maya or Buddha Gaya; Kasi or Benares, the city of Siva as Visveswara; Kanchi or Conjeveram; Avanti or Avantika or Ujjaiyini and Dwaraka or Dharawati; Gao-karna or Cow's Ear, near Mangalore; Rameswaram; Somnath and Pathan.

Jerusalem is sacred to Jews, Christians, and Muhammadans, and the last-named designate it Bait-ul-Maqaddas; with them Mecca is called Bait Ullahi'l-haram, the holy house of God; and with them Karbala, Medina, and Meshid also are holy cities, which are resorted to by pilgrims from all Asia and Africa.

Sacred fires are kept up by the Agnihotra Brahmans of India, and by the Parsee or Zoroastrian religionists. The Brahmanic families who keep up the sacred fires are supposed descendants from the seven Rishi,—Bhrigu, Angoras, Visvamitra, Vasishta, Kasyapa, Atri, Agastya; but Jamadagni, Gautama, and Bharadwaja are also enumerated.

Sacred plants among the Hindus are numerous; their flowers are offered up to their idols, their seeds are used for rosaries, etc., and their gums as incense.

The Sij plant, Euphorbia, is the god of a race in Assam.

The Jews, about the 12th to the 3d century B.C., largely followed surrounding nations in their worship in the groves.

The sacred grove of oaks at Dodona, supposed to have been planted by the Pelasgi, existed till the time of Constantine. Their branches were hung with bells, sacred pigeons rustled amidst the leaves. The laurel of Apollo at Delphi was sacred like the oak at Dodona. Under the laurel's shade the python took refuge.

Modern Hindus restrict their reverence to individual plants, some of them being sacred to Siva and some to Vishnu and their avatars; and the following are those chiefly regarded:—

Achyranthes aspera.
Ægle marmelos.
Æschynomene sesban.
Afzelia bijuga.
Antenaria, *sp.*
Aplotaxys gossipina.
Artemisia astriaka.
Aucklandia costus.
Barringtonia acutangula.
Bauhinia variegata.
Betula bhojputra.
Borassus flabelliformis.
Buchanania latifolia.
Butea frondosa.
Calophyllum inophyllum.
Calotropis gigantea.
Cedrus deodara.
Chamerops Ritchiana.
Chrysanthemum Indicum.
Clitorea ternatea.
Cupressus torulosa.
Cynodon dactylon.

Dalbergia sissoo.
Daphne cannabina.
Datura fastuosa.
Delphinum brunonianum.
Dolomiea macr.
Echites caryophyllata.
Erythrina fulgens.
Euphorbia, *sp.*
Ficus Indica.
F. glomerata.
F. religiosa.
F. venosa.
Gardenia florida.
Gærtnera racemosa.
Guettarda speciosa.
Helianthus annuus.
Hernandia sonora.
Hibiscus Phœniceus.
H. rosa Sinensis.
Jasminum, *sp.*
Jonesia asoca.
Justicia adhatoda.
Juniperus communis.
J. excelsa.
Kupatieus, *sp.*
Limonia scandens.
Melia azedarach.
M. sempervirens.
Menispermum glabrum.
Mesua ferrea.
Michelia champaca.
Mimusops elengi.
Morinda multiflora.
Murraya exotica.
Nauclea cadamba.
Nelumbium speciosum.
Nerium odorum.
Nymphœa esculentum.
Ocimum sanctum.
Origanum marjoranum.
Poa cynosuroides.
Poinciana pulcherrima.
Polianthus tuberosa.
Populus balsamifera.
Prosopis spicigera.
Pterospermum acerifolium.
Pt. suberifolium.
Putranjiva Roxburghii.
Rhododendron arboreum.
Rosa, *sp.*
Saussurea obvallata.
S. sacra.
S. sorocephala.
Senecio laciniosus.
Tagetes erecta.
T. patula.
T. populnea.
Tabernæmontana coriarea.

SACRED BEETLE, Ateuchus sanctus. See Insects.

SACRIFICE.

Fida, Sadqa,	ARAB.	Sagrifizio,	IT.
Tasaduq,	,,	Sacrificio,	IT., PORT., SP.
Libation, Oblation,	ENG.	Sacrificium,	LAT.
Opfernd,	GER.	Med'h,	SANSK.
Kurban,	HEB.	Bali,	TAM.
Sacrifizio, Sagrificio,	IT.	Gao,	TEL.

A sacrifice is an offering of any consecrated thing to a deity, whether an animal, anything of the mineral or vegetable world, a manufactured article, or in the form of a libation or an oblation. All nations seem to have had a stage in their history in which to make offerings in sacrifice formed a part of their mode of worshipping the deity whom they reverenced. The earliest extant record of sacrifices are those recorded in Genesis iv. 3, 4, in the cases of Cain and Abel, where Cain, a cultivator, brought of the fruit of the ground an offering to the Lord, and Abel, who was a nomade, a keeper of sheep, brought of the firstlings of his flock and of the fat thereof, and it is mentioned that the Lord had respect *unto* Abel and to his offering, but unto Cain and to his offering he had not respect; so even in those early days in the history of the human race, the blood sacrifice, the oblation, and immolation of animals was deemed by the offerer more worthy of the deity's acceptance than the fruits and flowers of the earth. The contest marks the jealous rivalry and strife between the powerful, over-bearing dwellers in cities who bear arms and till the ground, and the nomade shepherds. The first victim was Abel, but the struggle runs through the whole history of Asia, and continues amongst the races and sects of India at the present day. The view seems to have been that the most precious thing should be offered, with the object of propitiating a wrathful being, and there followed on this the offering up of human beings, of the children of the sacrificer, the children of kings, though criminals, captives taken in war, slaves, and even women were also sacrificed.

The duty of offering to the Lord of the first of every product has had almost a universal hold on man. Exodus xxii. 29 commands the offer of th first fruits; the same is enjoined in Deuteronom xxvi. 2; Leviticus ii. 12, and numerous othe places. Genesis iv. 4 tells us that Abel brou the first of his flock, and Exodus xiii. 12 a other places enjoin this, and to the present d in the villages around Chingleput the first-b daughters in the Hindu weaver families devoted as deva-dasa to the gods of their temp A conscientious Hindu, before he eats, offers food to his guardian deity, using some such wo as these, 'This food, O God, I present to th A Hindu shopkeeper, also, gives his god credi his daily accounts for a sum which may amo to the twentieth of a halfpenny.

Dr. Milman considers that in the Heb religion the rite of sacrifice was regulated w three distinct objects. Every morning and ev evening the smoke from the great brazen a of burnt-offerings ascended in the name of whole people. On the seventh day, two ani instead of one were slain; and the offering of poorest was acceptable. The sacrifices v partly voluntary acts of reverence in orde secure the favour of God to the devout wors per; partly expressive of gratitude for the di blessings. Of this nature were the first fr and whether reaping the harvest or gatheri the vintage, the Israelite made an oblatio thanksgiving to the gracious Being who had stowed His bounty. Lastly, the Hebrew sacri were piacular or expiatory; every sin eith the nation or the individual had its appo atonement. The tenth day of the seventh m was set apart for the solemn rite of nationa piation. First a bullock was to be slain and blood sprinkled, not only in the customary pl but within the Holy of Holies itself. Then goats were chosen, and lots cast upon them one assigned to the Lord was sacrificed; o other, by the imprecation of the high priest sins of the whole people were heaped, and it then taken beyond the camp and sent into desert to Azazel, the spirit of evil to w Hebrew belief assigned the waste and how wilderness as his earthly dwelling. But in fanatic zeal of the Jews, great excesses occur In the time of Solomon an instance (2 Chr vii. 5) is recorded of the sacrifice of 22,000 ox It was left to Isaiah (i. 10-14) openly to denounce the sacrifice of animals as an atonement for sin: 'Hear the word of the Lord, ye rulers of Sodom; give ear unto the law of our God, ye people of Gomorrah: to what purpose is the multitude of your sacrifices unto me? saith the Lord: I am full of the burnt-offerings of rams, and the fat of fed beasts; and I delight not in the blood of bullocks, or of lambs, or of he-goats. When ye come to appear before me, who hath required this at your hand, to tread my courts? Bring no more vain oblations; incense is an abomination unto me; the new moons and Sabbaths, the calling of assemblies, I cannot away with; it is iniquity, even the solemn meeting. Your new moons and your appointed feasts my soul hateth: they are a trouble unto me; I am weary to bear them.'

As might be supposed from the sacrificial rites amongst the Jews, allusions to such are to be found in the New Testament (Mark vii. 11): 'But ye say, If a man shall say unto his father or

mother, It is Corban (that is to say, a gift), by whatsoever thou mightest be profited by me; he shall be free.' This word is equivalent to Sadqa Pasaduq or Fida, and is often used by Muhammadan men or women addressing a superior, in which case it means merely, I am your Kurban. The word is Arabic, derived from the Hebrew, has allusion to an approaching to God, and means a sacrifice, a victim, an offering, an oblation, for which also we have the Greek Καρπωμα. The other words, in the Arabic, Sadqa, Fida, and Saduq, mark the continuance of the sacrificial idea. Sadqa, ARAB., properly Sadaqa, from the Hebrew, means alms, propitiatory offerings, and sacrifice. The words are continued into Hindustani, in Sadqe-jana or Sadqe-hona, to become a sacrifice for the welfare of another, and Sadqe-dena, to sacrifice for the welfare of another.

Animal sacrifices seem to have been a usual rite amongst all the Scythian races. Some branches of this great stock appear to have wandered so far from their northern seats as the Peninsula of India, in the most southern parts of which are found great numbers of cromlechs, kistvaens, and cairns. All around Hyderabad, in the Dekhan, these are to be seen, and at one place about 12 miles from that city is a vast site of these ancient tombs. In all the cairns that have been opened urns, sepulchral urns have been found, and in their neighbourhood human bones and bones of animals. Of the race who adopted that form of burial nothing is now known; but they were Troglodytes, dwelling in tents, the stone walls enclosures for each tent being perfect, and within the enclosures there are no mounds of ruined houses, but in all merely a level space.

Professor Max Müller reminds us of what we read in Herodotus (v. 5), that amongst the Thracians it was usual after the death of a man to find out who had been the most beloved of his wives, and to sacrifice her upon the tomb. Mela (ii. 2) gives the same as the general custom of the Thracæ line. Herodotus (iv. 71) asserts a similar custom of the Scythians, and Pausanias (iv. 2) of the Greeks.

Amongst the Aryan races who went to the north-west, there are no grounds for believing that the Saxons continued to offer human sacrifices after their settlement in Great Britain, but in their own land the immolation of captives in honour of their gods was by no means uncommon. The great temple at Upsal, in Sweden, appears to have been especially dedicated to Odin, Thor, and Friya. Its periodical festivals were accompanied by different degrees of conviviality and licence, in which human sacrifices were rarely wanting, varied in their number and value by the supposed exigency. On some occasions even royal blood was selected that the imagined anger of the gods might be appeased.

The Massageta, the Scythian, the Gete, the Sarmatian, all the various nations upon the Baltic, particularly the Suevi and Scandinavians, held it as a fixed principle that their happiness and security could not be obtained but at the expense of the lives of others. Their chief gods were Thor and Woden, whom they thought they could never sufficiently glut with blood. They had many very celebrated places of worship, especially in the island of Rugen, near the mouth of the Oder, and in Zeeland. Some, too, very famous among the Sumnones and Nahanvalli. But the most reverenced of all, and the most frequented, was at Upsal, where there was every year a grand celebration, which continued for nine days. During this term they sacrificed animals of all sorts, but the most acceptable victims and the most numerous were men. Of these sacrifices none were esteemed so auspicious and salutary as a sacrifice of the prince of the country. When the lot fell for the king to die, it was received with universal acclamations and every expression of joy, as it once happened in the time of a famine, when they cast lots, and it fell to the king Domalder to be the people's victim, and he was accordingly put to death. Olaus Triliger, another prince, was burnt alive to Woden. They did not spare their own children. Harold, the son of Gunild, the first of that name, slew two of his children to obtain a storm of wind. 'He did not let,' says Verstegan, 'to sacrifice two of his sons unto these idols, to the end he might obtain of them such a tempest at sea as should break and disperse the shipping of Harold, king of Denmark.' Saxo Grammaticus mentions a like fact; he calls the king Haquin, and speaks of the persons put to death as two very hopeful young princes.

Tacitus takes notice of the cruelty of the Hermunduri in a war with the Catti, wherein they had greatly the advantage, at the close of which they made one general sacrifice of all that were taken in battle. The poor remains of the legions under Varrus suffered in some degree the same fate.

Human sacrifice, Bunsen says, was abolished by the Egyptians, in the very earliest times, declaring it to be an abomination to the gods. Whereas in Palestine, in Syria, and in cultivated Phœnicia and Carthage, such sacrifices continued to be offered to Moloch as the very climax of religious worship. Even Rome, in the time of her Cæsars, buried her Gallic prisoners alive, in order to appease the wrath of their gods. Many of the kings of Judah and Israel caused their children to pass through the fire. The Greeks also were not free from these atrocities. Chap. xi. of Judges tells how Jephthah, when he invaded the country of the Ammonites, vowed a vow unto the Lord, and said, 'If thou shalt without fail deliver the children of Ammon into mine hands, then it shall be, that whatsoever cometh forth of the doors of my house to meet me, when I return in peace from the children of Ammon, shall surely be the Lord's, and I will offer it up for a burnt-offering. . . . And Jephthah came to Mizpeh unto his house, and, behold, his daughter came out to meet him with timbrels and with dances. . . . And he said, Alas my daughter! . . . I have opened my mouth unto the Lord, and I cannot go back. . . . And it came to pass, at the end of two months, that she returned unto her father, who did with her according to his vow which he had vowed: and she knew no man.' Jeremiah xix. 4, 5, shows, says Dr. Milman, that in later times human sacrifices were offered by the Jews to Moloch and to Baal. Abraham, when commanded to cut off that life on which all the splendid promises of the Almighty seemed to depend, he obeys and sets forth with his unsuspecting child to offer the fatal sacrifice on Mount Moriah. Besides the common worship of Moloch, the Book of Kings names the Sepharvites as making these human sacrifices

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(2 Kings xvii. 31), and the king of Moab (2 Kings iii. 27). It was a Babylonian and Assyrian rite. Filial sacrifices were doubtless of rare and extraordinary occurrence, either to expiate some dreadful guilt, to avert the imminent vengeance of an offended deity, or to extort his blessing on some important enterprise. But Hannibal sacrificed 3000 Grecian prisoners on the field of Himera, where his grandfather Hamilkar had been slain 70 years before.

Sale's Koran contains evidence of the practice of infanticide, but assimilating more than in any other case with the custom of the Jahreja race of Cutch and Kattyawar. This barbarity seems to have been confined to the female infants, as is the case with the Jahreja; and it is remarkable that the difficulty of providing for them in marriage, or the apprehension of their conduct disgracing their parents, is assigned in both cases as the cause of this inhuman custom. One benefit which resulted to mankind from the success of Mahomed has been the relinquishment of that inhuman practice amongst his numerous followers.

Abbe Domenech says that some branches of the Scythic stock undoubtedly crossed to America in the early centuries of our era, and they seem to have carried with them the sacrificial customs which have been a peculiarity of all their offshoots. The Comanche and the Nachez, Indian [illegible] of North America, formerly buried the wives of a deceased chief along with him. The Ottawa offered a horse in sacrifice on the tomb of the dead. With the Nachez, the victims placed themselves on mats and danced the death-dance with their executioners, who formed a circle around them. The Pawnee tribes, supposed to be descendants from the ancient Mexicans, also offered human sacrifices, though the rite latterly fell into abeyance. These sacrifices took place more particularly in the month of April, that is, at sowing time, with a view to obtaining abundant harvests from the Great Spirit. The preparation lasted four days; on the fifth the victim was bound to three stakes, placed above the funeral pile. He was painted red or black, and his breast burned and pierced with arrows, and after his heart was reached it was torn from his breast and devoured all bleeding. This barbarous ceremony was terminated either by setting the pile on fire, or by eating the victim, whose blood served to water the seeds about to be committed to the earth. Many Indian nations of the northern and western parts of North America celebrated annually solemn festivals when the leaves of the willow had attained their full size. These solemnities were in commemoration of a great event,—in propitiation of the superior powers; or were offered in expiation. Among the Mandan, these were prolonged four days, and the greatest cruelties were practised on the tortured victims.

The pouring out of water as a libation is a very ancient rite. In Genesis xxxv. 14, Jacob is mentioned as setting up a pillar, and he poured a drink-offering thereon, and he poured oil thereon; and to the present day, throughout British India, the lingam, the priapus or phallus, in its daily worship by the Saiva Hindus is washed with oil and milk. Wine was occasionally used, as in Numbers xxviii. 7, causing the strong wine to be poured unto the Lord for a drink-offering; also 1 Samuel vii. 6, Israel gathered together to Mizpeh, and drew water, and poured it out before the Lord. David, when pressed by the people of Palestine, craved for a drink from the well at the gate of Bethlehem, and afterwards would drink it when brought by three men, 'but pour it out unto the Lord.' And to the present da all Hindus offer water libations to the earth dei

The sacrifices of the Zoroastrians were new of human beings. The ordinary victims of Aryans were the horse and mare, oxen, sheep, a goats.

A little after the time of Isaiah, Buddha peared, objecting to all animal sacrifices. I from the times of the Vedas until now, the Hon an offering of ghi to the fire, from the dhenk or sacrificial ladle; also the Pasaya, sacred fo of rice and milk, cooked in sacrificial kett have been oblations of Hindus. In the Hin sacrifices, the sweet-smelling kusa grass seems have been employed, from the most ancient dat and also an alcoholic fluid which they called soma juice, and the ancient Persians called h What this fluid was is doubtful, but it had stin lating and intoxicating qualities, for the Veda (ix.) says, 'the purifying soma, like the rolling its waves, has poured forth songs hymns and thoughts.' It has been said to be fermented acid juice of the Sarcostemma acid the shom-luta of Bengal; and the fierce exultati which are noticed in the Rig Veda could have been produced by a strong alcoholic drin

The ordinary Vedic offerings were of coo food, delicious food and drink; the Janemaja was a sacrifice of snakes (qu. the Si however, Rajasaya was a royal sacrific race), and the [illegible] of sovereignty the gods in acknowledgmen[illegible] supremacy. Originally it was a great n feast.

The ancient history of India shows that it had four great religious eras. *First*, The Ve in which Agni, Indra, and other personificati invoked with feasts and with the hymns of Rig Veda, and in which maidens selected th husbands in the Swayamvara, and monar sacrificed the horse in the Aswa Medha. *Seco* The Brahmanic period, when the Kshatr feasts were converted into sacrifices for the ato ment of sins against the Brahmanical law, divine worship was reduced to a system of aust ities and meditations upon the supreme spirit as Brahma. It was in this era that the Brahmans assumed the character of a great ecclesiastical hierarchy, and established that priestly dominion which still extends over the minds and senses of the Hindus of India. *Thirdly*, The Buddhist period, in which Sakya appeared. And *fourthly*, the Brahmanical revival, during which Brahmans abandoned the worship of their god Brahma, and have clothed with new attributes some of the old national gods and heroes of the Vedic Aryans. In this era Siva is worshipped by one great portion of Hindus as supreme, and styled Iswara and Mahadeva, Lord and Great God, while by a larger part Vishnu came to be regarded as the supreme being, and Rama and Krishna as his incarnations. The Buddhist philosophies do not authorize or favour the sacrifice of animals, but Du Carne tells us that a Buddhist of his camp made an offering of one of his fingers at a Buddhist shrine in Annam. Also, Mr. Wade remarks, that at the Chinese court, in the middle

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f the 19th century, some Manchu and Mongol, in
he five banners, had the prefix tsai-sang, which
eclares them to be employed in slaying the
ims used in sacrifice. The flesh of victims is
ed in the Hwan-ning-kung, the portion of
palace appropriated to the empress, every
ning at 4 o'clock, and at the same hour in the
rnoon; at the monthly sacrifice performed on
second of the first moon, and the first day of
succeeding; and at the sacrifice of the morrow,
formed on the third of the first, and the second
all succeeding moons. The morning daily
rifice is to Buddha, Kwan-yin, and Kwan-ti
e Mars of China); the evening, to nine Tartar
inities bearing long unintelligible appellations.
e monthly sacrifices appear to be the same with
t on 'the morrow,' *i.e.* of the monthly sacrifice.
flesh of the victim is boiled and placed before
idols above enumerated, on the right and left
he shrine of heaven; when removed, it is par-
n of by the emperor or empress, if officiating
erson, or by those to whom his majesty may
ct the nobles, his proxies, to distribute it.
here are two hymns in the Rig Veda describing
rite of the Aswa Medha or sacrifice of the
and which leave no doubt that in the early
on of the race this sacrifice was had recourse
a burnt-offering to the gods. It was even
, however, falling into disuse, and was exist-
as a relic of an ante-Vedic period, imported
some foreign region, possibly from Scythia,
e animal victims, and especially horses, were
nonly sacrificed. And in still later times,
Aswa Medha consisted in certain ceremonies
g in the liberation of the horse, as through-
Southern India is still practised with a bull or
many of which are met with in every village,
or let loose in the name of the gods Siva or
nu.

the Mahavira Charita, Vasishtha, addressing
dagni, says, 'The heifer is ready for sacrifice,
he food is cooked in ghi. Thou art a learned
, come to the house of the learned, favour us
waiting and participating in the sacrifice.'
, the Uttaram Charita says (Cal. Rev. 109,
)—

'Why, know ye not
The Vedas, which enshrine our holy law,
irect the householder shall offer those
ho in the law are skilled, the horned animal,
nd with it flesh of ox, or calf, or goat;
nd the like treatment shall the householder
eceive from Brahmans learned in the Vedas.'

e Institutes of Menu contain the following
grap. ∇ 'The sacrifice of a bull, of a man, or
horse, in the kali age, must be avoided by
orn men; so must a second gift of a
young woman, whose husband has died
onsummation; the larger portion of an
other, and procreation on a brother's
vife.'

shnava sect have four kinds of sacrifices,
aiswadeva, Varuna-praghasa, Saka-
nasiriya, to be offered up in the months
Kartik, and Phalguna. The attributes
se are roasted cakes of flour, with figures
eep made of dough to Vaiswadeva and Varuna,
th vegetables to Agni and Indra.

Bloody sacrifices form no part of the ordinary worship now paid to Rama, Krishna, Hanuman, and other modern deities of the Vaishnava sectarians, nor to Vigneswara, Subrahmaniya, etc., of the Saiva sect, or of their respective goddesses.

It is usually supposed that all Vaishnava Brahmans abstain from offering living creatures in sacrifice. But in Southern India, at the present day, the Vadaghala Vaishnava sect offer living creatures in sacrifice, while the Tenaghala Vaishnava and Madhava substitute dough for animals. In the sacrifices of Saiva Brahmans the victim's head is never cut by the Sudra pujari, but it is strangled by him, so that the life is lost without spilling blood. Saiva Brahmans sacrifice living creatures in Southern India, and never use dough images as a substitute. Amongst the Smartha, and also Madhava Brahmans, each household keeps a tulsi plant in the middle of the courtyard for worshipping. Each new moon, as also on the occurrence of an eclipse, either of the sun or moon, also at the summer and winter solstices, their Utrayanam and Datchanayanam, every caste Hindu, whether Brahman, Kshatriya, Vaisya, or Sudra, offers the Tharpanam, or water-sacrifice, in the names of his deceased father, grandfathers, great-grandfathers, and their wives, seeds of the oriental sesamum being mixed with the water. It is as a means of continuing this Srad'ha ceremony that Hindus long to have a son born to them, as in their creed it is taught that the manes of ancestors are gratified by the Tharpanam. This is a particular part of the sacrifice, called yugnu, but at present it is often performed separately. The things offered are clarified butter, sesamum flowers, boiled rice, rice boiled in milk and sweetened with honey, durba grass, vilva leaves, and the tender branches, half a span long, of the ushwutthu, the doomvuru, the pulashu, the akun-du, the shumee, and the khudiru trees. Clarified butter alone is sufficient, but any or all of these things may be added.

The *Saiva* Brahmans likewise, annually in some towns, Conjeveram for instance, perform the bloody rite to the Vedic gods, Indra, Varuna, Yama; and both in 1859 and 1860, the Saiva Brahmans in Madras so sacrificed. Several Brahmans are employed in this rite. One Brahman, assisted by his wife, the couple being styled the Soma Yaji and Soma Devi, commences the rite by performing the fire sacrifice by pouring ghi into a large fire. The pujari, a Sudra, then strikes the head from the victim, and large portions of its flesh being thrown into the fire and reduced to ashes, portions are distributed to the assembly. This being a Prasad'ham, or food offered to the gods, all castes can partake of it. Many partake of it.

Throughout India generally, at the present day, in almost all the household sacrifices, in which the husband or head of the house is the priest, the oblation is used as food. In North America, the animals sacrificed were killed and eaten or buried; sometimes the horse, instead of being killed, was simply set at liberty, in the presence of the warriors of the tribe. Sonnerat relates that the Syrians at the feast of the torches or funeral pile, and the Hebrews at the feast of the Passover, made arbours before the temples, and carried their gods round them in procession, whom they afterwards burned. The people then presented their offerings, which commonly were lambs and sheep; and after the priest had made the first libation upon them, each person carried

his victim home to eat it. Some texts of Menu would seem to authorize the eating of animal food at all seasons, observing merely the preliminary ceremony of offering a portion of it to the gods or manes, like the heroes of Homer, with whom the sacrifice was only the prelude to a feast.

The grand festival to Friya was in spring; then boars were offered up to her by the Scandinavians, and boars of paste were made and eaten by the peasantry. So, at the present day, 'Vasanti,' or spring personified, is worshipped by the Rajputs, who open the season with a grand hunt, led by the prince and his vassal chiefs, when they chase, slay, and eat the boar.

Self-destruction.—The Rev. Mr. Ward, writing in the early part of the 19th century, says it was difficult to form an estimate of the number of Hindus who perish annually, the victims of superstition; but he conjectures 10,500 as the number of victims annually sacrificed,—Widows burned on the funeral pile, in Hindustan, 5000; pilgrims perishing on the roads and at sacred places, 4000; persons drowning themselves in the Ganges, or buried, or burned alive, 500; children immolated, including the daughters of the Rajputs, 500; sick persons whose death is hastened on the banks of the Ganges, 500.

A great change has been made in this respect, through steady repression by the British Government of India. Up to the year 1802, Hindus drowned their children at the mouth of the Ganges, but the rite was then prohibited. Until later times, men and women drowned themselves in the sacred river, and frequently at the junction of the Jumna and the Ganges. They fastened earthenware pots to their bodies, and walked calmly into the river beyond their depth, filled the pots by turning them to one side, and as the pots filled they sank. As the century advanced, the Government ascertained that the sacred books of the Hindus gave no sanction to widows immolating themselves, as sati, along with the bodies of their deceased partners, and it was prohibited in 1829, during Lord William Bentinck's administration, and rulers of the Feudatory States were induced to issue a similar prohibition. Akbar had endeavoured to put a stop to this practice, and on one occasion he rode about 80 miles to prevent the widow of the Jodhpur raja's son destroying herself, but was not listened to. Instances still occur from time to time, but the people generally avoid it.

Men, from time to time, bury themselves alive. The practice is known as Samad'h, and is had recourse to alike by fanatics as by persons incurably afflicted with leprosy or other severe diseases. Scarcely a year passes by without an occurrence of this kind, and, being done stealthily, the police are often baffled. Up to the early years of the 19th century, instances occurred of individuals being crushed under the wooden wheels of the huge cars in which their idols are carried in procession. It is now admitted that the statements about the frequency of self-immolations and accidents in that manner were exaggerated; but by the care taken by the constabulary, these occurrences are now unheard of.

According to former accounts, writes Malcolm, self-destruction among men, by casting themselves during public festivals from a rock at Onkar Mundattah, and from a precipice near Jawad, was once common. The sacrifices hav of late years seldom occurred. The men wh sacrificed themselves were generally of low tribes usually the Bhil, Dher, or Chamar. One of leading motives by which they were said to actuated, is a belief that they will be re-b as rajas in their next state of transmigration.

In 1883, the Indian papers reported the s sacrifice of a Banya family of twelve persons Kattyawar, to propitiate the gods.

About the year 1877, in the month of M Soomar Bhartee, a Sanyasi Gosain from Bena settled in a linga temple in the village of Mul pur, in the Vishalghur territory of the Kolha State, and along with a lingayat Wani, sacrifi Ballya, a little boy, 12 years of age, as an offer to Siva (Mahadeo), to obtain a revelation wh hidden treasure was to be found.

The British Indian authorites have been unc ing in their efforts to check infanticide. It been practised chiefly by the Rajput races, destroyed their newborn daughters to avoid great expenses of their marriages. Several the tribes acted thus, but the Jhareja of C exceeded all the others. The Indian Governn in 1871 ascertained the villages in which the children exceeded the girls in number, and p such places under strict supervision, with pulsory registration of births. In the censu 1881, in the entire population of British I there were 129,941,851 men and boys, 123,949,970 girls and women; but in Rajpu the males were 5,544,665, and the fe 4,723,727, fewer by 820,938.

It has been customary, from unknown t along the banks of the Ganges, for ailing, d men, particularly the aged, to be taken t river side to expire. They would sometime days be there awaiting death, and repe instances occurred of their death being ca by the relatives filling the mouth with water the river, or the clay of its banks. Wit Hindus it is usual at the death-agony to fill mouth of the dying person with the fluid of panchagavya, but the exposure of their sick the river banks could only hasten the fatal ev

The Charan and the Bhot (Bard), semi-relig tribes of Rajputana, until recent years employed as guarantees for the safety of indiv travellers, and also as convoys for carava merchandise. Their sacred character gave the influence which they exercised in beh those under their care, but if pushed to extr they would wound and even destroy their fam and themselves, so that their death might the robbers.

Until British supremacy, the Hindus of India, in order to extort a debt, would pile of wood, called a Koor, placing cow or an old woman, and set fire t and sacrifice the victim. The sacrific posed to involve in great sin the pe conduct forced the constructor of th adopt this mode of obtaining his money.

During the religious convulsions from the Aryan Hindus have suffered, the writing some of their sects have put forward qui opposing views as to human sacrifices.

In the Brahma Purana, every Naramedha, or man-sacrifice, is expressly forbidden; and in the fifth book of the Bhagavat, Sir William Jones

as pointed out the following emphatic words: —'Whatever men in this world sacrifice human victims, and whatever women eat the flesh of e cattle, those men and those women shall animals here slain torment in the mansions Yama; and, like slaughtering giants, having aved their limbs with axes, shall quaff their od.'—*As. Res.* iii. p. 260.

n the Acharya Brahmana, translated by Roth, s related that 'Harichandra had been married a hundred wives, and yet there was no man- d born to him. At the suggestion of Narada, age, he went to Varuna, and promised that if prayers were heard, and a son granted to , he would offer him up in sacrifice to the g. Accordingly, in due time, a son was born, o was called Rohita. Varuna wanted to keep ichandra to his promise, but the latter put h various excuses till Rohita grew up. And n Rohita objected, and fled to the woods, ere he wandered for six years, until he fell in h the rishi Agastya. The rishi had three sons, he promised to Rohita his second, Suna- a, on receipt of 100 cows. But another ulty occurred, for no one would bind the ntil Rohita gave 200 cows more. Suna- a, unwilling to be sacrificed, interceded first Prajapati, then with Agni, and was released, not before Sunasepha was bound to the ificial post, and his father whittling his sword oaching to kill him, on which Sunasepha imed, 'They will really kill me, as if I was a man.'

o religious rite can be more minutely ordered detailed than this is in the Kalika Purana, sanguinary chapter of which has been trans- l by Mr. Blaquiere, and given in the fifth me of the Asiatic Researches, Art. xxiii., and ell as the ceremonies, the implements, prayers, used on these horrid occasions, are minutely ribed and recited. In this article, premising Siva is supposed to address his sons, the irava, initiating them in these terrible mysteries, urs: 'The flesh of the antelope and the rhino- s give my beloved' (*i.e.* the goddess Kali) light for 500 years.' 'By a human sacrifice, ended by the forms laid down, Devi is pleased 0 years, and by a sacrifice of three men, 0,000 years. By human flesh, Camachya, Chandica, and Bhairava, who assume my shape, are pleased 1000 years. An oblation of blood which has been rendered pure by holy tests, is equal to ambrosia; the head and flesh also afford much delight to the goddess Chandica.' 'Blood drawn from the offerer's own body is looked upon as a proper oblation to the goddess Chandica.' 'Let the sacrificer repeat the word Kali twice, then the words Devi-Bajreswari, then Lawha Dandayai, Namah! which words may be rendered —Hail, Kali! Kali! hail, Devi! goddess of thunder! hail, iron-sceptred goddess!' 'Let him then take the axe in his hand and again make the same by the Calratriya text.' Different mantra are used in reference to the description of the victim to be immolated: females are not to be immolated, except on very particular occasions; the human female never.

The *Bali* is any offering to an idol, such as that of flowers or the presentation of food to all created beings, by throwing grains up into the air, or offering goats and other animals in sacrifice. The presentation is called bali-dan or bali-danam. The offerings to Vishnu consist of rice, milk, curds, fruits, flowers, and inanimate forms; but to the terrific forms of Siva, or his consort Durga, living creatures, sheep, goats, buffaloes, and human beings are offered up, in which case the heads are given to the sacrificial priests, and the bodies are carried away. The Ostyak, when they kill an animal, rub some of the blood on the mouths of their idols. Even this seems at length to be replaced, as Mr. Taylor has suggested, by red paint, and the sacred stones in India, as Colonel Forbes Leslie has shown, are everywhere ornamented with red lead. In many cases it seems to be a necessary portion of the ceremony that the victim should be eaten by those present. Thus in India, when the sacrifice is over, the priest comes out and distributes part of the articles which had been offered to the idols. This is received as holy, and is eaten immediately.

The terms used for the sacrifice are Bali, TAM.; Gavu, TEL.; Yagnya Magha, SANSK. When an ox, lamb, or fowl is offered up in sacrifice to a Devi or Mari female deity by the Sudras, the first two words are used. The words Yagnya Magha are used to indicate a sacrifice celebrated only by the Brahmans on occasions in which they offer goats and not any other animals. In the present day, the cow is not offered in sacrifice by any Hindu sect or race, but in the marriage ceremony of some parts of the country, where a milch cow, surābhi, is released on the intercession of a barber, sufficient remains to show that the rite was formerly practised at marriages for the sake of hospitality. The male buffalo is, however, frequently sacrificed, sometimes in considerable numbers; and only in 1859, the government of Madras ordered the magistrate of the Krishna division to forbid the cruel rite to Ammavaru, wherein buffaloes were impaled alive to appease that angry goddess, and avert cholera. On that occasion, in a small village, 12 to 24 buffaloes were sacrificed, as also several hundred sheep, and the heads of the sacrificed buffaloes were carried in procession on the heads of men.

Every hamlet of the southern parts of the Peninsula has its own object of adoration, village deities, always supposed to be a goddess. Amongst names given to it are—

Ankal Amma.	Tripura-sundari,	Karikatta.
Poni Amma, or gold mother.	or the beautiful of three cities.	Tanthoniamma.
		Dandumari.
Kani Amma.	Osuramma.	Mallamma.
Yegata, or sole mother.	Sellamma.	Chinnamma.
	Yellamma.	Ammanamma.
Mutialamma, or pearl mother.	Padavettu Amma	Choundeswari.
	Tulukan Amma.	Vadivatta.
Paleri Amma, or great goddess.	Muttumari.	Nagattamma.
	Poteramma.	

They are called Amman, Amma, Amani, and Ai, all of them meaning mother. The villagers believe that these goddesses protect them from sickness and losses, and that their worship averts such or mitigates them. A pujali or pujari, a worshipping priest, of the Sudra caste, is appointed for her daily worship. He anoints her daily, and puts ashes on her head, really on the top of the stone, for it is not an image, being entirely without shape. In a small pot he cooks rice, which he collects from the villagers in turn, presents it to the idol, and then takes it to his own home. He breaks a cocoanut in front of

the idol, to which he offers it. But the one-half he keeps for himself, and gives the other to the families from whom he collected the fruit. The villagers make vows to their goddess to offer up to her fowls and sheep in sacrifice, if she will fulfil their desires. Once a year, the villagers collect money by subscription, and celebrate a feast in honour of their goddess, during which sheep and fowls are largely sacrificed. Many of the Sudra, and the entire servile tribes in the south of India, have the fullest faith in their respective village goddesses. When they or their children are overtaken by sickness, they seek the idol, and consult the pujari, who sings songs, affects to hear the Amman's voice, and then announces to the worshipper the offering that must be presented. If cholera break out, it is not unusual for some neighbouring village deity suddenly to rise into great importance, and the sacrificial rite is then almost unceasingly performed. The Hindus, too, have even personified this pestilence into a goddess, whom they have named Maha-Kali, the Great Kali, also Mari-Ai, the Death Mother, and believe that if they neglect her worship she destroys them by the disease. Indeed, gods are still in process of establishment, and smallpox and cholera have thus been personified. Maha-Kali of Ujjain being the goddess of cholera, and Mari Amman of the Tamil people, the Sitla Amman of Western India, a smallpox deity. When a person is attacked with smallpox, they believe that the goddess has taken possession of the sick man. They entertain a great dread of this goddess. While in the house, the sexes remain apart until recovery, and until the sick has been purified by ablution. They place the leaves of the margosa tree beside the sick person, because the goddess is supposed to delight in this tree. They give cooling food, but employ neither internal nor external remedies, in reverence for the deity. The women of the household offer rice flour mixed with jagari, or coarse sugar, and black gram (Pairu, TAM., Pesalu, TEL.), before the patient, in honour of the goddess, and afterwards distribute offerings to Sudras and others. On the seventh day, *i.e.* what medical men call the 15th day, the invalid is bathed in cold water, and the whole body rubbed with a pasty mixture of leaves of the margosa (Azadirachta Indica) mixed with turmeric, and on the same day rice mixed with curds are distributed to Sudras. If in the virulence of the disease an eye be lost, it is attributed to something having been done displeasing to the goddess. The goddess indeed is supposed to appear in three forms, as Tattu-ammavaru or Chinnamavaru, *i.e.* little small goddess; Peddammavaru, or great goddess; and Pairammavaru, or goddess of green gram, the two last of which are most feared.

The Amman worshippers almost all practise and believe in the efficacy of demon or devil or evil spirit rites, amongst which sacrifices always form a part. The sacrifice of the cock to the demon Peisachi, in this respect similar to the devil-worshippers in Kurdistan, is practised by all the non-Aryan people in the south of India, whether of the Brahmanical Hindu persuasion, or of the servile non-Hindu people.

Madan is very little known, but with a class of Tamil magicians is deemed a very great and powerful demon. He is generally courted by the Pariah, Chuckler, Lubbai, and uneducate Muhammadans, who offer beef and arrack t obtain his good-will and favour.

Living sacrifices of animals are an esse part of the worship of all the tutelary vill goddesses in Southern India, as also of t goddesses of cholera, smallpox, etc. Th names are various amongst the several Ta Telugu, Canarese, and Mahratta nations. Amm Amoor Amma, Bal Amma, Poch Amma, Yellam Marri Ammun, Ai, Satwai Devi, Sitla Devi, others, amongst whom, everywhere, Bal Amma her worshippers seem dreaded the Pariahs worship other of the Ammun goddesses refus to intermarry with her devotees. The Y worshippers also are dreaded as sorcerers, their wives are distinguishable by the mode which they attire themselves with their sa which they bring from behind, and from left right. Satwai, amongst the Mahrattas, is a g goddess, to whom children's hair is devoted, front part offered to her, the back part b retained till some other goddess possess the b (ang bharave), such as the smallpox goddess cholera goddess Marri-ai.

In the bloody sacrifices of these n races, the goat is the usual victim. The ri ordinarily performed only once a year, w friends join to offer a goat, and make a f of its flesh afterwards. At all the sacrif oblations, bread and cereal grains are also offe and used in the after-feasting. Thousands sheep and fowls are annually sacrificed at Pe palayam, a village about 30 miles from Ma and multitudes of people attend from that and the neighbouring villages, to celebrate yearly festival, which takes place in the b half of the month of Adi. Large numbe buffaloes were, until the middle of the century, offered at the funeral rites of the T of Ootacamund, but the Madras Government a stop to such wholesale massacre, and restri the rite to the killing of only two animals time,—a measure which the Toda race vie with unaffected alarm and dislike, as likely decrease their children and cattle. In 1883 race at Kotagherry applied for permission sacrifice a sambur. The Irular race of the N gherries sacrifice to their deities a he-goat or co by cutting the victim's throat, and throwing to the idol. This is a winnow or fan, which they call Mahri, and is evidently the emblem of Ceres; and at a short distance in front of the rude thatched shed, which serves as a temple, are two rude stones, one called Moshani, the other Konadi Mahri, but which are subordinate to the fan occupying the interior of the temple. Human sacrifices are still, in Southern India, deemed to be requisite to mollify goddesses and demons who guard hidden treasure, and who are believed to have a partiality for the blood of a pregnant woman, especially of one who is conceived of twins, and to the firstborn of the goldsmith caste; indeed, in popular belief, in the year 1860, one of the latter was supposed to have been very recently offered. There is a shrine of Vatrappa-nachiyar, the tutelary goddess of Tiruvattur, a village to the north of Madras, on the road to Ennore; this is situate in a part of the great and much-frequented pagoda of Tiyagaraia Sami, for which the village is celebrated in ancient Hindu

ooks. The sacrifice now offered there is that
f a male buffalo, but is conducted with great
ecrecy, and people are not generally admitted
witness it. Indeed, the dread of witnessing the
rifice and its attendant ceremonies are so
at, that pregnant women are, if possible, kept
of the village for fear of abortion, which is
ieved to be the certain result should the shrieks
he men who carry the raktabali fall on their
s. This raktabali (Rakta, blood; Bali, sacrifice)
assumed to be the food for devils and the
ndant spirits of the goddess, and consists of
mixed with the sacrificial blood. It is carried
during the last day of the annual festival of
goddess, after midnight, in an earthen pot
a peculiar shape and design, by men specially
tted to the duty. They run and shriek and
l in the street to scare away the devils and
spirits, and halt at the corners and windings,
throw balls of this blood-mixed rice to the
ons, etc. It is considered to be an evil
n for any man to meet them in their rounds,
ver, madness, and disease might befall him.
ll treasure concealed underground for a
h of time is said to become the property of
ns who take charge of and only part with
those who satisfy their desire for blood;
reater the demon, the higher is the kind of
fice he demands.

he Gond worship many deities, to whom they
fowls, goats, fruit, rice, grain, spirits, and
ever the country affords.
he Woon district in East Berar came under
care of the British about the middle of the
century, when Berar was assigned by the
m of Hyderabad. Before the assignment,
hers for treasure used to offer human beings
crifice, but the victims there are now con-
to buffaloes, sheep, goats, and fowls. A
lo is sacrificed in every village in the
erah festival, to the goddess of kine, Gaodevi,
the buffalo is led up to the house of the
l-man of the village, who makes to it oblations
owers, etc. He then strikes it on the muzzle
a sword, and allows the blood to fall on the
nd as a libation to the goddess, to appease
anger. It is then led to the door of every
se in the village; each householder makes a
ey present to the leader; in the evening the
im is killed by its throat being cut, and at
south boundary of the village a drop of its
is applied to the foreheads of the head-man,
he potail, the deshpandi, and deshmukhs.
side of every Woon village is a shrine of the
smallpox goddess, called there Sitla Devi. It is
merely a few stones coloured with red lead; and
after recovery from this ailment, the family in
which the disease has been visit the shrine,
offer a goat as a victim, and prepare food for
this oblation.

With the Kol, one or two of the Hindu gods are reverenced, but they have many of their own non-Aryan deities, to which they mostly resort. They sacrifice fowls, and pour libations before eating. Colonel Tod describes a lofty three-peaked mountain in the Vindhya range on which is a temple dedicated to Aya-mata, also called Isani, the tutelary divinity of the Kol, and he mentions that Isani and the effigy of the horse are the only objects worshipped among this aboriginal race. He mentions that Isani means mother-earth, from Isa, goddess, and Anani, earth. The chief divinity of the Larka Kol is the sun, suraj; and next to the sun ranks the moon, chanda; and then the stars, which they believe to be the children of the moon. Besides the sun and moon, there are spirits called bhonga which inhabit the trees and groves in and around the village, and those trees are never denuded of their branches or cut down. When labour-pains come on, the women are shut up in a lonely hut, offerings are hung up near to propitiate the bhonga, and no one ventures to approach till the labour is over.

The Kandh had long been addicted to sacrifice human beings to the earth goddess. The victim was always purchased, and was destroyed with much ceremony, in the midst of assembled Kandhs, each of whom tore off a portion of the body to bury in his field as a propitiation.

The Indian Government became aware of the Kandh custom about the year 1834, and took immediate measures to induce them to discontinue it, and the year 1860 passed by without a single meriah. Captain MacViccar and Colonel Campbell exerted themselves to suppress it. Among the Kandhs, when performing this meriah sacrifice, which was quite common up to the year 1850, a stout stake was driven into the soil, and to it the victim was fastened, seated, and anointed with ghi, oil, and turmeric, decorated with flowers, and worshipped during the day by the assembly. At nightfall the licentious revelry was resumed, and on the third morning the victim got some milk to drink, when the presiding priest implored the goddess to shower her blessings on the people, that they might increase and multiply, prosperity attend their cattle and poultry, fertility their fields, and happiness to the people generally. The priest recounted the origin and advantage of the rite, and concluded by stating that the goddess had been obeyed and the people assembled. Other softening expressions were recited to excite the compassion of the multitude. After the ceremony, the victim was taken to the grove where the sacrifice was to be carried out; and to prevent resistance, the bones of the arms and legs were broken, or he was drugged with opium or datura. The Janni wounded his victim with his axe, and this act was followed up by the crowd, who pressed forward to obtain a piece of his flesh to bury in their fields, and in a moment he was stripped to the bone.

At Bombay, Kali is worshipped at Sitali, and at other places, as Devi, Mata, and Amoor Amma. At Chanda and Lanji she has temples in which human victims were offered almost up to the middle of the 19th century. The victim was taken to the temple in the evening and shut up, and in the morning he was found dead, the dread goddess having 'shown her power by coming in the night and sucking his blood.' At Dantewada, in Bastar, about 60 miles S.W. of Jagdalpur, near the junction of the Sankani and Dankani, tributaries of the Indrawati, is a shrine of Danteswari, at which, about A.D. 1830, it is said that upwards of 25 full-grown men were immolated on a single occasion by a raja of Bastar. Since then, adds Mr. Hislop, numerous complaints reached the Nagpur authorities of the continuance of the practice, up to the time of the annexation by the British. Captain Clune, writing in 1828, says

that when a rana of Mewar had occasion to pass the Mahi river, an individual from a tribe descended from a Chauhan Rajput and a Bhil mother was sacrificed, his throat being cut and his body thrown into the river. This sacrifice had been once performed in the lifetime of the rana then reigning. Dr. Mason relates that when, about A.D. 1780, the gates of the new city of Tavoy were erected, a criminal was put into each post hole, and the massive posts thrown in upon him, so that his blood gushed up at the sides. His spirit was supposed to become a Nat, that would hover about the post, inflicting evil on all who came near, thereby contributing to the defence of the town.

Human sacrifices and the ornaments of the victim are alluded to in the Toy Cart or Mrichchi-kati, and in the Malati and Madhava, two ancient Sanskrit dramas. Madhava comes on the scene when the Aghora Ghanta is preparing to offer Malati, and he exclaims:

'What luckless chance is this, that such a maid
With crimson garb and garland, like a victim
Adorned for sacrifice, should be the captive
Of impious wretches!'

In like manner, the ordinary victims of the Greeks were adorned with crowns and garlands, as thus, in the Clouds, in the scene between Socrates and Strepsiades:

'*Socr.* Now take this chaplet—wear it.
Strep. Why this chaplet?
Would'st make of me another Athamas,
And sacrifice me to a cloud?'

So also in the Heraclidæ, Macaria, when offering herself as a victim to secure the triumph of the Athenians, exclaims:

'To the scene of death
Conduct, with garlands crown me!'

The translator of Euripides also observes that human sacrifices at their first origin appear to have consisted of virgins or young men in the state of celibacy, and in this respect the selection of Malati offers another analogy. The words translated above impious wretches, Pashanda and Chandala, mean aboriginal races, heretics, and out-castes. These epithets indicate little respect for the worshippers of Durga, and their application so publicly declared would lead us to infer that the author's sentiments were those of his age. Jagaddahara states that in the rite two legal prohibitions are violated, of which he gives the text; they are, 'Let him not eat from the leaf of the asclepias, nor slay a female nor child;' also, 'Females of every description of being, it is well known, are not to be slain.'

In addition to the village deities noticed, the only goddess who requires victims is the Sakti of Siva, defined by her votaries to be the visible energy of the divine essence symbolized as a female. She is highly venerated during the nine days of the Dassera or Navaratri (the nine nights), at the close of which a sheep is generally offered in the houses of Rajputs and Mahrattas. The sacrifice of buffaloes on the occasion is very rare, and when it is offered, the ceremony takes place in temples sacred to this goddess, but sometimes in jungles and unfrequented parts. The goddesses and demons of the Sudras all accept bloody sacrifices, which are generally accompanied with the offering of spirituous liquors. As a general rule, the offering of such sacrifices among the houses of educated Hindus, and i the superior temples, is observed with grea secrecy.

Man, as a victim, is still being offered up many other parts of the world.

Human sacrifices of the most extensive charact and ancestral worship, still prevail in Dahom and in all Africa a serpent-worship prevails. many as 600 victims have been offered up Dahomey at one time.

At Quendendes village in South Africa, Livingstone found human sacrifices frequent; when a chief dies, a number of his servants slaughtered, to form his company in the o world, a custom which the Barotse also foll Also, in many of the Polynesian islands, up to present date, human beings are sacrificed commencing to build a war-canoe, a chief's ho or on the death of a chief.

In a chapter on human sacrifice in Dr. Nor Chever's book on Medical Jurisprudence, author writes of human sacrifice by decapita as an existing practice (pp. 408, 410), and there are 'strong reasons for believing that t is scarcely a district in India in which hu sacrifice is not still practised occasionally religious rite.' Doubtless, the old sangu expiatory ideas still lurk in the breasts o masses, and in face of impending famin pestilence, when men's apprehensions are deeply stirred, the offering of a human victi the power which can inflict hunger or dis instead of the usual goat or buffalo, is n violent or unnatural step. Ideas of this na formulated under the terms sacrifice and a ment, are essential axioms in comparative reli and their abandonment is only to be hoped f part and parcel of a refinement of national th and habit. To this end, general education, more particularly education in the phy sciences, and the fostering of a belief in ge laws and a benevolent God, are the great m and the increasing power of the British in I may lead to the discontinuance of such barbar

The Reverend Mr. Ward, writing regar Bengal in the early part of the 19th cent mentions that at a village called Ksheeru, the town of Bardwan, human sacrifices w offered to the goddess Yoogadya, a form Durga; at Kirectukona, near Murshidabad Kali; and at many other places. The disco of murders in the name of religion was mad finding bodies with the heads cut off nea images; and the natives well knew that t people had been offered in sacrifice. At the village of Serampur also, near Kutwa, before the temple of the goddess Tara, a human body was found without a head; and inside the temple, different offerings, as ornaments, food, flowers, spirituous liquors, etc. All who saw it knew that a human victim had been slaughtered in the night, and search was made after the murderers, but in vain.

On the N.E. frontier of British India, several Mongoloid races sacrifice human beings till now. The object of the Kuki inroads on the plains is not plunder, for which they have never been known to show any desire, but they kill and carry away the heads of as many human beings as they can seize, and have been known, in one night, to carry off fifty. These are used in certain cere-

honies performed at the funerals of their chiefs, nd it is always after the death of one of their ajas that their incursions occur.

In Manipur, Cachar, and Assam, according to Calcutta Review for 1860, the offering of man sacrifices was still continued. By the ords of the Sudder Nizamat Adalut of Chitta- ng for 1852, some men of the Toonia Joom hals were tried for murder by sacrificing. is is a forest tract in the hills, and inhabited by Mug, Chukma, Reang, Tiperah, and other races, more or less nomadic. The place of sacrifice s a cleared spot in the jungle, and staked round h bamboos about 6 feet high. The sacrificial , the Phula bans, are bamboos scraped and pped at the edges, the hanging strips giving a le notion of ornament. These sacrifices gener- occur once a year. During its celebration Agartollah, a gun is fired every evening at set, when every person hurries to his home. Kuki and all the hill tribes worship local ties, said to be 14 in number.

According to Dr. W. W. Hunter, the Hadi are elot race spread over all Bengal, who take r name from the original Santali word for Had,' and who have supplied such terms as , base, low-born; hadduk, a sweeper; hunda, blockhead, imp; hudduka, a drunken sot, ; also hadi, in low Bengali hadikath, is the e of a rude fetter or stock, by which the holder used to confine his serfs until they ed to his terms. It means literally the helot's ; it was also used for fastening the head of victim in the bloody oblations which the an religion adopted from the aboriginal races, cially in the human sacrifices to Kali, to h the low castes even now resort in times of ial need. In an account of the last human rings to Kali, during the famine of 1866, it mentioned that the bleading head was found d on the harcat, *i.e.* helot's log.

n a war between two Arab chiefs, in the time of isarius, but which was carried on without the rference of either Persia or Rome, the son of reth fell into the power of the Mondar of ah, who sacrificed him to Uzza, the deity wor- pped by his tribe. Al-Azu of the ancient abs, is the same with the lingam of the Hindus, l to this emblem human sacrifices still occur.

Human sacrifices till lately were common with the Garo as offerings to the manes of deceased chiefs. The Burmese stopped the practice amongst the Chutia. It was annual, and the victims had to be provided by a particular tribe, who were rewarded by being exempted from service and taxes. The Koo Karen are reputed to torture human victims in the same manner as they torture the Gayal, by despatching it with numberless spear wounds. The Bhuiya of Keonjhur Hills, in the Tributary Mahals of Bonai and Gangpur, and Bamra, so late as 1st May 1868, performed a human sacrifice.

So late as 1859, the July number of the Calcutta Review (p. 423) remarks that 'in Bengal, in the worship of the bloody Kali, all castes mingle together, and, after a libation of ardent spirits to the goddess, drink spirits and eat flesh, as their fathers did in the Vedic times. It is practised also to this day in the foul and secret rites of the Tantra. A festival held in honour of Kali is called also Kali-puja, as the Dasra in honour of the same deity, under the name of Durga, is called also Durga-puja and Durgotsava.'

The body of a man, named Rama, resident of the village of Narsipur, in the Shimoga district, was found in a small temple on the 18th of February 1875. He was a lingayet worshipper of Siva, aged about 22 years, of a retiring disposition, and given to reading religious books. The temple is a small, low building cut into the hill, and consisting of three rooms: first the outer one supported on pillars, then an inner square one, and inside this again the very small one or sanctum, containing the lingam. In the middle room the body was found lying on a blanket, on its right side. The arms were crossed on the chest, the last joints of the five fingers of the left hand were cut off, and were in front of the idol, between it and the door, arranged in a line; and still nearer the door, in front of the idol, blade toward it, was found a kudigol or sickle-shaped knife, besmeared with blood. Two days previous to the discovery of the body, two pujali came to the temple, and on attempting to open the door, they were warned by a voice from within to be off, that there were scenes of wonder being enacted inside which it would not be well for them to witness, and so they left.

A correspondent sent the following report to the Madras Times, of a case of human sacrifice which occurred in the Patna Feudatory State, in the Central Provinces. The chief of the Gonds of the Alardu ground of villages was sitting by the side of a road during the Dusserah festival, talking to his uncle, a chowkidar, and a liquor-seller. Presently a strolling minstrel appeared on the scene, and salaamed to the chief, who asked him if he drank liquor. The minstrel replied that he did, so the chief caused him to be served with some toddy, which the party had with them. The Gond chief and the liquor-seller then went into the jungle, the remainder of the party stayed talking by the side of the road. When the chief and the liquor-seller returned, the latter went up to the minstrel, and, seizing him by his hair, pulled him down. The Gond chief said to his uncle, 'Take your axe and cut the minstrel's throat.' Accordingly the chief's uncle sat astride the minstrel's chest, and cut his throat with an axe, the Gond chief in the meantime holding a lota belonging to one of the party to catch the blood which gushed out. The minstrel died at once, and the chowkidar and the liquor-seller chopped up the body, and, taking it a little way into the jungle, buried it there. The whole party then proceeded to the temple of the goddess Duarini, which they reached about 10 P.M. The chief, leaving the others outside, went in and woke up the pujali, saying, I have brought an offering of liquor for the goddess, do you pour it over her image. The pujali at first refused, but afterwards, yielding to the earnest solicitations of the chief, took the lota and poured its contents over the stone image of the goddess. Seeing the contents were blood, he inquired from whence it came. The chief said it was the blood of a buffalo bull. He then went outside, and joining his party, they all returned home. About ten days after the murder, the minstrel's relatives, finding that he did not return, gave information to the police, and on an investigation being held, the chowkidar confessed fully, and on his confession,

the chief, his uncle, and the liquor-seller were brought to trial before the commissioner of the Ch'hattisgarh division, and were sentenced by him to be hanged.

Captain Postans, writing on Western India, tells us that Brahmans of the Dekhan long preserved the custom of yearly sacrificing an aged woman, on the occasion of the raja of Sattara's visit to the fort of Partabghur. There is, toward the close of the 19th century, a numerous tribe of Brahmans who are still accused of the practice. They are the Kurrada, and are inhabitants of the Konkan. They were noticed in 1808 by Colonel Walker, Resident of Baroda, and subsequently by Sir John Malcolm in his History of India, and the latest reports from that neighbourhood show the belief that the practice of sacrificing human beings still continues amongst them. The goddess of their worship is Maha Lakshmi, to whom they believe human sacrifices are acceptable, and the more so if the victim is a Brahman learned in the shastras. Kurrada Brahmans are accused of effecting, by the secret operation of poison, that object. Colonel Walker knew several Kurrada Brahmans who, admitting the former prevalence, most strongly denied its present practice, but many people would decline to eat of food prepared by a Brahman of this tribe, of which he himself should not at the same time partake. Sir John Malcolm also states of the Kurrada Brahmans that they had a custom at Poona of annually sacrificing to the Sakti a young Brahman; and as, according to the sacred books, if the victim is unwilling, the sacrifice is forbidden, to prevent the possibility of such an occurrence, the unsuspecting but devoted one is frequently the stranger, who for months, or perhaps years, had shared the hospitality of his murderer. On one such case occurring, orders were issued for the apprehension of a Kurrada Brahman and his family, who themselves were put to death, whilst every priest of the sect was expelled from the city of Poona, and their return forbidden by the heaviest penalties.—*Milman's Hist. of Jews*, 4th edit., i. pp. 24, 154; *William Howit, The Supernatural; Bunsen, Egypt; Georgic*, lib. iii. p. 5; *Sharpe's Egypt*, i. p. 163; *Early Christianity in Arabia; Colonel Forbes Leslie; Lubbock, Origin of Civil.; Kenrick's Phœnicia; J. R. Carnac and Colonel A. Walker, Resident, Baroda*, 15th March 1808, *in Parliamentary Paper*, 17th June 1824, p. 52; *Abbe Domenech; Wade's Chinese Army*, p. 22; *Tod's Rajasthan*, i. pp. 63, 76, 373; *Coleman, Mythology of the Hindoos*, p. 374; *Williams' Nala*, pp. 119, 209; *Postans' Western India*, ii. p. 173; *Hindu Theatre*, i. p. 340, ii. p. 59; *Captain John Clune, Appendix to the Itinerary for Western India*, p. 46; *Mason's Tenasserim; Mason's Burma*; *Dr. W. W. Hunter*, p. 30; *Livingstone, Africa; Malcolm's Central India*, ii. p. 209; *Cal. Rev.*, December 1860, also January 1871; *Wilson's Glossary; Sonnerat's Voyage*, p. 116; *Ward's Hindoos*, ii. 49-58, 126, 127, iv. 370; *Forbes' Rasamala, Hindu Annals*, ii. pp. 353, 360; *Frere, Antipodes*, p. 234; *Bryant's Mythology; Roberts' Illustrations of the Scriptures; Moor, Oriental Fragments; Burder, Oriental Customs; Harris' Nat. Hist. of the Bible; Wilson's Select Works*, ii. 247; *Barth's Hindus*, p. 57; *As. Res.* v. p. 369; *Peschel*; *Tod.*

SACRIFICE ROCK, on the W. coast of the Peninsula of India, lies 4½ miles off the neares shore, 15½ miles from Tellicherry. It is whitish i appearance, 40 feet high, and has edible birds nests on it. Dr. Fryer, who visited India 1673, says that at Mangalore the Dutch ha fort, and, 6 miles to the north, the French had flag flying; within a league of which a grey ro extols its hoary head eight fathoms above wat navigable on all sides, justly called by us Sacrifi Island, in remembrance of a bloody butchery some English by the pirate Malabars, who are worst pickeroons on this coast, going in fle and are set out by the great men ashore, the ch of whom lives at Durmapatan.—*A New Acco of East India and Persia, etc.* p. 55, Lond. 16 *Ouseley's Travels*, i. p. 68.

SADA, Hindu Unitarians, which their na Sada or Sad'ha, HIND., pure or puritan, impli They originated in A.D. 1658 with a person nam Birbhan. They have no temples.

SADACHARAS. SANSK. Fixed religi observances of the Hindus.

SA-DANG, also Saundang. BURM. A meas of length in Pegu=0·601 yards.

SADARO, a shirt assumed and worn by Parsee race as a token of admission to faith.

SADASHEGHUR, a small seaport town the west coast of India in the N. Canara dist of the Bombay Presidency, in lat. 14° 51′ 25″ and long. 76° 10′ 55″ E. The prevalence of h breakers outside and across the mouth of bay, from Carwarhead to Deoghur Island, and throughout its interior (except close under Head), during the height of the S.W. mons render it dangerous at such times for inw bound vessels to make the anchorage, and in sible for those outward-bound to put to sea.

SADASHYA. SANSK. Bystanders at a cou whose business it is to notice and correct takes. The Sadashya regulates the ceremonie worship, but is not employed on all occasion *Ward's Hindoos*, ii. p. 17.

SADAT, ARAB., plural of Syud. This wor the northern Hejaz and in British India is app indifferently to the posterity of Hasan and Hus sons of Ali and Fatima, and grandsons of Ma med. The descendants of Ali by other wives styled Alavi Sadat.—*Burton's Mecca*, ii. p. 26

SADA-VART or Sada-bart, a poorhous distributing alms to the poor, in the form of od or money, and daily or periodically.

SADDAIMUNI is said to have been a Saiva devotee, who lived at the same time as Agastya. A Vedantic treatise, Gnana Nuru, a work on medicine, Kalappa Nuru, and one on alchemy, Vata Nikandu, are attributed to him; but they are forgeries.

SADDLE.

Sarj, ... ARAB.	Sela, ... MALAY.
Selles, ... FR.	Zin, ... PERS.
Sattel, ... GER.	Sadla, ... RUS.
Zin, Koghir, GUJ., HIND.	Selles, ... SP.
Selle, ... IT.	Eyer, ... TURK.
Kakapa, Palana, MALAY.	

The saddles of Europe are made with a wooden framework covered with leather of different kinds, and with intervening padding. Those in use in Asia are made of cloth or felt (namdah), with or without a wooden framework, and the different races in Sind, in Kattyawar, Tibet, and Hindustan

have each their own peculiar forms. Their saddle-cloths are often embroidered. At the Exhibition of 1851, the saddle-cloths and matchlock accoutrements from the raja of Kotah had a pattern produced with gold-headed nails fixed into green velvet. The effect of this was so good as to be greatly admired by some of the best judges.—*Royle's Arts, etc., of India*, p. 508.

SADDLE ISLAND, in the Red Sea, has active volcanoes.

SAD-GOP, a cowherd race of the N.W. Provinces. They have no connection with the other Gowalla of Bengal, and neither intermarry with them, nor follow the same pursuits.—*Cal. Rev.*, No. 110.

SAD'H or Sad'hu. SANSK. Pure, pious, virtuous, good; a person leading a pious or religious life, an ascetic, a mendicant, a monotheist sect of Hindus, whose chief seats are Dehli, Agra, Jeypore, Farrakhabad, but there are several of the sect scattered over other parts of the country. The Sad'h utterly reject and abhor all kinds of idolatry. They say Sad'h, the appellation of the sect, means 'servant of God;' its real meaning is pure, from Sad'ha, pure. They are [illegible]s, and their form of worship is most [illegible]. Sad'hs resemble the Quakers, or Society of Friends in England, in their customs in a remarkable degree. Ornaments and gay apparel of every kind are strictly prohibited. Their dress always white. They never make any obeisance or salutation. They will not take an oath, and are exempted in the courts of justice, their affirmation, like that of the Quakers, being considered equivalent. The Sad'hs profess to abstain from all luxuries, such as tobacco, betle, opium, and wine. They never have exhibitions of dancing. All violence to man or beast is forbidden; even self-defence resistance is allowable. Charity is strongly enjoined. Their nuptial rite is simple, all unnecessary expenses being scrupulously avoided. Polygamy is never allowed, and widows are forbidden to unite with a second husband.—*Cole. Myth. Hind.*

[illegible]AN, a devout Hindu butcher of Benares who lived in the 17th century, and was fervent in the observances of his religion. He is fabled to have miraculously weighed all his meat with a stone, and without dying to have ascended to heaven.—*Sherring*, p. 266.

[illegible]HI RAM DAS was the first Sikh guru of the Sad'hi tribe, and hence was named Ram Das, Sad'hi. The Sad'hi were numerous about Muckawal about the middle of the 19th century.—*MacGregor's Sikhs*, i. p. 29.

SADHUA PANTHI, a Vaishnava sect of Hindus in the N.W. Provinces of India; originated by Sadhua, a butcher.

SAD'HWIA, a Hindu female saint. Sad'hya, SANSK., is from Sad'h, to perfect.

SADI, a Persian poet, a beautiful writer in his own peculiar way. Though inferior to Hafiz in lyric poetry, his works are much more voluminous and diversified, embracing all kinds of composition in prose and verse. Sadi was his literary takhallus or title, given, it is said, because he lived in the reign of Sad-bin-Zangi, king of Persia. His name was Shaikh Masalah-u-Din. He was born at Shiraz A.D. 1194, and died there A.D. 1292, at the age of 98 solar years. He was a man of much learning and great piety, real or pretended. He travelled as a darvesh during the greater part of his life, and made the pilgrimage to Mecca no less than 14 times.

SADID-ud-DIN GAZERUNI, author of Ul-Moghni-fi-Sharh-ul-Mujiz, a commentary on the Commentary of Ala-ud-Din Ali on Avicenna's Qanun fi't Tibb.

SADIYA, village in Lakhimpur district, Assam, in lat. 27° 49′ 45″ N., and long. 95° 41′ 35″ E., on the right bank of the Brahmaputra, about 100 miles above Dibrogarh, and 210 feet above the sea. Sadiya is the extreme N.E. frontier outpost of British India. The river is navigable thus far in the rains. In 1839, the Khamti tribe rose in rebellion. They cut off the outpost at Sadiya, and killed Major White, the commandant and political agent, together with the detachment of sepoys. In order to promote friendly relations with the neighbouring hill tribes of Khamti, Mishmi, and Singpho, a fair is held in February. The hillmen bring down caoutchouc, wax, musk, cloth, mats, daos or hill-knives, and ivory.—*Imp. Gaz.*; *A. Schlagentweit.*

SADOZAI, a title of the Daurani Afghans. They ruled in Kābul from A.D. 1747 until they were put aside by Dost Muhammad Khan, a chief of the Barakzai.

SADQA. ARAB. Sacrifice. Sadqe-hona or Sadqe-jana, to become a sacrifice for another. Sadqe-karna, to sacrifice for the welfare of another.

SADR. ARAB. Chief, principal. Sadr adalat, the chief court of justice; Sadr Diwani adalat, the chief civil court; Sadr foujdari adalat; Sadr Nizamat adalat, the chief criminal court. Sadr-amin, a judicial functionary; Sadr mal guzar, in the revenue system, the head-man of a village who collects and pays the land-tax. The Sadr-amin of the British is a subordinate judge with limited civil and criminal jurisdiction.

SADRAS, correctly Satranja-patana, a small seaport town on the Coromandel coast, in lat. 12° 31′ 15″ N., and long. 80° 12′ E. Population, about 1144. Sadras first became a trading settlement of the Dutch in 1647, and was long famous for the fineness of the muslin produced by its looms. The British captured it in 1795. It was temporarily restored to the Dutch, but has been an English possession since 1824.—*Imp. Gaz.*

SADRPUR, a pargana in the Sitapur district of Oudh; Muhammadans form the principal proprietary body, owning 119 villages; Raikwars hold 11; Seths, 5; Janwar Kshatriyas, 4; Panwars, 4; Kashmiri Brahmans, 4. The remaining 23 are chiefly held by Kayasths.—*Imp. Gaz.*

SADULLAPUR, a village in Maldah district, Bengal. The chief descent or ghat to the holy stream of the Bhagirathi is at this place, to which the dead bodies of Hindus are brought from great distances to be burned.—*Imp. Gaz.* viii.

SADWAR. HIND. Pikemen in the Northern Circars.

SAFA. HIND. A small, close-fitting, coloured turband, worn under the dastar.

SAFDAR ALI, a Muhammadan chief who was engaged in the contest for supremacy, and was for a short time a nawab in Arcot, but was murdered there by Pathans and Abyssinian slaves. He left a posthumous and only son.

SAFED KOH, a range of mountains in Afghanistan, which commences from a few miles west of the Shutargardan pass, between Kuram and

Logar. Its highest point is the Sita Ram mountain, 15,622 feet above the sea, whence the range is perhaps nowhere less than 12,500 feet, until it again culminates in a double-peak mountain, whose summits average 14,800 feet. It throws out to the north a spur which forms the east watershed of the Logar river, and, dividing it from the Khurd Kābul river, ends at Bhutkhak. Another spur separates the Khurd Kābul and the Tezin rivers, and over it run the Haft Kotal and Lata-band passes. Another spur, after running north for about 30 miles to the north of Jagdalak, turns to the east, parallel with the Kābul river, and ends at the junction of the Surkhab with that river. Other north spurs run between the streams which flow down from it into the Surkhab or the Kābul river. Of these the principal are, commencing from the west, the Gandamak, Karasu, Chiprial, Kisarak, Kote, and Mohmand. On the south of the range is a spur which runs out from the Shutargardan pass, and drains on the north and east into the Hazardarakht and Hariab streams, and on the south into another source of the Kuram; and a second south spur is the Peiwar Kotal, which comes out from the Sita Ram peak, 15,622 feet, and ends at the Kuram, draining into the Keria and Hariab rivers on the west and the Peiwar on the east.—*Walker; Moorcroft*, ii. p. 355; *Mohun Lal's Tr.* p. 339; *MacGregor's Afghanistan*, p. 686; *Imp. Gaz.; Bellew.*

SAFFAVI, a dynasty which ruled in Persia. See Khalifs.

SAFFLOWER, Bastard saffron.

Usfar,	Arab.	Kussum, Kussumba,	Hind.
Kajirah,	Beng.	Zaffrone,	It.
Hung-lan-hwa,	Chin.	Açafroa,	Por.
Yoh-hung-hwa,	,,	Polerroi,	Rus.
Safflor,	Da., Du., Ger., Sw.	Prostoi schafran,	,,
Kurtin,	Egypt.	Azafron bastardo,	Sp.
Cartame,	Fr.	Alazor,	,,
Saffran batard,	,,	Sendorkum,	Tam.

Two species yield the safflower of commerce, viz. Carthamus tinctorius, which has small leaves and an orange flower; and C. oxyacantha, with larger leaves and a yellow flower, a native of Caucasus. The former is cultivated in every part of the E. Indies, in China, America, Spain, some of the warmer parts of Europe; is indigenous to the whole of the Indian Archipelago, and a large quantity is grown in and exported from Bali.

It has been noticed under its Latin name Carthamus tinctorius, also under Dyes, but it may be mentioned here, that though still largely used throughout the East Indies, and exported from British India, the aniline dyes are being preferred to it even in the places of its growth. The safflower exported from India was—

	Cwt.	Rs.		Cwt.	Rs.
1874-75,	14,222	6,50,827	1879-80,	2,411	1,81,456
1876-77,	7,662	3,04,672	1882-83,	3,008	92,038
1877-78,	3,698	1,48,806			

Safflower oil, Poliyan of the Panjab, and Karirma safir of the Persians, is a light-yellow, clear oil, obtained from the seeds when properly prepared. It is used in India for culinary and other purposes. This oil deserves more attention than it has hitherto received. It is used in some of the Government workshops as a 'drying oil.' It is believed to constitute the bulk of the celebrated Macassar oil.

SAFFRON.

Rootla saffron,	Ang.-Hd.	Asafran,	Fr.
Karkam, Zaifrān,	Arab.	Keysur, Zaifran,	Hind.
Tha n'wen,	Burm.	Zafferano,	It.
Fan-hung-hwa,	Chin.	Safarun,	Mala.
Hwang-hwa,	,,	Abir, Karkam,	Pers.
Si-tsang-hung-hwa,	,,	Açafrao,	Port.
Poh-fu-lan,	,,	Schafran,	Rus.
Saffran,	Da., Sw.	Kunkama,	Sanscr.
Safran,	Dut.	Khohun,	Singh.

Crocus sativus, the saffron plant, has been noticed under that head. It is a native of Asia Minor, naturalized in many parts of Europe, and cultivated in Persia and Kashmir. The Chinese obtain it from Tibet. It is brought to India from Great Britain, the seaports of the Red Sea, Persia and Kashmir. The dried stigmata of the flower are picked out, dried on paper either in a kiln or by the sun. If compressed into cakes, it is called cake saffron. Hay saffron, that usually met with, consists of the stigmas, each about an inch and a half long. One grain of good saffron contains the stigmata and styles of nine flowers, so that one ounce of saffron is equal to 4000 flowers. The dried pistils, compressed into firm cakes or masses, are termed in India rootla saffron. Saffron, as now met with, is prepared from the florets of the safflower. Saffron is used in medicine, and as a dye, and in India also by women to tinge the skin of the body of a light-yellow colour, but the aniline dyes are everywhere displacing it. To put on the saffron robe is the sign of 'no quarter' with the Rajput warrior. It is employed as a seasoning in cookery, also to colour confectionery, liquors, varnishes, and it is used to a small extent by painters and dyers. The colouring ingredient is a peculiar principle, to which the name of polychroite has been given. It possesses the properties of being totally destroyed by the action of the solar rays, colouring in small quantity a large body of water, and of forming red or green tints when treated with sulphuric acid or with sulphate of iron. In the Arabian and Hindu schools of medicine saffron continues to be used. The Arabians class it among their Mosébetat (Hypnotica), Mokewyat (Cordials), and Mufettchat (Deobstruentia).

SAFI are a widely-spread people occupying Nur, Dara Mazar, Dara Pech, and the valley ing on the Khonar river, also in a district Surkh Khambar, south of Bajur, and they inhabit Taghow. They speak the Afghan dialect, but also Pashai. In the emperor Baber's time, they were styled Kafir, and they were subsequently expelled by the Ghilzai from the lands to the south of Taghow, and between Kābul and Jalalabad. Nadir Shah cultivated a friendship with them. South of the Safi, at Bahi, the first march from Goshter, on the Jalalabad river, towards Bajur, are a people called Yeghani, who consider themselves Afghans, but are probably converted Kafir, for they speak a dialect which no Afghan can understand.—*Masson's Journeys.*

SAG. Beng., Hind. Greens; green vegetables; any vegetable pot-herb. Corchorus olitorius, gogi sag, is Malva parviflora; Jau sag is Chenopodium album; Phapru sag is Pharbitis nil; Rin sag is Phytolacca decandra.

SAGA. Siam. The red seeds of Abrus precatorius, 32 of which make a phainung, weigh about ¾d.; a gold and silver weight used in

nd = 4·33

Malacca, the 12th of the mayam,
rains.—*Simmonds' Dict.*

SAGAH BARK. ANGLO-MALAY. bark of
gapore, resembling mangrove bark in appear-
, and employed as a dyeing mater al.

SAGAI. HIND. Betrothal; from Saga, also
gawat, relationship.

SAGALA was the capital of the Bactrian
nasty that ruled in the Panjab, an its name
s changed by Demetrius to E uthymedia.
yer says that according to Claudiu Ptolemy,
re was a town within the Hydaspes yet nearer
Indus called Sagala, also Euthyme ia, but he
ly doubts that Demetrius called it Euthy-
a, from his father, after his death , and that
enander. Colonel Tod supposes S agala to be
Salbhanpura of the Yadu when d iven from
ulisthan, and that of the Yu-ti r Yu-chi,
were fixed there from Central A sia in the
century, and if so early as the 2d century
n Ptolemy wrote, they may have or iginated
change to Yutimedia, the Central Yu-ti.—
t. Reg. Bact. p. 84. See Bactria.

AGAPENUM.

binuj, Sakbenuj, ARAB.	Sagafiun, . G	R., PERS.	HIND.
, ... BOMBAY.	Kundil, Sagbenuj	.	IT.
penummi, . . GER.	Sagapeno, . .		authors

concrete gum-resin, supposed by some obtained
be from the Ferula Persica. It is formed
Smyrna, Alexandria, etc., in masses thumb
oft, adhesive fragments, the size of t yellow
more, somewhat transparent, reddi le con-
rnally, pale within, of a waxy or b seeds.
nce, often mixed with impurities a œtida;
dour resembles that of garlic and a er. Its
aste is hot, nauseous, and rather bi of asa-
icinal uses are the same as those , and is
da, but it is considered less energetic terated
little employed. It is sometimes adul similar
bdellium, gunda birosa, and other in the
-resins or turpentines. It is collected
e manner as asafœtida.—*O'Sh.* p. 363. inland

SAGAR or Sagara, an ocean, a sea, any at the
or artificial lake; also the low lands e the
ths of the Delta of the Ganges whe agara,
gly branch falls into the sea. Ganga S anges
place where the Bhagirathi leaves the
he ocean. ces of

SAGAR, a town of the Central Provi long.
sh India, in lat. 23° 49′ 50″ N., an 872 of
48′ 45″ E., with a population in 1 ve sea-
5 souls. Sagar stands 1940 feet abo a mile
on the N.W. borders of a lake nearly work.
, and said to be an ancient Banjara e of the
ndela raja built a small fort on the sit village,
t city in A.D. 1660, and founded a modern
Parkota, now a quarter of ion of a
own is the headquarte lat. 23°
, lying bet ° 12′ E.
1872,
ith
d
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e

In the beginning of the year A.D. 1818, by a treaty concluded between the Peshwa Baji Rao and the British Government, Sagar, with the greater part of the present Sagar district Damoh, Jubbulpur, and Mandla, were made over to the British.—*Imp. Gaz.*

SAGAR or Saugor Island is at the mouth of the Hoogly river, Bengal, in lat. 21° 35′ 30″ to 21° 56′ 30″ N., and long. 88° 4′ 30″ to 88° 14′ E. Its lighthouse is in lat. 21° 38′ N., and 88° 1′ E. long. It is 21 miles in length and 6 in breadth, and is low, but as it lies upon the extreme edge of the deltaic basin, it is consequently higher than the centre of the delta. The remains of tanks, temples, and roads are still to be seen, showing that it was once more densely populated than it is now, and native history informs us that Saugor Island has been inhabited for centuries. During the operation of clearing Saugor Island in 1822 to 1833, and later when clearing away the jungle for the electric telegraph in 1855-56, remains of buildings, tanks, roads, and other signs of man's former presence were brought to light. Again, upon the eastern portions of the Sunderbuns, where the country has been cleared of forest, mud forts are found in good numbers. Mug, Malay, Arab, Portuguese, and other pirates, about A.D. 1581, depopulated the country so far to the westward between the river Horinghatta and the Rabnabad channel. The delta is intersected from north to south by many broad rivers, and by endless creeks running one into the other, filled for the most part with salt water when near the sea. This tract of land occupies approximately 28,080 square miles of superficial area, or double the area of the delta of the Nile; measuring from west to east, or from the right bank of the Hoogly river opposite to the Saugor tripod on the south-west point of Saugor Island, to Chittagong, it is 270 miles in width, presenting to the Bay of Bengal a series of low, flat mud banks covered at high water and dry at low water; a few miles from low-water mark commence mangrove swamps; a little farther inland trees appear, and lastly cultivation, the nearest cultivation in the central portion of the delta being 47 miles from the sea. In the sea front of the delta there are nine principal openings having a head-stream, that is, having water flowing direct from the Ganges, or from the Megna or Brahmaputra. They are—1. the Ganges; 2. the Megna or Brahmaputra; 3. Horinghatta; 4. Pussur; 5. Murjatta or Kagga; 6. Barapunga; 7. Mollinchew; 8. Roymungul or Juboona; 9. Hoogly. Besides these large rivers, there are numerous openings having no head-stream, being mere salt-water tidal estuaries; these openings or headless rivers are the deepest, as no silt or deposit is poured into them from the higher lands. The tides in the Hoogly run with a rapidity in the springs of 7 miles an hour between Saugor and Calcutta. At Calcutta it is high water about 2h. 30m. on full and change of the moon. The bore is of not unfrequent occurrence in this branch of the river.

A fair is held on the island in the beginning of January, to which pilgrims from all parts of India, but especially from Bengal, resort to wash away their sins in the waters of the holy stream. A writer in the Calcutta Review states that, in 1688, two years before the foundation of Calcutta, contained a population of 200,000 persons, who

in one night were swept away by an inundation. A cyclone of 1864 caused enormous destruction and loss of life. The storm-wave, 11 feet above the level of the land, swept over the island with resistless force; 1488 persons survived out of a population of 5625. The island, when surveyed in 1812, was found to contain 143,265 acres of dry land. The island is now covered with dense jungle, and infested by tigers and other wild beasts. Many attempts have been made to cultivate it, but with small success.

SAGARA, in Hindu legend reputed son of Bahu or Bahuka. He is said to have warred with and conquered the Saka, the Yavana, the Kamboja, the Parada, and Pahlava. Sagara had two wives, Sumati, daughter of Kasyapa, and Kesini, daughter of Raja Viderbha, both of whom had children, all bad men, who were destroyed.—*Garrett; Dowson.*

SAGE.

Kiug-kai, Tan-san, CHIN.	Satvia, ... IT., SP.
Sauge, ... FR.	Salbei, ... PERS.
Weise, Salbei, . GER.?	Seys-elle, . . . TAM.
Salbia, ... HIND.	Ada chayi, . . . TURK.

A perennial, native of the south of Europe, of Central Asia, and China; grown in all the gardens, and is propagated by seeds, layers, and slips. It is used for seasoning. The sage of Bengal, Murtoo, BENG., are the leaves and herb of Meriandra Bengalensis.—*Ben.* p. 223; *Smith.*

SAGERETIA BRANDRETHIANA. *Aitch.*

Ganger, Kanger, JHELUM.	Koher, . RAVI, SUTLEJ.
Bhandi, Bajan, . KANGRA.	Mumani, TRANS-INDUS.
Maimana, ... PANJ.	

The Sageretia genus of plants, belonging to the natural order Rhamneæ, is found in S. and N. America, Java, China, and in India along the foot of the Himalaya. S. Brandrethiana is a large shrub of Kaghan; abounds in places, Trans-Indus, from 2000 to 3500 feet, and in the Salt Range, and occurs low in the Jhelum basin. The fruit is well known in the bazars of Peshawur and Afghanistan; it is small and black, and is very pleasant eating when fresh and in sufficient quantity, the flavour being not unlike that of the bilberry. In the Salt Range, a chatni is made of the fruit; wood very hard and close-grained.

SAGERETIA HAMOSA. *Brongn.*

Rhamnus trigynus, *Don.*	Zizyphus hamosa, *Wall.*

A trailing plant of Nepal.—*Voigt.*

SAGERETIA OPPOSITIFOLIA. *Brongn.*

Berchemia oppositifolia, *W.*	Rhamnus trigynus, *Don.*
Zizyphus oppositifolia, *W.*	
Girthan, ... BEAS.	Gidarnak, . . KAGHAN.
Kanak, . . . KAGHAN.	Drange, . . . RAVI.

A plant of the Dehra Doon, and in the N.W. Himalaya at from 2000 to 3000 feet in the outer hills. Its fruit is eaten.

SAGERETIA THEEZANS. *Brongn.* A large shrub employed as a substitute for tea in China, where the poor make use of the leaves in the same manner as those of the true tea, and for which it makes a good substitute from its astringency and fragrance; wood very hard.—*Drs. Voigt, Cleghorn, Stewart; Eng. Cyc.*

SAGITTARIA SAGITTIFOLIA, *Linn.*, of Europe, N. and Mid Asia to Japan. It is one of the handsomest of British aquatic plants, whether as regards the elegant spear-leaved canes of glossiest green, or the flower-spikes rising in pyramidal form from the surface of the water.

is extensi
the sakely cultivated among th
itself in t of its edible rhizome,
stitutes an solid starch below the n
Ts'ze ku, Article of food. S. Sinensi
ing in CHIN., is mentioned by Tatar
tulip spec, but is also applied to
name.—*A* s of amarylus or tulip,

SAGO. *Jour.* p. 108, April 1857.

Sagu-dana	
Kwang-lai, . . BENG.	Sagu, Sagu-ch
So-muh-m mien, CHIN.	Sagu, JAV., M
Si-kuh-mi n, . . ,,	Show-arisi,
Sago, ... ,,	Zow-bium,

obtained d starchy substances allied to
tained irom many palms. Sago starch
separated he cellular tissue of the stem,
is procu by bruising and elutriation. The
Rumph., d from the stems of Sagus
Arenga native of Borneo and Sumatra;
large su accharifera, *Labillardiere*, furnish
saccharply of sugar, and when exhausted
In Jæ sap, yields sago of good quality.
source a, the Arenga saccharifera is
quantity sago, which is used in consider
the islain the western and poorer distri
marketsl, and is offered for sale in
pith of t It is smaller in quantity than
and infe ous sago tree, more difficult to ex
flavour or ality, possessing a certain
free. rom which the farina of the true
spadic me trees will produce five or six
trees a before yielding a single male one
collecte considered unprofitable by the
yield sa but in this case it is said th
to the equal in quality, though not in
East and as circinalis, from which, both
One tre West Indies, a kind of sago is pro

In th yielded about 150 lbs. of good sago
from t Moluccas, large quantities are ob
The Me Sagus levis and Arenga saccha
Sagus ays prefer that of Sagus l vis, bu
the Indrinifera, *Gærtn.*, of the easter islan

Sagoan Ocean, also yields a sago.
the Ce sugar, and palm wine are procured
trunk yota urens. The farinaceous part of
equal f old trees is manufactured into
It is sa the best farina, being highly nutriti
sago p d, indeed, to be equal to that of the
Canarium and is much used as sago me
Cochin and Cochin. The best sago is mad
bright from October to June, as in its prepar
tion. sunshine is required to mature the o
coast The first sort may be delivered on the
sort R Rs. 4½ per maund (25 lbs.), the se
the Mi 2½ per maund. C. obtusa, *Griff.*
Andaman Hills, and C. sobolifera, *Wall.*,

A fa e also known.
of the t s prepared in Brazil
The p of the Carnauba
palm,
sago
sa

SAGO.

[illegible] a kind of sago is produced both in the [illegible]est Indies.

[illegible]on filare, *Mart.*, a native of China, [illegible]nferior sago of commerce.

[illegible], a sago is obtained from the Phœnix [illegible] *Roxb.*

In China, sago is obtained from Rhapis flabelformis, [illegible] which, also, it is made for native [illegible] in Tr[illegible]ncore, Mysore, and Wynad, in the [illegible]nsula of India.

Mergu[illegible]o is manufactured from the Tacca [illegible]atifida, and may be seen in every bazar in the [illegible]sserin[illegible]rovinces, the plant abounding along [illegible]sea-sh[illegible] The same plant is common in the [illegible]th Sea [illegible]nds, and its tubers there supply to [illegible] inhabi[illegible]s the place of bread. A spurious [illegible]d of [illegible]rroot has long been made at Mergui [illegible]m the [illegible]ne plant as that which yields the [illegible]go; but [illegible]lical men have decided that it con[illegible]ns pro[illegible]es which render it unsuitable for the [illegible]k, and [illegible]emical analysis has developed that [illegible]contai[illegible]nly half the nutritious qualities of [illegible]uine arrowroot.

Sago occurs in commerce in two states,—pulverulent and granulated. (1) The meal or flour, [illegible]he fo[illegible]n of a fine amylaceous powder, whitish, [illegible]h a buffy or reddish tint; odour faint, but [illegible]ewha[illegible] unpleasant and musty. (2) Granulated [illegible]o of [illegible]wo kinds,—pearl and common brown. [illegible] former occurs in small hard grains, not [illegible]eding in size that of a pin's head, inodorous, having little taste. They have a brownish or [illegible]ish-yellow tint, and are somewhat translucent. [illegible]the [illegible]id of a solution of chloride of lime they [illegible]be bleached, and rendered perfectly white. [illegible]dealers it is said, pay £7 per ton for bleaching it. Common brown sago occurs in larger [illegible]wnish-white grains about the size of pearl [illegible]ey.

Sago in its granulated form is that usually [illegible]orted. The best sago is the produce of Siak, [illegible]the north coast of Sumatra. This is of a light-[illegible]wn co[illegible]our, the grains large, and not easily [illegible]oken. [illegible] sago of Borneo is the next in [illegible]ue; it i[illegible]iter, but more friable. The pro[illegible]ce of th[illegible]luccas, though greatest in quan[illegible] is of [illegible] smallest estimation. The cost of [illegible]anufactured sago, from the hands of the grower or [illegible]producer, [illegible]as, according to Mr. Crawfurd, only a [illegible]dollar a pikul of 133⅓ lbs. It fetches in the London market—common pearl, 20s. to 26s. the cwt.; sago flour, 20s. the cwt. The Chinese of Malacca and Singapore invented a process by which they refine sago so as to give it a fine pearly [illegible]ture.

In [illegible]ner parts of the Archipelago, two kinds of [illegible]alluvial soil are found in greater or less abundance, [illegible]one consisting chiefly of sand, often thrown up in [illegible]ridges, and the other principally of decomposed vegetable matter. The latter is often a consequence of the production of the former, which serves to keep out the waves of the sea, and allow a rank vegetation to flourish. In process of time, by the elevation of the surface and the extension of a similar formation seaward, the [illegible]low marshes are no longer subject to tidal [illegible]influence, and become gradually filled up by the [illegible]decay of fresh-water plants. For these two [illegible]descriptions of soil, nature has provided two kinds [illegible]of vegetable arranged in a wonderful manner to the [illegible]benefit of man. On the barren sand she has planted the cocoanut, and in the morass the sago tree.

Along the immense alluvial tract of the Sumatra coast, from Siak to the Lampongs, and in the large plains of the rivers of the Peninsula, such as those of Rio, Formosa, and the Muar, are hundreds of miles of sago land unoccupied and unproductive, every acre of which is capable of yielding at the rate of about twenty thousand pounds of meal yearly.

One or other of the kinds of the sago tree is found throughout the whole length of the Archipelago, from the islands off the west coast of Sumatra to New Guinea. It is probably capable of flourishing with complete vigour across nearly its entire breadth wherever its natural soil occurs, and certainly within ten degrees north and south of the equator, a band which includes all the Archipelago save the Philippines. The only countries, however, where it is found growing in large forests are New Guinea, the Moluccas, Celebes, Mindanao, Borneo, and Sumatra, being widely spread over the Moluccas, but confined to particular parts of the others.

In the eastern parts of the Archipelago, it forms in many places the chief portion of the inhabitants' food. The sago palms do not appear to be indigenous in Sumatra and the Malay Peninsula.

It is from palm trees of the Archipelago that the sago of commerce is [illegible] most of the islands of th[illegible] palms a[illegible]ate property [illegible] shillings a tree. In making [illegible] cut down close to the ground, the [illegible] stalks cleared away, and a broad strip [illegible] taken off the upper side of the trunk. [illegible] exposes the pithy matter, which is of a rus[illegible] colour near the bottom of the tree, but higher up pure white, about as hard as a dry apple, but with wooden fibres running through it about a quarter of an inch apart. This pith is cut or broken down into a coarse powder by means of a club of hard and heavy wood, having a piece of sharp quartz rock firmly imbedded into its upper end. By successive blows, narrow strips of the pith are cut away till it falls down into the cylinder formed by the bark, leaving only a skin not more than half an inch in thickness. These pith strips are then put into a washing-trough made of the large sheathing vases of the leaves, and the strainer is the fibrous covering from the leaf-stalks of the young cocoanut. Water is poured on the mass of pith, which is pressed against the strainer, and kneaded until all the starch is dissolved, and passes through into a trough with a depression in its centre, into which it is deposited, the surplus water trickling away. When the trough is nearly full, the mass of starch, which has a slightly reddish tinge, is made up into cylinders, neatly wrapped in sago leaves, and in this state is sold as raw sago or sago meal. When this is boiled with water, it forms a thick glutinous mass, with a rather astringent taste, and is eaten with salt, limes, and chillies. When sago bread is to be made, raw sago is broken up, dried in the sun, powdered, and finely sifted. A small clay oven with 6 or 8 slits, ¾ of an inch wide and 6 or 8 inches square, is heated over a clear fire of embers, the powder is finely sifted, the openings are covered with a flat

piece of sago bark, and in about five minutes the cakes are turned out sufficiently baked. They are pleasant to eat. When not wanted for immediate use, they are dried for several days in the sun, and tied up in bundles of twenty. They will then keep for years, can be eaten in that state, or soaked in water and toasted or boiled. A tree 20 feet long, and 4 or 5 feet in circumference, will produce 900 pounds, and a pound weight will produce three cakes, and two of these cakes are sufficient for a man for a meal. Two men will finish a tree in five days, and two women will bake it all in five days more, so that for about 12 shillings, one man's food for a year will be had.

In the Moluccas, the pith of the sago palm is prepared for use and exportation. It constitutes the principal food of the natives of the Moluccas, especially during their sea voyages. It is cooked by simply dipping the cakes into warm water, which softens them and renders them easily masticated. It is also made into a sort of soap.

The sago palm of the Spice Islands is the most plentiful but least esteemed, that of Siak, on the north coast of Sumatra, being the best, and that of Borneo second in estimation. Sago meal furnishes the principal food of the Javanese, being baked into cakes.

The process of extraction differs among many of the islands, as that of Mindoro from that of the [illegible] the size of the cake, those [illegible] inches broad and six long, [illegible] much larger [illegible] people [illegible] ive habitually on this sub- [illegible] of medulla extracted is immense; [illegible] is not unusually afforded by a single [illegible] refuse, after the bread is made, is thrown [illegible] heaps, from which a delicate edible mushroom springs up, and in the heaps, as well as in the decaying wood, are generated worms of a white colour, held in great estimation among the epicureans of the Moluccas Islands. Certain wood-worms were in the same manner prized by the ancient Romans; and the taste of the Amboynese has been shared by Europeans, after a struggle with prejudices, which are indeed mere matters of custom.

The sago tree of Sumatra, according to Sir Stamford Raffles, is found in Java only in a few low marshy situations, all of them being deep bogs next to impassable. From seven to ten years is the time it takes for the tree to bear fruit, when planted from the seed in the first instance; the pith commences generally at about the age of six or seven years; after this period, it gradually loses its moisture, and is no longer fit for sago when the tree comes into bearing. One person is sufficient to clear the underwood away, as it grows up, in every lot of 100 fathoms square. The whole family are, however, fully occupied when they cut down the trees for manufacture, which is always done on the spot where the tree is felled. They prepare the number of tampin or measures required for the reception of the sago in the first instance, and put them out to dry; they then fell the tree, and split it in halves by means of wedges, build a temporary house over it, and dig out the pith with hoes made from the rind of the tree. They then carry the pith up into the house, the floor of which is latticed so close as just to allow the finer parts of the medulla to pass through on being wetted with water and trodden by the feet. Into this hous[illegible] the produce of two or three trees is brought at [illegible] time, and all the finer parts are carried down b[illegible] the water into the trunks of the trees, troughs thr[illegible] or four feet in diameter, which are cleanly hollow[illegible] out, and left below to receive it. In order that [illegible] wastage may take place, they lead a mat, mad[illegible] also of the leaves of the palm, fro[illegible]he floor [illegible] the workshop down into the shells [illegible]f the tre[illegible] and this carries the water without[illegible]pilling an[illegible] They trample it until the water p[illegible]es throug[illegible] clear of the farina, and then throw aw[illegible] the refu[illegible] merely keeping sufficient to stuff t[illegible]nds of [illegible] tampin. By the next day, the medu[illegible] has set[illegible] in the trunks of the trees, leaving t[illegible]ater at [illegible] top; this is drawn off, and the sago[illegible]ur thro[illegible] in its wet state into the tampin alre[illegible] prepar[illegible] and left to strain itself; some refus[illegible]th is th[illegible] put on the end, before left open, of t[illegible]ase of t[illegible] cone, and the work is done. The she[illegible]f the tr[illegible] is cut up for firewood, or in slips, an[illegible]rown in[illegible] the marsh, to facilitate its carriage [illegible]wn to [illegible] boats waiting for it. This is always the sell[illegible] duty. Sago once made is obliged to be k[illegible] or it would spoil in a few days; again, k[illegible] stantly wet, the tampin leaves soon rot: cultiva[illegible] cannot therefore keep a stock nearly, but at gr[illegible] risk. They have a method of frying this [illegible] over the fire, called there sago randang, wi[illegible] sells for a real, or 82 cents of a Spanish dollar, [illegible] 16 of their gantong are equal to 20 of Singapo[illegible] or one pikul. This, however, will not keep fo[illegible] as damp throws it all into a glutinous mass, and [illegible] a short time spoils it.

The natives of the Moluccas prepare [illegible] in different ways, chiefly, however, [illegible] bread, which, if kept dry, may be preserved [illegible] long as ships' biscuits, and is called sago lempi[illegible] The meal, after having been dried for two or th[illegible] days, is sifted until it becomes tolerably fine, [illegible] remains somewhat adhesive. It is then form[illegible] into small flat cakes, which, to the number of so[illegible] or eight, are placed in a mould of red earth, [illegible] baked to the proper degree.

The sago *bornek* or *borne*, the g[illegible]lar sago[illegible] dried for a shorter period, then si[illegible]nd shak[illegible] by two men in a piece of cloth until granulat[illegible] It is then smeared with fresh cocoanut oil, a[illegible] heated in an iron pan (tatyu) until it attains a certain degree of hardness, after which it is placed in the sun to dry.

For sago *tetu-pala*, the meal is aired until it becomes red, when it is sifted and stuffed into an entire fresh bamboo, which is placed in different rows above a fire until it bursts and the sago is roasted. Sago thus prepared may be preserved a long time if kept dry.

For the sago *buksona*, the meal is mixed with grated santang kalapa, sagar, and a little pepper and salt, enveloped in young sago leaves, and boiled in water.

To make the sago *bagea* or *kwee bagea*, the meal, after being dried in the air to redness, is sifted, mixed with fresh kanari kernels, and then baked in young sago leaves. Sago baruwa are small sago cakes of different forms. The sago sinale is the meal baked to a cake in a pot. The sago uha is the meal enveloped in fresh sago leaves and baked on the fire. Sago kalapa, like the lemping, is baked in moulds and mingled with much grated santang kalapa; the outside is smeared

with gula areng, and it is eaten warm. Sago kalapa is even preferred by Europeans to bread at breakfast, and ranked as a dainty. Papeda, sago bubur or pap, is prepared in the same way as arrowroot.

In Amboyna, the native mode of preparing sago was taught to the Amboynese by Rumphius. Before his time, the Amboynese, like the natives at this day at various places on Ceram and Buru, and also elsewhere, as on the west coast of Sumatra, ate the sago mixed with the ela. The recollection of Rumphius amongst the Amboynese was long continued, accompanied by a true recognition of the value of this most necessary mode of preparing an article of food which nature has so bountifully bestowed.

The Papua oven for sago flour is made of earthenware. It is generally nine inches square, and about four deep; it is divided into two equal parts by a partition parallel to its sides. Each of these parts is subdivided into eight or nine, about an inch broad; so the whole contains two rows of cells, about eight or nine in a row. When the cell is broad, the sago cake is not likely to be well baked; the best sized cell is such as would contain an ordinary octavo volume upon its edge. When they are of such a size, the cakes will be properly baked, in the following manner:—The oven is supposed to have at its bottom a round handle, by which the baker turns the cells downward upon the fire. When sufficiently heated, it is turned with the mouths of the cells up, and then rests on the handle (which is now become the bottom) as a stand. While the oven is heating, the baker is supposed to have prepared his flour, by beating the lumps small, moistening it with water to dough, and passing it once or twice through a sieve, at the same time rejecting any parts that look black or smell sour. This done, he fills the cells with the flour, lays a bit of clean leaf over, and with his finger presses the flour down into the cells, then covers all up with leaves, and puts a stone or piece of wood at top, to keep in the heat. In about ten or twelve minutes this will be sufficiently baked, according to their thickness; and cakes thus baked will keep several years; kept for twelve months, vermin did not affect it. It may be amiss to mix a little salt with the flour. Sago bread, fresh from the oven, eats just like hot rolls. If the baker hit his time, the cakes will be lightly browned on each side. If the heat be greater, the corners of the cakes will melt into a jelly, which, when kept, becomes hard and horny, and when eaten fresh, proves insipid. When properly baked, it is in a kind of middle state, between raw and jellied. A sago cake, when hard, requires to be soaked in water before it can be eaten; it then softens and swells into a curd, like biscuit soaked; but if eaten without soaking (unless fresh from the oven), it feels like sand in the mouth.

Sago is not an article which can ever displace the cereals, or which should be anywhere substituted for them, but it ought to be produced in an exportable state at such a price as to be within reach of the poorer classes whenever a diminution in the supplies of rice or corn deprives them of a sufficient quantity of their ordinary food.

According as we allow 7 or 15 years for the growth of a tree, an acre of sago is equal in annual produce to 23 or 10 acres of wheat.

The sago palm of Ceram, probably S. farinifera, has a midrib 12 to 15 feet long, which is used in lieu of bamboo. The lower part is as thick as a man's leg; entire houses are built of them; they form admirable roofing poles for thatch; when split and well supported, they do for flooring; and when selected of equal size, and pegged together side by side to fill up the panels of framed wood houses, they have a very neat appearance, and make better walls and partitions than boards, as they do not shrink, require no paint or varnish, and are not a quarter of the expense. When carefully split and shaved smooth, they are formed into light boards, with pegs of the bark itself, and are the foundation of the leaf-covered boxes of Goram. The leaflets, when folded and tied side by side on the smaller midribs, form the atap or thatch in universal use; while the product of the trunk is the staple food of some hundreds of thousands of men.

Pearl Sago.—Raw sago having been made ready for the manufactory, the first process to which it is subjected is that of a thorough washing. The moist sago being poured into a strainer of coarse thin cloth, and there broken and bruised by the hand, is agitated until all its fine particles pass through the cloth and descend to the bottom of the tub. The sago is then stirred about with an oar for about an hour, after which it is left to stand for about twelve hours, when the water is ladled out, and the sago is removed to undergo the last purifying process which precedes the granulation. This is performed in a mode at once simple and ingenious. Two tubs are placed at a distance of ten or twelve feet from each other, and connected by two troughs raised by a framework above them. A man now stirs up a portion of the sago with an oar till the water obtains a milky appearance, when he pours it into the troughs. When the milk in the upper tub begins to grow shallow, it is again filled up with water and more sago stirred up and mixed with it. The water in the troughs has occasionally time to deposit all its contents, the last being a fine fibrous matter, which, if not removed, would leave a thin yellow layer. The surface is washed with the hand until this layer is effaced and held in suspension. When the troughs have been gradually filled up in the manner described, the sago is left to consolidate for twelve or fourteen hours. In order to give it the degree of dryness required, it is removed from the troughs and exposed for one day to the sun in lumps about a cubic foot in size, which are placed on tables standing in the open air. Large kajang mats, made of the leaf of the mang-kwang, are kept in readiness to cover it when a shower of rain falls. It is next carried to the large shed, where it is thrown in a heap on a long table, and broken down into a pulverulent state. It then passes through an oblong sieve, 30 inches by 20 inches, of which the bottom is formed of parallel fibres from the stem of the cocoanut leaf, kept in their positions by strings which cross them at distances of about two inches. The lumps which do not pass through the long interstices between the fibres, are thrown back into the heap. The granulation or pearling now takes place. The sifted sago is placed in a cloth, of which the ends are tied to a long stick, and which is kept expanded in a bag shape by a short cross stick. A horizontal vibratory motion is given to this, the whole mass being kept in constant agitation, and

every part successively driven along the sides of the bag. If under-dried or over-dried, it will not granulate. This lasts for about a minute, when the new granular sago is again passed through a sieve similar to the last, but the smaller grains which pass through are those which are now rejected. Those that remain are transferred to a circular sieve, of which the bottom is formed of fine stripes of bamboo crossing each other. The grains that pass through the square holes thus produced, form the pearl sago of commerce in the unroasted state. Those that are larger than the holes are thrown back into the heap, to run through the same course again. To assist the men, the oblong sieves and granulating bag are sometimes suspended by rattans from the rafters of the shed.

The roasting takes place in a row of iron pans, each about 2½ feet in diameter, which are built into a platform of masonry about 15 feet long and 4 feet in breadth, covered with flat tiles. The pans rest in an inclined position, partly against the back of the platform, which rises about a foot above its level, and partly on a small prop of brick-work on the right side, an offshoot from the wall. Into the top of this prop a plate is sunk, in which a cloth saturated with wood oil or miniak-krueng is kept. Behind each pan is an open furnace mouth, and a man constantly attends to the fires, keeping them supplied with a few billets of bakau wood, and regulating them with a long two-pronged iron fork, so as to maintain a moderate heat. The pan being gently rubbed with the cloth, a man who sits in front of it on a low stool placed on the platform, pours into it a quantity of granular sago. This he slowly stirs for a short time with a wooden implement called weah, having a sharp curved edge. More sago is poured in, until it amounts to about two chupa, when, as it hardens, he uses the weah more freely. After about three minutes' roasting, it is removed to a table and passed through a round sieve similar to that before described. The grains that adhere to each other are thrown aside, and those that pass through form a smoking heap, which is allowed to lie undisturbed for about twelve hours. The grains are about the same size as they were before roasting, and some retain wholly or partially their white and mealy appearance, but the greater part have become translucent and glutinous, and all have acquired a certain degree of toughness, although still soft. This change appears to be brought about in this way: The water contained in the granules being heated, first converts the mealy starch into a jelly, and then escapes by evaporation, leaving the jelly tough. The second tumefaction drives out the remainder of the water. The final process is another roasting, which renders them hard and tough, and greatly reduces their size. The pearl sago thus prepared and fit for exportation, is put away in large open bins ready to be transferred to boxes or bags when sold.

This method of making pearl sago was introduced into Singapore in 1819. It was taught to the first Chinese who tried it there, by a woman who came from Bukit Batu, a place on the coast of Siak, facing the large island of Bencoolen, and famous for its great fishery of the trubu, the roe of which is so extensively used. In Malacca, however, manufactories had existed for many years before the establishment of Singapore. It is certain, however, that Malacca derived the art from Bukit Batu. In Singapore it appears almost from the first to have been conducted without any attempt at concealment.

Sixteen men would suffice for a manufactory such as described above, and they would produce about 450 pikuls per month. The original outlay is probably from 300 to 400 dollars. There were, about the year 1840, fifteen Chinese manufactories in Singapore.—*Jour. Ind. Arch.*; *Bennett's Ceylon*; *Low's Sarawak*; *Forrest's Voyage to New Guinea*; *Crawfurd, Hist. Ind. Arch.*; *Hogendorp, Coup d'Œil sur Java*; *Dampier, Voyages*, pp. 310, 311; *Rumphius, Nat. Hist. Amboinen* i. p. 80; *St. John's Arch.*; *Wallace, Arch.* ii. p. *Roxb. Fl. Ind.*; *Voigt*; *Poole's Stat. of Comme Seeman on Palms*; *Madras Ex.*, 1855, *Juries' ports*; *Report Madras Central for Ex. of* 18 *Dr. Pringle*; *Griffith's Palms*; *Mason's Tenasser Morrison, Compendious Description*; *Crawfu Dict. Archip.*; *Dr. W. Jack, Malayan Miscellan published at Bencoolen*; *Valentyn, Oud en N. O M. de Steur's Tijdschrift, Neer l., Ind. 8th* part iii. p. 367; *Singapo Chronicle*.

SAGRI, an Afghan tribe in the country betw the plains of Peshawur and the Salt Range at K bagh. The Sagri Pata tribe dwell below Khattak. The tribe co tinued entirely indepe ent of the Sikhs. The hold the country on west bank of the river for nearly 30 miles ab Kalabagh, and also po s if on the opp bank as high as the plain commencing at H Abdal. They are shepherds and have numer flocks. The number of the Khattak trib variously stated at 6000 and 8000 armed me *Burnes' Cabool*, p. 105; *E. I. Papers, Cabool*, 1 p. 21; *MacGregor*.

SAGUEIR, palm wine of the Arenga saccharif It is as intoxicating as ordinary beer or cider.

SAGUN. HIND. First payment of the y first ploughings, first sowings, are all called s by Hindus, and are followed by festivities.

SAGUS FARINIFERA. *Gærtn.*

Sagus Rumphii, *Willde.* | Metroxylon sagus, *Ko*
S. spinosus, *Roxb.* |

This sago palm is a native of the peninsula Malacca and of the Eastern Archipelago. T seeds are generally abortive, and it propaga itself by suckers from the roots of the old tr This palm is one of the smallest of its tribe, seld reaching to more than 30 feet in height, and gr ing chiefly in a region extending west to Ce and Borneo, north to Mindanao, south to T and east to Papua. Ceram is its chief sea and there large forests of it are found.

It is grown in great perfection in some parts of Borneo, and its sago meal is exported in large quantities from the west coast to Singapore, and also by the Bugis boats from the eastern and southern sides of the island.

The stem, before maturity, and previous to the formation of the fruit, consists of a thin hard wall, about two inches thick, and of an enormous volume of tissue (commonly termed the medulla or pith), from which the farina or sago is obtained. As the fruit forms, the farinaceous medulla disappears, and when the tree attains full maturity, the stem is no more than a hollow shell. The edible farina is the central pith, which varies considerably in different trees, and as to the time required for its attaining proper maturity. It is eaten by the natives in the form of pottage.

In Borneo, the natives prefer rice, and the Milanowe, who live on the rivers Egan, Hoya, Mocha, and Bintulu, and who are the principal cultivators of the sago tree, always import considerable quantities of grain for their own consumption.

The pith producing the sago is seldom of use the tree is fourteen or fifteen years old; and tree does not live longer than thirty years. The farinaceous matter afforded by each tree is considerable, 500 lbs. being a frequent antity, while 300 lbs. may be taken as the com- on average produce of each tree. Supposing plants set at a distance of ten feet apart, an would contain 435 trees, which, on coming maturity in fifteen years, would yield, at the ore-mentioned rate, 120,500 lbs. annually of naceous matter. Sago meal, in its raw state, keep good about a month. The Malays and ives of the Eastern Islands, with whom it forms chief article of sustenance, partially bake it in henware moulds into small hard cakes, which keep for a considerable time.

ossus saguarius, a large lamelliform beetle, d in the pith of this sago palm, is considered the natives a great delicacy.—*Roxb.; Voigt; twig.*

AGUS LÆVIS. ' *Rumph.* True sago palm.
gus inermis, *Roxb.* | Rambiya, . . . MALAY.
is is a native of Sumatra, Borneo, and the ic[illegible] The stem, which is from 15 to 20 s in attaining maturity, is as thick as that of cocoanut tree. The petioles and spathes un- d. This palm furnishes most of the sago sent urope.—*O'Sh.; Roxb.; Voigt.*

AH, a dynasty, according to Mr. Thomas, who l from B.C. 180 or 170 to about 50; but Mr. ton says that they ruled in Gujerat from about 60 or 70 to A.D. 235. They were succeeded he Gupta Valabhi kings, and the Indo-Sassan- succeeded to the Valabhi line. Mr. Fergus- gives the following dates of the Sah kings of ashtra:—

	COIN DATES.	A.D.
apana, . .	79	...
avadata, .	...	...
nri Chastana,	...	...
a Dama, .	...	...
a Dama, .	...	...
ra Daman,	72	151
ra Sinha,	102	181
ra Sah, .	104	183
Sri Sah, . .	144	223
Yusa Daman, .	...	...
Dammajata Sri,	...	...
Vira Daman, .	...	...

	COIN DATES.	A.D.
Iswara Datta, .	...	...
Vijaya Sah,	170	249
Dammajata Sri,	...	...
Rudra Sah,	197	276
Visva Sinha, .	...	...
Atri Daman, .	...	...
Visva Sah, . .	200	279
Rudra Sinha, .	270	...
Asa Daman, .	271	280
Swami Rudra Sah,	292	371
Do. do. II.	...	...

Dr. Hunter gives the following as the relations of these three Indian dynasties, the Sah, Gupta, and Valabhi, to the successive hordes of Scythians. He says two Vikramaditya Sakari, or vanquishers of the Scythians, are required for the purposes of chronology, and the great battle of Korur near Multan, in which the Scythian hosts perished, has been shifted backwards and forwards from A.D. 78 to 544. The truth seems to be that, during the first six centuries of the Christian era, the fortunes of the Scythian or Tartar races rose and fell from time to time in Northern India. They more than once sustained great defeats; and they more than once overthrew the native dynasties. Their presence is abundantly attested during the century before Christ, represented by Vikramaditya (B.C. 57); during the first century after Christ, represented by the Kanishka family (B.C. 2 to A.D. 87); and thence to the time of Cosmas Indicopleustes, about A.D. 535. The latest writer on the subject believes that it was the White Huns who overthrew the Guptas between A.D. 465 and 470. He places the great battles of Korur and Manshari, which 'freed India from the Saka and Huna,' between A.D. 524 and 544. Cosmas Indicopleustes, who traded in the Red Sea about A.D. 535, speaks of the Huns as a powerful nation in Northern India in his days. The Nandas, whom Chandragupta succeeded in Behar, were a Sudra or non-Aryan dynasty, and according to one account, Chandragupta and his grandson Asoka came of the same stock. In almost every district throughout Oudh and the N.W. Provinces, ruined towns and forts are ascribed to aboriginal races who ruled at different periods, according to the local legends, between the 5th and 11th centuries.—*Mr. Newton in Jo. Bombay As. Soc.*, 1867-68, p. 18; *Fergusson*, p. 719; *J. Bo. As. Soc.* viii. pp. 27, 119, 238; *Imp. Gaz.*

SAH. HIND., SANSK. Saha and Sahukar, commonly Saucar, a banker.

SAHAI or Sahi is added to the name of a Brahman tribe of Oudh.

SAHAJ RAM, a celebrated Nanakshahi fakir. His sangat or shrine is tended by a mahant, who has a large establishment of disciples living upon the revenue drawn from one or two endowed villages for Sahaj Ram. Hasanpur, town in the Sultanpur district of Oudh, is four miles west of Sultanpur town, lat. 26° 16′ N., long. 32° 3′ E. Bandhua, a small village immediately adjoining Hasanpur, is notable as containing the tomb and having been the residence of Baba Sahaj Ram.—*Imp. Gaz.*

SAHA-MARANA. HIND. Burning of a widow at the same time and place as her husband's body.

SAHAN, a cotton cloth manufactured at Santipur, Chandrakona, and Kopamow, in sizes of 1 to 16 yards.

SAHAN. HIND. Hematite, used as a drug.

SAHAR or Suhurgahee. HIND. Dawn of day; breakfast during Lent, so called.

SAHARAWAN, a district of Baluchistan of about 10,000 square miles. The population does not exceed 50,000. The borders of this elevated plateau, the more northern of the Baluch confederate provinces, runs with the Afghan districts of Peshing and Toba, dependent on Kandahar, and is separated on the east by a range of hills, from Dadar and Cutch Gandava. It has only the Bolan river and a few rivulets, but the climate is cool, and the rains ensure good grain harvests. The Raisani, the most respectable of the Saharawan tribes (from Rais, ARAB., a ruler), are able to raise 500 fighting men. The Brahui tribes in Saharawan and Jhalawan, whose great chief is the Khan of Kalat, ethnologists consider to be of the same Scythic stock as the Dravidian races in the south, and infer from this that the passage of some of the Dravidian tribes from Turan was along the valley of the Indus.

The Bolan pass, on the border of Saharawan, leads from the Dasht-i-be-Daulat to Dadar, and is the great route of communication between the western Afghan provinces and the countries opening on the Indus. It is a continuous succession of ravines and gorges. The air in the lower part of the pass is in summer oppressively hot and unhealthy. It extends from lat. 29° 30′ to 29° 52′ N., and long. 67° 4′ to 67° 40′ E.—55 miles; or half a mile wide at entrance. The entrance is 800 feet;

Ab-i-gum, 2540; crest, 5793 feet. Average ascent, 90 feet per mile. The Bolan pass with the Moolla pass, far to the south, are the only level routes intersecting the great chain of mountains, defining, on the east, the low countries of Cutch Gandava and the valley of the Indus; while westward it supports the elevated regions of Kalat and Saharawan. There are many other passes over the chain, but all of them from the east have a steep and difficult ascent, and conduct to the brink of the plateau or table-land. Such are the passes of Takari and Nagow, between the Bolan and Moolla routes, and there are others to the north of the Bolan. This pass is no less important, as occurring in the direct line of communication between Sind and the neighbouring countries with Kandahar and Khorasan. It also constitutes, in this direction, the boundary between the Sard-sehl and Garm-sehl, or the cold and hot journeys (sard sair, garm sair). The natives here affirm that all below the pass is Hind, and that all above it is Khorasan. This distinction is in a great measure warranted, not only because the pass separates very different races from each other, speaking various dialects, but that it marks the line of a complete change of climate, and natural productions.

The Bolan river is about 70 miles long; the Sir-i-Bolan pass, in lat. 29° 51′ N., and long. 67° 8′ E., is 4494 feet above the sea. It is remarkably sinuous, but runs generally south-easterly, from a junction with the Nari river. It is liable to inundation; and as its bed in some parts occupies the whole breadth of the ravine, travellers are frequently overtaken by its torrents. It falls 3751 feet in 54 miles from its source to Dadar.—*Masson's Journeys*, i. p. 338.

SAHARUNPUR, a town and district in the Meerut division of the N.W. Provinces of British India. The town is situated in lat. 29° 58′ 15″ N., and long. 77° 35′ 15″ E., on a low site on both sides of the Damaula Nadi. Population (1872), 43,844. Elevation above the sea-level, 902 feet. The district lies between lat. 29° 34′ 45″ and 30° 21′ 20″ N., and between long. 77° 9′ and 78° 14′ 45″ E. Area, 2219 square miles; population in 1872, 884,617 souls. Saharunpur forms the most northerly portion of the Doab or alluvial table-land which stretches between the valleys of the Ganges and the Jumna. The Siwalik Hills rise above it on the northern frontier. The Rajputs are reckoned at 27,420, of whom only 10,564 are females. They are suspected of infanticide, and in many villages the provisions of the Infanticide Act are strictly enforced. The Chamars number 158,859, and the Gujars 53,576.

SAHASARAM has one of Asoka's edicts on a rock. It is at the extreme N.E. end of the Kaimur range of hills, 70 miles to the S.E. of Benares, and 90 miles S.W. of Patna.

SAHASRARJUNA, a Hindu ruler, famous in Hindu legendary traditions.

SAHAWEL. Arab. Plural of Sahil, the maritime region on the N.E. of Africa, about 600 miles long, between the river Jub and Cape Delgado, with the Somali on the north and the Kafir to the south.

SAHET MAHET (or Sravasti), a vast collection of ruins in Gonda district, Oudh; situated in lat. 27° 31′ N., and long. 82° 5′ E., on the south bank of the Rapti river, 10 miles from Balrampur, and 6 from Ikauna. These ruins have been identified by General Cunningham as the remains of the ancient city of Sravasti. Its ruler, Vikramaditya, in the middle of the 2d century A.D. overthrew the Ghavahana of Kashmir, and as his dominion stretched from Peshawur to Malwa, and from Malwa to Bengal, he assumed the title of emperor of Jambudwipa, or the Indian continent.

SAHH-DHARI, one mile N.E. of Kisarai, the modern city of Taxila.—*Dowson.*

SAHIB. Arab. The respectful term employed by natives of India, and by Europeans themselves to designate a European of rank. Sahibah, a lady. In Mewar, the title of the rani is simply Mahi at Jeypore, where they have long used the language and manners of Dehli, they affix the Persian word Sahibah, or lady-mother. Sahib-i-Qiran, a Muhammadan titular term for a sovereign ruler, meaning Lord of the Grand Conjunctions, was a title of Timur. Sahib-i-Tasarruf, in speculative Muhammadan theology, [illegible] in the world holding supremacy over souls of men. Sahib-kran, a Persian coin, rather less than a shilling.

SAHL. Arab. A plain, level country. Sahl-al-Antakia, the plain of Antioch. Sahl-al-Baqa, a plain situated between Lebanon and Anti-Lebanon, called by the ancients Cœle-Syria. Sahl-al-Kabir, also called Sahl Jabal-ur-Tur, the great plain, the Plain of Mount Tabor, commonly called the Plain of Jezreel or of Esdraelon, the Armageddon of the Apocalypse. Here Barak discomfited Sisera; here Josiah fell in battle with Necho, king of Egypt; here Nebuchadnezzar fought with Arphaxad. Here Jews, Gentiles, Saracens, Crusaders, French, Egyptians, Persians, Druse, Turk and Arab have fought.

SAHO, also Sahocar. Hind. In India, a Hindu who deals in money as a banker, or in exchange. See Sah; Sahu.

SAHO, son of Sumbaji, ruler of the Mahrattas, in early youth was taken prisoner, and was a captive in the camp of Aurangzeb for about 17 years. He was released by prince Azim about February 1708, and in March he got possession of Satara and proclaimed himself king. During his captivity, the Mahrattas had placed his uncle Ram on the throne, and on the death of Raja Ram, his widow, Tara Bai, carried on the government in the name of her infant son. When Bahadur Shah returned to Dehli (1708), Dhanu Khan Paimi concluded an agreement with Saho, consenting that the chouth or fourth part of the revenues should be paid, and this arrangement kept the Dekhan quiet during the brief reign of Bahadur Shah. But in the time of Ferokhsir, bands of Mahrattas ravaged the Moghul territories as before, and individuals seized on villages within its limits, and turned them into forts, from which they plundered the adjoining districts. Dabari, a chief who occupied a line of fortified villages on Kandesh, defeated a very strong detachment sent against him, and, influenced by Balaji Wiswanath, Husan Ali Khan, A.D. 1717, made peace with Saho, agreed to pay the chouth or fourth over the whole of the Dekhan, and to make a further payment of one-tenth on the remaining revenue under the name of Sir Desmukhi, and to acknowledge Saho's claim to the whole of the territory formerly possessed by Sivaji, with the addition of the later conquests. In return, Saho was to pay a tribute of ten lakhs of rupees, to furnish 15,000 horse, to

reserve the tranquillity of the country, and to be nswerable for any loss occasioned by depredations om whatever quarter. Saho would never, how-ver, have recovered his superiority, but for the ilities of his minister Balaji Wiswanath, the under of the Brahman dynasty of Peshwa. He s joint commander of the Mahratta troops that nt to Dehli along with Husan Ali Khan, and mately obtained a ratification of the treaty by ammad Shah, A.D. 1720. This established the endency of Saho over his rival; and Balaji ore his death, in October 1720, had the satis-tion of seeing him placed above the assaults of nies either foreign or domestic. Balaji Wis-ath was succeeded by his son Baji Rao, the st of all the Brahman dynasty, and of all the ratta nation, except Sivaji. He pointed out tottering state of the Moghul empire, and d Saho to permit him to carry his standard the territories beyond the Nerbadda. Saho ht up his enthusiasm, and exclaimed, 'You l plant it on Himalaya!' Saho died in 1748, a long reign of 50 years. By the road-side Satara is a cenotaph with a dog carved on a sitting posture, said to be the burial-place favourite dog of raja Saho which had once d him from a tiger. He was eccentric, and called the Veda Raja. He kept a palanquin blishment for the dog, and on one occasion sed it in gold brocade and placed it in full ar.

AHRA. ARAB. A desert, a sandy plain, the y desert of Africa and Central Asia. The se heat and cold of deserts is owing to the mstance that among crystalline bodies, rock-al, or silica, is the best conductor of heat. fact accounts for the steadiness of tempera-in one set district, and the extremes of heat cold presented by day and night on such y wastes as the Sahra. The sand, which is he most part silica, drinks in the noonday and loses it by night just as speedily. The ence of the hot winds from the Sahra has been rved in vessels traversing the Atlantic at a nce of upwards of 1100 geographical miles the African shores, by the coating of im-able dust falling upon the sails.

AHRAI, a numerous Muhammadan tribe of the an desert, of which he was the terror. The rai is a Muhammadan family from Sind, who erned at Kalat, until expelled by the Hindus, who subsequently were expelled by the Brahui. Sahrai is from Sahara, a desert, hence also Sarrazin or Saracen, from Sahara, desert, and Zaddan, to strike, contracted. The Khossa is a branch of the Sahrai, whom in habits he resembles, plundering on camels, but they are cowardly and faithless. —*Curiosities of Science.*

SAHREE. SIND. An earth found near Sehwan, in Sind, and sold at Hyderabad for a rupee a maund of 80 lbs. It is dissolved and soaked for 12 hours in water, and the paste formed is used for pottery.

SAHYADRI, the mountain range usually known as the Western Ghats. Throughout the Konkan the Sahyadri form a continuous chain of hills, interrupted, however, by deep depressions. In the latitude of Daman, 20½° N., the chain begins to sink abruptly in the Tapti valley, and changes its course, or sends off a spur of considerable elevation in an easterly direction, as the Chandor Hills. The range thus runs from the Tapti river to Cape Comorin. The highest summits, such as the Mahabaleshwar, 4717 feet, are flat topped; the Neilgherry and the Pulney, also, which rise over 8000 feet, are plateaux. The southernmost portion is entirely separated by the broad Gap of Palghat. At Mahabaleshwar the rainfall amounts to 248 inches annually. In the Southern Konkan, especially in the Sawantwari district, the rains are as heavy as in Canara. At Bombay, the rains last from June till the end of September, and the fall is only 80 inches, which is considerably less than any point farther south on the coast. At Tanna, however, the average fall is more than 100 inches.

SAIFALI, a section of the Kābul Khel Waziri, inhabiting the independent hills to the westward of the Bunnu t'hul. They entered into an agreement or treaty with the British to do all in their power, as far as their own tribe is concerned, to check and prevent the robbery or murder of British subjects, and to cause stolen property from British territory to be returned. This section of the Waziri is said to have been long unfavourably distinguished as receivers of stolen cattle and other property from the Bunnu district.—*Lahore Courant.*

SAIGA TARTARICA is the Antilope colus, *Smith.* It inhabits the open steppes and deserts from the Danube to the Irtish eastward, and as far north as 54° of north lat., found in Poland, Moldavia, about the Caucasus and the Caspian Sea, in Siberia, and in Northern Persia. Their eyesight is said to be defective from the reflection of the dry arid plains upon which they mostly reside.—*Eng. Cyc.* p. 235.

SAIGON, called Luknoi by the Cochin-Chinese, is in lat. 10° 15′ N., and long. 106° 43′ E. The surrounding country abounds with timber and other necessary articles for ship-building. See Kobo.

SAIL. HIND. Slate or schist; a slate; a slab of stone.

SAIL. ARAB. A flood. Sailab or Sailaba, a flood of the great rivers, or overflow of waters from other sources. Sailabi, land watered by flood. Sail-al-Aram, also called Sail-ul-Mareb, the flood of Aram, a great calamity which befel the Arabs of Yemen, soon after the time of Alexander the Great. Abid-Shams, surnamed Saba, built the city of Saba, afterwards called Mareb, and made a great dam to form a reservoir. The water was 20 feet deep, and was utilized for irrigation; but one night it burst and carried away the whole city with the neighbouring towns and people. Mahomed mentions it in the Koran. See Arim; Balak; Mareb; Saba; Yemen.

SAILOR FISH, or Fan Fish of the Archipelago, is a species of Histiophorus. It is the Ikan layer of the Malay, the Zeyl fish of the Dutch.

SAIN, in Sind, is the Sahib of India, the Sir of England.—*Burton's Scinde*, i. p. 143.

SAINGRI or Sangri. HIND. The seed-pods of jhand, the Prosopis spicigera, one of the common shrubs of the rakh or preserves.

SAINHIKEYA. In Hindu mythology, an asura or giant, who stole amrita or nectar when the gods churned the sea of milk, for which Vishnu cut him into two pieces, called Rahu and Ketu, which are said to cause the eclipses.

SAINT HELENA, a volcanic island 2700 feet high in the S. Atlantic, with an ancient crater.

It has a peculiar, though limited flora. It belongs to Great Britain, and is in the tract of sailing ships from the Cape of Good Hope to Europe and America. The emperor Napoleon I. was detained here after the battle of Waterloo. It was formerly clothed with trees, but these have been destroyed; the soil being washed off, the island is now a bare barren rock.

SAINT HILAIRE, M. BARTHELEMY, a French author of great fame, the first historian of Buddhism; author of a Life of Buddha.

ST. JOHN'S ISLAND or Seberget, in lat. 23° 36′ 20″ N., and long. 36° 10′ 15″ E., is a small, circular, barren island on the African side of the Red Sea, with remarkably sharp peak of volcanic origin. It is said to have been once famous for its emeralds.—*Findlay.*

ST. JOSAPHAT. See Jataka.

ST. MARUTHA was a grandson of Oda, a pagan priest of Mesopotamia. He obtained from Yezdejird, to whom he was accredited by Theodosius as an ambassador, the alleviation of the Christian persecution, and persuaded him to make an alliance with Theodosius the younger.

ST. SIMON STYLITES, a Christian ascetic, who lived for many years on a pillar, the remains of which are still shown to pilgrims. The monastery of St. Simon is about 18 miles N.W. of Aleppo, and in the 6th and 7th centuries was famous from the sanctity of this saint. Mount St. Simon is called by the people Jabal Sheikh Barakat, the mount of the blessed, holy man.

ST. THOMAS. Gibbon says, 'According to the legend of antiquity, the gospel was preached in India by St. Thomas. At the end of the ninth century, his shrine, perhaps in the neighbourhood of Madras, was devoutly visited by the ambassadors of Alfred, and their return with a cargo of pearls and spices rewarded the zeal of the English monarch, who entertained the largest projects of trade and discovery. When the Portuguese first opened the navigation to India, the Christians of St. Thomas had been seated for centuries on the coast of Malabar, and the difference of their character and colour attested the mixture of a foreign race. In arms, in arts, and possibly in virtue, they excelled the natives of Hindustan; the husbandmen cultivated the palm tree, the merchants were enriched by the pepper trade, the soldiers preceded the Nairs or nobles of Malabar, and their hereditary privileges were respected by the gratitude or the fear of the king of Cochin and the Zamorin himself. They acknowledged a Gentoo sovereign; but they were governed even in temporal concerns by the Bishop of Angamala. He still asserted his ancient title of metropolitan of India, but his real jurisdiction was exercised in fourteen hundred churches, and he was entrusted with the care of two hundred thousand souls. Their religion would have rendered them the firmest and most cordial allies of the Portuguese; but the inquisitors soon discerned in the Christians of St. Thomas the unpardonable guilt of heresy and schism. Instead of owning themselves the subjects of the Roman Pontiff, the spiritual and temporal monarch of the globe, they adhered, like their ancestors, to the communion of the Nestorian Patriarch; and the bishops whom he ordained at Mosul traversed the sea and land to reach their diocese on the coast of Malabar. In their Syriac liturgy, the names of Theodore and Nestorius were piously commemorated; the[y] united their adoration of the two persons of Chris[t] the title of Mother of God was offensive to the[m] ear, and they measured with scrupulous avari[ce] the honours of the Virgin Mary, whom the sup[er]stition of the Latins had almost exalted to [the] rank of a goddess. When her image was fi[rst] presented to the disciples of St. Thomas, th[ey] indignantly exclaimed, "We are Christians, [not] idolators!" and their simple devotion was con[tent] with the veneration of the cross. Their sepa[ra]tion from the western world had left them [in] ignorance of the improvements or corruptions [of] a thousand years; and their conformity with [the] faith and practice of the fifth century w[ould] equally disappoint the prejudices of a papist [or a] protestant. It was the first care of the minis[ters] of Rome to intercept all correspondence with [the] Nestorian Patriarch, and several of his bis[hops] expired in the prisons of the holy office. [The] flock, without a shepherd, was assaulted by [the] power of the Portuguese, the arts of the Jes[uits] and the zeal of Alexis de Menezes, Archbish[op] Goa, in his personal visitation of the coast [of] Malabar. The synod of Diamper, at which [he] presided, consummated the pious work of [the] reunion, and rigorously imposed the doctrine, [the] discipline of the Roman Church, without for[bid]ding auricular confession, the strongest engl[ish] ecclesiastical torture. The memory of Theo[dore] and Nestorius was condemned, and Malabar [was] reduced under the dominion of the Pope, [the] Primate, and of the Jesuits who invaded th[e] of Angamala and Cranganore. Sixty years [of] servitude and hypocrisy were patiently endu[red] but as soon as the Portuguese empire was sh[aken] by the courage and industry of the Du[tch] Nestorians asserted with vigour and ef[fect] religion of their fathers. The Jesuits w[ere] capable of defending the power which th[ey] abused; the arms of forty thousand Chri[stians] were pointed against their falling tyrants; [and] the Indian archdeacon assumed the charact[er of] a bishop, till a fresh supply of episcopal gifts [from] Syriac missionaries could be obtained from [the] Patriarch of Babylon.'—*Gibbon, Ch.* 47; *La C[roze] Christianisme des Indes; Geddes' Church His[tory] of Malabar.*

SAINT THOMAS' MOUNT, a military sta[tion] of the British, ten miles south-west of Mad[ras]. It is famed amongst eastern Christians as the [scene] of the martyrdom of St. Thomas, and the church on the summit of the hill is visited by pilgrims even from Syria. It is the Romanist Portuguese Church of the Expectation of the Blessed Virgin, and is built over the spot where the Portuguese in 1547 discovered a cross. According to Dr. Burnell, the date of the cross tablet and its Pehlavi inscription is probably about the 8th century. Population in 1874 was 15,480, Europeans, East Indians, Muhammadans, Pariahs, Vallalar, and Idagai (Idagen). It was plundered in 1752 by the troops of Chunda Sahib, under his son Raja Sahib, and the advanced force of Hyder Ali later in the century again plundered it. The Little Mount is on the right bank of the Adyar river, three miles nearer Madras.

ST. THOME, or Mylapore, in lat. 13° 1′ N., a southern suburb of Madras, in the district of Chingleput, and about three miles from Madras to the south. St. Thome was one of the most

mportant stations of the Portuguese on the oromandel coast. It subsequently belonged ccessively to the French, the Dutch, the king of olconda, the nawab of Arcot, and has been in tish possession since the wars in the Carnatic. native name is Mailapur, often in travellers' ounts written Meliapore.—*Calcutta Rev.*, 18th . 1871.

AIR. ARAB., HIND. Transit duties; a due tax levied on certain wild products, other cultivated lands; such as on date trees, ries, and grass, etc. In revenue accounts, eceipts other than land revenue is sair.

AIR-ul-MUTAKHIRIN, by Gholam Husain, a k of surprising industry. A translation in e quarto volumes was published in India in 9 by Mustafa, a renegade Frenchman, but a large ion of the impression was lost on the voyage ngland. General Briggs translated a sixth of it. Sir Charles Trevelyan while Governor adras reproduced part of the original in Roman acter.

AIVA, a sectarian Hindu, follower of Siva. y Saiva Hindus believe in the three Hindu Brahma, Vishnu, and Siva, as triune, and Saiva are essentially polytheists; but Vaish- Hindus are rarely in accord in this, and the of the Hindu religionists regard Siva, Vishnu, Brahma as distinct deities. The Saiva sect otnumber the Vaishnava. The essential e t in the Saiva faith is a reverence for, or ation of, the reproductive power with the ens of the lingam and the yoni, and their so ly seems to be a simple physiological idea eation, made to assume a religious form. It als however, been supposed to represent Bud hist doctrine of gradual perfectability ing man almost to the rank of a god). The nava creed is one of a separate creation of a an his occasional incarnation in the form of an animals.

e Saiva are worshippers of Siva, in one of his forms.

Ganapatya worship Ganesa.

Sakta exclusively worship the sakti or e energy.

Ganapatya and the Sakta are subdivisions ations of the Saiva, of which may be d these distinctions,—1. Saiva proper, mean- th worshippers of Siva and Parvati con- ly; 2. Lingi or Langaet, the adorers of Siva, his phallic type, separately, and these are a very strict and rigid sect; 3. Sakta, the adorers of the yoni of Bhavani, or her symbol, separately; 4. the Ganapatya, the exclusive worshippers of Ganesa, the first-born of Mahadeva and Parvati. The Ganapatya adore Ganesa as uniting in his person all the attributes of the deity. The Vira Saiva are very numerous in all the Canarese-speaking countries, and are distinguishable by their wearing the lingam in a silver or gold casket fastened round their arm or suspended from the neck.

The Avadhuta or Abd'hut of the south of India, is a religious mendicant of the Saiva Hindus, who, similarly to the Virakta Vairagi, has subdued the passions and estranged himself from the interests and emotions of mankind, abandoning religious observances and worldly restraints. The Sakta have two classes of these,—one the Vyakta-vadhuta, or professedly free; the other, Gupta-vadhuta, who privately throw off the usual restrictions of caste.

The Akas-mukhi is a Saiva devotee, who retains his head so long in the position of looking to the sky, that he cannot restore the neck to its proper position.

Saiva sectarians of S. India worship 63 deified heroes, designated Adiyars.

SAJADA. ARAB. In the ritual of Muhammadan prayer, a single prostration with the forehead touching the ground. It is performed from a sitting position, after the Dua or supplication that concludes the two prostration prayers. Some of the Ulema, especially those of the Shafei school, permit this 'Sajada of thanks' to be performed before the prostration prayer, if the visitor have any notable reason to be grateful.—*Burton's Mecca*, ii. p. 67.

SAJJI. HIND. Impure carbonate of soda, prepared from the alkaline soil called Dhobi's earth, and also by burning the Caroxylon Griffithii and other plants growing on the shores of the salt lakes which are scattered through the Indian deserts. In the Panjab, the castes principally employed in the manufacture of sajji are the Chura, Dhobi, Nafiri, and a few Arura. Sajji matti, or soda earth, is found in many parts of India. Sajji is made in considerable quantities in the districts of Multan, Jung, Jhelum, and Thanessur, by burning plants of the genus Salsola, a few of the Chenopodiaceæ, species of the genera Caroxylon and Salicornia, also Sueda fruticosa. It is extensively used in soap-making and calico-dyeing.—*J. A. Murray.*

SAK. HIND. Bark of the kikar and other barks, put into the fermenting mass in spirit distilling.

SAK or Thoek or Thak, called Chatu or Chat by the Bengali, a small tribe who inhabit the eastern branch of the Naf river in Arakan, in lat. 21° 20′ N., and long. 21° 30′ E., about 25 miles east from Elephant Point near the Koladyn river.

SAKA. ARAB. A water-carrier.

SAKA or Sak'ha. SANSK. A branch, the branch of a tree; a tribe, a clan.

SAKA. SANSK. Any era; the era of prince Salivahana, commencing in the 77–78th year of the Christian era, and to be identified with that by adding 78¼; thus the Saka year 1800 began towards the end of March (A.D.) 1878. It is said to have been called after Sakaditya, brother of Vikramaditya. Dr. Bhau Daji supposed the Saka king to be the Kshaparata Nahapana. The oldest Sanskrit works and the copperplate grants extant are dated in this era. The Vikrama Samvat is coeval with the defeat of the Saka by Vikramaditya. The Saka Nripa Kala, identical with the Salivahan era, is coeval with the conquest of Malwa by the Saka.

Saka Kala, or the era of the Saka, has been confounded even by native writers, sometimes with the first and sometimes with the second event, leading to a mistake of 135 years in their calculations.—*Dr. Bhau Daji.*

SAKA, a race mentioned in the Mahabharata, Puranas, and other religious works, also in the rock inscriptions and on copperplate grants, and generally recognised to be Scythians; other Scythian tribes in India being the Hun and the Naga. The races whom the Greeks call Scythæ, called themselves Scoloti according to Herodotus,

and the Persian equivalent of Scythæ was Sakæ. The Scythians east of the Caspian were called by the Greeks Saka and Massagetæ, the last probably the Maha-Jat or Great Jat of the Panjab. The Saka overthrew the Græco-Bactrian kingdom in Afghanistan, and other branches extended their possessions towards the south, occupied Sind and the countries of the lower Indus under Mayes and his successors Azes and Azilaus. Once their progress was checked by Vikramaditya, the Hindu king of Malwa, who, B.C. 56, signally defeated them, assumed the title of Sakari, and established an era which still bears his name. In Prakrit works Saka is written Saga. From between the parallels of lat. 30° and 50° N., and from long. 75° to 95° E., the highlands of Central Asia, migrated the Sacæ or Scythic races, which passed into Europe and within the Indus. The Takshak, the Gete, the Kamari, the Katthi, and the Hun came from Sakitai or Sakadwipa, and from the Dasht-i-Kapchak, crossed the Jaxartes or Jihun, and crossed the Paropamisan range into the plains of Hindustan.

SAKADWIPI, a tribe of Brahmans, chiefly remarkable for their great numbers, and for the fact that they will drink from a vessel from which another person has already drank.—*Cal. Rev.*, No. 110.

SAKAI, a pagan population in the Malay Peninsula divided into the Sakai Jina and Sakai Bukit, the latter being hill-men and mountaineers, the former more settled and civilised. They are worshippers of the elements. Sakai is the Pahang word for an aboriginal. The Halas is a branch of the Sakai population of the Malay Peninsula, They tattoo their face and breast, pierce their ears and nose, and insert porcupine quills. The Orang Sakai, of Siak, manufacture sago meal. The sago plantations belong to Malays, who employ the Sakai, allowing them one-half of the produce. On this and wild animals the Sakai subsist, and the sago which they do not require they dispose of to Malays in barter for cloth, tobacco, etc.

SAKALA or Sangala, an ancient town in the Panjab, the She-kie-lo of Hiwen Thsang. It was the capital of Raja Milinda, was subject to Raja Mihirkul, is the Sangala of Alexander, and has long ago been recognised in the Sakala of the Brahmans and the Sagal of the Buddhist. It was visited by the Chinese pilgrim Hiwen Thsang in A.D. 630. Both Arrian and Curtius place Sangala to the east of the Hydraotes or Ravi; but the itinerary of Hiwen Thsang shows that it was to the west of the Ravi, and as nearly as possible in the position of the present Sanglawala-Tiba or Sangala Hill. Wilford three times described its position in the Asiatic Researches. When Hiwen Thsang visited the city there was a monastery of 100 monks who studied the Hinayana, or exoteric doctrines of Buddhism, and beside it there was a stupa, 200 feet in height, where the four previous Buddha had left their footprints. The Brahmanical accounts of Sakala have been collected from the Mahabharata by Professor Lassen in his Pentapotamia Indica. According to that poem, Sakala, the capital of the Madra race, who are also called Jartika and Bahika, was situated on the Assaga rivulet to the west of the Iravati or Ravi river. The country is still well known as Madr-des, or the district of the Madra, which is said by some to extend from the Beas to the Jhelum, but b[illegible] others only to the Chenab. The Buddhist notice[s] of Sakala refer chiefly to its history in connectio[n] with Buddhism. There is the legend of t[he] seven kings who went towards Sagal to carry [off] Prabhavati, the wife of king Kusa. But the ki[ng] mounting an elephant, met them outside the ci[ty] and cried out with so loud a voice, 'I am Ku[sa]' that the exclamation was heard over the wh[ole] world, and the seven kings fled away in terr[or]. This legend may have some reference to the s[ix] brothers and sisters of Amba-Kapa, which is [a] 40 miles to the east of Sangala. Before the [be]ginning of the Christian era, Sagal was [the] capital of Raja Milinda, whose name is [also] famous in all Buddhist countries as the ski[lful] opponent of the holy Naga-Sena. The territ[ory] was then called Yona or Yavana, which mi[ght] refer either to the Greek conquerors or to t[heir] Indo-Scythian successors; but as Naga-Sen[a] said to have lived either 400 or 500 years a[fter] Buddha, the date of Milinda is uncertain.—*C[unn]ingham's Ancient India*, p. 179.

SAKALELI, dancing parties of birds at t[he] pairing season, practised by the turkey of N[orth] America, the seven brothers of India, and [the] paradise birds of the Aru Islands.

SAKALI or Sakaliga, a homeless tribe in [the] Ceded Districts, and in Mysore itinerant [tra]dealers.

SAKAR. SIND. An embankment. This [gives] the name to Sakar or Sukker, a town on the I[ndus] opposite Rori, where is a natural limestone m[ound] about 100 feet high.

SAKAR, of Shahpur, a huge clay vessel [of] strong grain.

SAKARI, a title of Vikramaditya, king [of] Ujjain, given to him because of his succe[ss] opposition of the Sacæ, an Indo-Scythic [race] who settled along the Lower Indus.

SAKATAI or Chaghtai, the Sakadwipa o[f] Purana, corrupted by the Greeks to Scythia, w[hose] inhabitants worshipped the sun.

SAKHA, in Hindu music, a notation. [The] three Sakha are now known to Hindus in Indi[a] the Rānāyanīya, Kauthuma, and Jaiminiya. [The] first two are common, and only differ a litt[le] the way of chanting; the Jaimini text appear[s] agree with the others except in a few details; [the] notation of the chant is totally different.—*[Sir] Burnell.*

SAKHALIN is the Aino name, Isoka of the aborigines, Oku Yesso of the Japanese, Schalién of the Russians, the Karapto of old writers; also Ula-hata; also Augo-hata, or Island of the Black River; also Amur. Siebold and Keith Johnston call it Tarakai, but the usual name is Sakhalin, from Sugaun, one of the names of the river Amur. The lips of the women are tattooed of a pale-black colour; they part their hair down the middle. They have metal ear-rings, and those on the coast wear silver-grey or spotted sealskins, with long boots of the same materials. They have a leather waist-belt as a cestus veneris.—*Arthur Adams' Travels.*

SAKHI BHAVA, a sect of Vaishnava Hindus in Northern India, who adopt Krishna and his mistress Radha for their special worship. They assume the female garb, and the dress, ornaments, manners, and occupations of women. See Hindu.

SAKHI SARWAR, a famous Muhammadan ine in Dehra Ghazi Khan district, Panjab; . 30° N., long. 70° 10′ 30″ E. The shrine owns the high bank of a hill stream at the foot e Suliman range, in the midst of arid desert ery. Founded in honour of Saidi Ahmad, rwards known as Sakhi Sarwar, the son of -ul-Abidin, an immigrant from Baghdad, who d at Sialkot, 12 miles east of Multan, in the r 1220. Zain-ul-Abidin was a descendant of and dreamt that Mahomed stood by his side, anding him to proceed to India to convert doistors. Accordingly he reached Sialkot, e he married a daughter of Rahan Khan, an, and had two sons, Syed Dhoda and Syed ad. Ahmad became a devotee, and, having rmed a very remarkable series of miracles, presented by the Dehli emperor with four londs of money, with which the Sakhi r shrine was erected. A handsome flight ps leads from the bed of the stream to the ng, constructed at the expense of two Hindu hants of Lahore. The buildings include—the eum of Sakhi Sarwar himself; a monument Nanak; the tomb of Massamat Bibi Bai, f Sakhi Sarwar; and a thakurdwara. They comprise a curious mixture of Hindu and hmadan architecture, and are frequented by ees of all religions. The guardians of are the descendants of Sakhi Sarwar's three ts, always miraculously limited to the er of 1650, among whom the revenues ng from the offerings are equally divided. ghout the year, the shrine forms the resort merous mendicants, Hindu and Muham- ns.—*Imp. Gaz.* viii.; *MacGregor*, iii. p. 61.

KI or Saki is the general name given in to the alcoholic liquid prepared by the ntation of rice. There are many kinds of it, receiving a specific name. Saki beer has 11 per cent. of alcohol. At an entertainment a pair of chop-sticks was placed at each of every table, in the centre was an earthen lled with saki, surrounded with four acorn four large coarse china cups, with clumsy s of the same material, and four tea-cups of Cups of tea were first handed round, these followed by very small cups of saki, which he taste of French liqueur.—*American Exped.*

-KING of Siam. Sir R. Schomburg saw, at ilding sheds of the first king, a log of this which was being prepared for the construc- a war canoe, measuring 135 feet, and per- ound and without a flaw. It possesses the rty of being easily bent by artificial means.

SAKLA PAKSHAM. Sansk. The light half of the month.

SAKLAWIA, a canal which leaves the Euphrates 5¾ miles N.W. of Felujia. It crosses Mesopotamia by a tortuous eastern course on the N. side of Akar Kouf, and enters the Tigris at a point 5 miles below Baghdad, after a course of 45 miles. It is the ancient I'sa canal.—*MacGregor.*

SAKRANT, also Sankrant, also Makar-Sankrant, a Hindu festival, held on the day that the sun enters the sign of Makar at the winter solstice. On this night, in ancient India, a horse was sacrificed to the sun or Bal-nath, the god Bal. Hindus now bathe in the sea, rub their bodies with sesamum seeds, and entertain friends. The festival of the sun, with the Getæ and Aswa nations of the Jaxartes, as with those of Scandinavia, seems to have been the winter solstice, the Sakrant of the Rajput and Hindu in general. The ceremonial of the horse's return after a year evidently indicates an astronomical revolution, or the sun's return to the same point in the ecliptic. The return from his southern declination must have been always a day of rejoicing to the Scythic and Scandinavian nations, who could not, says Gibbon, fancy a worse hell than a large abode open to the cold wind of the north. To the south they looked for the deity; and hence, with the Rajputs, a religious law forbids their doors being to the north. —*Tod's Rajasthan*, i. p. 676. See Astronomy.

SAKTA, a sect of Hindus who worship the female principle according to the ritual of the Tantra. Of these there are two divisions,—the Dakshina Chari or right-hand ritualists, and the Vama Chari or left-hand ritualists. The worship of the right-hand division is public, and is addressed to the goddesses, in the forms of Durga, Bhavani, Parvati, Lakshmi, Maha Lakshmi, and others. The left-hand ritualists worship, in preference, the Tantrica impersonations of Durga, as Devi, Kali, Syama, etc., or a woman representing the Sakti. Their worship is private and unavowed, and is much talked about as the oriental form of the Eleusinian mysteries. Wilson thus describes the left-hand sect (i. p. 257): 'All the principal ceremonies comprehend the worship of Sakti, and require for that purpose the presence of a female as the living representative and the type of the goddess. This worship is mostly celebrated in a mixed society, the men of which represent Bhairavas or Viras, and the women Bhairavis and Nayikas. The Sakti is personated by a naked female, to whom meat and wine are offered and then distributed amongst the assistants, the recitation of various Mantras and texts, and the performance of the Mudra, or gesticulations with the fingers, accompanying the different stages of the ceremony, and it is terminated with the most scandalous orgies amongst its votaries.' The Rev. J. Burgess, writing in 1874, mentions that at Jamnagar, in Kattyawar, there was a Nanak-panthi ascetic who dressed in silks and satins, physically a magnificent man, and that Saktaism was secretly practised there. Mr. C. P. Brown, whose means for information were very great, and who lived through a great part of the 19th century, said that Sakta puja had never extended into the Madras Presidency. The Editor also never heard there of any of the alleged impurities. In the district of Tinnevelly the Saktas will not admit that they do more than eat flesh and drink toddy together. The theory of the Saktas is said to be the following: The extinction of desire is the great aim of Hinduism. The other sects seek it by the mortification of the passions; the Saktas by their gratification.

The Hindu worshippers of the Sakti, the power or energy of the divine nature in action, are numerous amongst all classes of the Hindus. In their mythology, this active energy is impersonated in the forms of the three female deities, —Lakshmi, Parvati, and Saraswati, the consorts respectively of Vishnu, Siva, and Brahma. The worship of the female principle, as distinct from the divinity, appears to have originated in the literal interpretation of the metaphorical language

of the Vedas, in which the will or purpose to create the universe is represented as originating from the Creator, and co-existent with him as his bride and part of himself. Thus, in the Rig Veda, it is said 'that divine spirit breathed without affiation single, with (Swadha) her who is sustained within him, other than him nothing existed. First, desire was formed in his mind, and that became the original productive seed.' Also, the Sama Veda, speaking of the divine cause of creation, says, 'He felt not delight, being alone, he wished another, and instantly became such. He caused his own self to fall in twain, and thus became husband and wife. He approached her, and thus were human beings produced.' It is probable that these legends may relate to the primitive tradition as to the origin of mankind, but there is in them also a figurative representation of the first indication of wish or will in the Supreme Being. Another set of notions of some antiquity, which contributed to form the character of the Sakti, whether general or particular, were derived from the Sankhya philosophy. In this system, nature, Prakriti, or Mula Prakriti, is defined to be of eternal existence and independent origin, distinct from the Supreme Spirit, productive though no production, and the plastic origin of all things, including even the gods. In the Puranas, especially in the Brahma Vaivartta Purana, Prakriti or Maya bears a prominent part, for from the Sankhya philosophy, Prakriti has come to be regarded as the mother of gods and men; whilst as one with matter, the source of error, it is again identified with Maya or delusion, and as co-existent with the Supreme as his Sakti, his personified energy or his bride. According to the Prakriti Khanda section of the Brahma Vaivartta Purana, Brahma, or the Supreme Being, having determined to create the universe, became two-fold, the right half becoming a male, the left half a female, which was Prakriti. She was of one nature with Brahma. She was illusion, eternal and without end; as is the soul, so its active energy,—as the faculty of burning is in fire. It is from the Tantras that the rites and formulæ of the worship of Prakriti or Sakta are obtained. They are numerous, of great extent, and in the form of a dialogue between Siva and his bride. The earliest record of Sakti is in the Periplus.

It is related that the energy of each god, exactly like him, with the same form, the same decorations, and the same vahan (vehicle), the Sakti of Brahma, girt with a white cord and bearing a hollow gourd, arrived on a car yoked with swans; her title is Brahmani. Maheswari came riding on a bull, and bearing a trident with a vast serpent for a ring and a crescent for a gem. Kumara, bearing a lance in her hand, and riding on a peacock, being Ambica in the form of Kartikeya, came to make war on the children of Diti, the giants, or Asura. The Sakti named Vishnaivi also arrived sitting on an eagle, and bearing a conch, a discus, a club, a bow, and a sword in her several hands. The energy of Hari, who assumed the form of the boar, likewise came there, assuming the body of Varahi. Narasinhi, too, arrived there embodied in a form precisely similar to that of Narasinha, with an erect mane reaching to the host of stars. Aindri (Indrani) came bearing the thunderbolt in her hand, and riding on the king of elephants, and in every respect like Indra, with a hundred eyes. Last came the dreadful energy named Chandica, who sprang from the body of Devi, horrible, howling like a hundred jackals. She, surnamed Aparajita, unconquered goddess, addressed Isana, whose head is encircled by his dusky braided locks.

Eight of these Sakti are more particularly recorded, their names are the following:—

Maheswari, Sakti of Mahesa, or Siva.
Brahmi, or Brahmani, Sakti of Brahma.
Narayani, Sakti of Narayana.
Aindri, Sakti of Indra.
Kumara, Sakti of Kartikeya.
Varahi, Sakti of Vishnu of the Vahar avatara.
Narasinhi, Sakti of Vishnu in the Narasing avat
Aparajita, a form of Bhavani, Sakti of Siva.

Mr. Paterson (As. Res. viii. p. 68) rem that Aparajita may be the Aphrodite of Greeks, and Maheswari, or the female Siva, ri on a white bull, may have given rise to the of Europa's rape; while Brahmi, or the fe Brahma, with the swan, may in like manner been the origin of the fable of Jupiter and Bhavani is, however, oftener seen on a tiger than on Nandi, the vahan bull of he In some places they are thus enumerated,—Br Maheswari, Aindri, Varahi, Vaishnavi, Ku Chamunda, and Kartika. Some reduce number to seven; omitting the two latter, adding Cauveri. The worshippers of these are called Sakta. The emblem of worship yoni. One branch of the Sakti worshippe been said to be so grossly licentious that th held in detestation by other sects, and even large portion of their own; but this stat cannot be verified.

The Hindu goddesses are uniformly repres as the subordinate powers of their resp lords; thus Lakshmi, the consort of Vishn preserver, is the goddess of abundance and sperity; Bhavani, the wife of Siva or Maha is the general power of fecundity; Uma Gauri, also, are gentle forms of the Sakti of while Durga and Vali are the severe forms.

Chamunda and Chandika are hideous godde who attend upon Siva as Bhairava, the ter destructive deity, who is propitiated by offe of wine and flesh.

Saraswati, whose husband was the cr Brahma, possesses the powers of imagination invention, which may justly be termed cre She is therefore adored as the patroness fine arts, especially of music and rhetoric; inventress of the Sanskrit language, of the nagri writing characters, and of the sciences writing perpetuates; so that her attributes spond with those of Minerva Musica of Greec Italy, who invented the flute, and presided ove literature.

Lakshmi or Maha Lakshmi is the Sakti or consort of Vishnu.

Dr. Hunter says (Imp. Gaz. iv. p. 304) left-hand worship is an organized five-fold ritual of incantation, lust, gluttony, drunkenness, and blood. The Vami or Vama Chari worship comprises the five-fold Mukara, which takes away all sin, viz. Mansa, flesh; matsya, fish; madya, alcoholic fluids; maithuna, sexual intercourse; and mudra, mystical gesticulations. There is nothing of this kind in the south of India.—*C. P. Brown; Wilson's Hindu Sects; Wilson's Gloss.;*

...rooke in* v. viii. *As. Res.; Cole-*
...*the Hindoos*, p. 121; *Raya*
...*naracosha; Moor's Pantheon;*
... 52.

...KTA, Sans. A division of a hymn. The ...hip of the Vedic race is briefly but comprehensively described by themselves, where it is ... The standers around associate with (Indra) ...mighty (sun), the indestructive (fire), the ...ing (wind), and the lights that shine in the ...

SAKTA BHAKHTA, worshippers of the female ...gy, who make the universe to be developed by ...herent power in matter. They use feminine ...s and symbols, and practise the magical rites ...the Atharvana Veda, which has been termed ...black Veda; and the whole is sometimes ...ed the Tantrica system.—*Taylor.*

SAKTI NATH, the lord of Sakti, or the ...ne energy under a female personification. In ...sense Sakti is applicable to every goddess, ...it is more especially the name of Bhavani, and ...lord or husband in Siva. Sakti-puja, or ...worship, a Hindu form of worshipping the ...ti.

SAKUNA of Vasantaraja, a Sanskrit poet ...the twelfth or thirteenth century, is a poem ...the auguries to be derived from the cries ...general demeanour of birds. It is important ...logically, and as an illustration of Hindu ...s of mind. Dr. Hultzsch's Prolegomena ...de several specimens of the text.

SAKUNTALA, or the Lost Ring, an ancient ...krit drama by Kalidasa; translated by Sir ...am Jones and by Professor H. H. Wilson, ... In the drama Sakuntala is described as the ...hter of the rishi Visvamitra by the apsara ...ka, who was sent from heaven by Indra to ...e the sage. Sakuntala was the offspring, and ...brought up by the rishi Kanwa in a forest ...itage south of Hastinapura. King Dushyanta, ...roaming in search, beheld her on one occasion ...hunting in the forest, and persuaded her to ...y him, giving her his ring as a token. ...yanta then returned to his own city, and ...ntala continued in her father's cottage. ...rvasa, a sage, visited her home, but he did not ...ve sufficient attention from her, her thoughts ...g with her husband. This irritated the sage, ...o prayed she might be forgotten by the man ...loved; but relenting somewhat afterwards, ...said her husband on seeing the ring should ...ognise her. Finding herself enceinte, she set ...for her husband's palace, but while bathing ...the way, the ring fell from her finger and was ..., and the king failed to recognise her. Her ...ther took her back to the forest, where she ...a son, whom they called Bharata. But it so ...pened that a large fish was caught, and ...hyanta's ring was found in its belly, and ...taken to him. When he saw it all his recollection ...of the lovely Sakuntala returned, and he hastened ...to the forest, where he saw Bharata playing with ...young sucking lions, and putting aside their ...mother. Presently Sakuntala appeared, and he ...recognised her, and knew that the boy was his ...son. He took them to his city, made Sakuntala ...his chief queen, and declared Bharata his successor. The poet Kalidasa dramatized the story ...in Sanskrit under the title of Sakuntala, or the Lost ...Ring. Buddhism still exists among the characters ...of the piece, but had lost its ascendency, and Siva is the chief object of worship.—*Garrett; Dowson.*

SAKYA, the tribal name of Buddha. Hairs of his head are said to be in the Shoay-dagon at Rangoon; his thorax bone (breast bone?) in the dagoba at Bentenne near Kandy in Ceylon; a canine tooth, after several changes, was taken to Ceylon, A.D. 311; another tooth was placed in a tope on the island of Salsette in Bombay harbour, —it was opened by Dr. Bird, but tooth not found; another at Nagrak in N. India.—*Fergusson*, pp. 59, 60.

SAL. HIND. A year. Sal-girah or Barasganth is the anniversary of a person's birth, on which a knot is added on a string kept for the purpose. A girl's years are numbered by a silver loop or ring being added yearly to the gardani or silver neck-ring.—*Herkl.*

SALABAT JUNG, son of Nizam-ul-Mulk. His brother Nasir Jung in 1750 brought him into the Carnatic a prisoner, but in February 1751, on the death, at Cuddapah, of Muzaffar Jung, he was released and proclaimed Subah. He took Kurnool, and advanced to Hyderabad, where he pacified the French troops, and then in May advanced to Aurangabad, which he reached on the 18th June. In July he purchased a peace with the Mahrattas, and proceeded against the Nirmul raja, whom he defeated, and after this he sent to the Marquis Dupleix a sunnud of nawab of the Carnatic. In 1755, he proceeded to Seringapatam, and exacted 52 lakhs of rupees as tribute. In 1756, he came to a rupture with the French under M. Bussy, dismissed and pursued them, and sought the aid of the British from Madras.—*Orme.*

SALAB MISRI. HIND. Salep, the root of Orchis mascula, Eulophia, and other plants.

SALAGRAMA, fossil ammonites, reverenced and worshipped by the Hindus; supposed by some to be the ætiles or eagle stones of the ancients. The principal sorts are the Lakshmi Narayani, the Vamuna, the Demodura, the Narasingha, etc. Their abundance in the beds of mountain torrents, especially the Gandak, has been long known. They form an indispensable article in the sacra of the Hindus, and are used in propitiatory oblations to Vishnu, as well as in funeral and other ceremonies. They are black, mostly rounded, and are commonly perforated in one or more places by worms, or, as the Hindus believe, by Vishnu, in the shape of a reptile. According to the number of perforations and of spiral curves in each, the stone is supposed to contain Vishnu in various characters. For example, such a stone perforated in one place only, with four spiral curves in the perforation, and with marks resembling a cow's foot and a wreath of flowers, contains Lakshmi Narayani. The salagrama is fossilized with iron, clay, and pyrites, strikes fire with steel, but scarcely at all effervesces with acids; some very heavy, commonly black, but sometimes violet, oval or round, a little flat, nearly resembling a touchstone, and hollow, with only one small aperture; within it has spiral lines terminating towards the middle. Some are supposed to represent the gracious incarnations of Vishnu, and are then highly prized; but when they border a little on the violet, they denote a vindictive avatara, such

as Narasingha, when no man of ordinary nerve dares keep them in his house. The possessor of a salagrama preserves it wrapped in clean cloth. It is frequently perfumed and bathed; and the water thereby acquiring virtue, is drunk, and prized for its sin-expelling property. It is always placed near persons when they are about to die. A garden or plantation is consecrated by the Hindus by marrying the salagrama stone carried by one man to represent the groom, to a branch of the tulsi tree carried by another to represent the bride. It is the usual marriage ceremony, somewhat modified; and after this consecration, the fruit can be eaten. Mr. Dunlop found two extensive lias beds at Takuli Shem, in Hundes, with numerous salagram, which are thence taken to Badrinath and Kailas. Hindus are averse to show them. The Grihadeva or household deity is sometimes represented by a water-pot, a rude figure, a salagrama, or a tulsi plant. The stones, called Ban-ling, found in the Nermada, are similarly considered as types of Siva, but they are not fossils, merely stones rounded by attrition.—*Sonnerat; Gerard*, October 1830; *As. Res.* iii. p. 24; *Cole. Myth. Hind.; Moor's Pantheon; Wilson's Gloss.*

SALAH-ud-DIN, the Saladin of English writers, a distinguished Kurd soldier of the twelfth century, who opposed the Crusaders led by Richard Cœur de Lion. Salah-ud-Din, the son of Ayyub, a Kurdish chief, early became attached to the service of his uncle Asad, usually called Shirkuh, who commanded the army of Nur-ud-Din, king of Aleppo, a strong upholder of the Abbasside khalifs. Salah-ud-Din Yussuf was still very young, when two vizirs of Egypt, the ministers of the Fatimite khalif, residing at Cairo, quarrelled, and one of them succeeded in banishing the other. The exile Shawer betook himself to Aleppo, and Nur-ud-Din offered him the help of Shirkuh and his Kurds to reinstate him. But Shawer soon quarrelled with the wild mercenaries, and made an alliance against them with Amaury or Amalrich, the crusader king of Jerusalem. Shirkuh, with the help of his nephew, defeated them both; and, taking Cairo, put Shawer to death, and annexed Egypt to the possessions of his master, Nur-ud-Din. The Fatimite khalif, a mere puppet, conferred on him a robe of honour, and gave him the title of Malik-al-Mansur, or Victorious King. He was thus serving Nur-ud-Din of Aleppo and both the rival khalifs. His servitude did not hinder him, however, and his nephew from establishing their power in Egypt. Shirkuh lived long enough to secure his nephew a firm hold upon Egypt, and the title of Malik-al-Nasr—which means nearly the same as Malik-al-Mansur—from the Fatimite khalif in his palace or state prison. Nur-ud-Din sent word to Saladin from Aleppo that he must not receive these favours from a heretic, and ordered him to proclaim the Sunni khalif. Saladin desired the preachers in the Cairene mosques to omit the name of the Fatimite khalif from their prayers, and to replace it with that of the Sunni Commander of the Faithful, and Al Aadad, buried in the recesses of his palace, knew nothing about it. Saladin's life after this was one of uninterrupted prosperity. Nur-ud-Din died just when he might have become troublesome; so did Nur-ud-Din's little boy. As king of Egypt, and of Syria all but Palestine, Saladin turned his attention next to the Crusaders and their little kingdom. After the fatal field of Hattin, Jerusalem itself fell into his hands. This was the culminating point in his life, and he died himself in 1193, having exercised undisputed power for five years. His family quarrelled among themselves; his own descendants were dethroned, and those of his brother formed the Eyubite dynasty of Egyptian sovereigns, who reigned with varying fortunes for eighty years, one of the last being another Salah-ud-Din, who, army, when he himself was dying or dead, took Louis prisoner at Damietta.

Salah-ud-Din built a fortress on the mod town of Ajlun, and near the Wady Yabees; a Es Salt, where is the tomb of the prophet Hos 30 feet long and 3 feet wide. The Christ women of Ajlun are of the purest Grecian type eyes large and lustrous; nose, mouth, and c classical, and complexion pure olive.—*Osbo Islam.*

SALAI. TAM. An idol.

SALAJIT. HIND. A mixture of sulphure aluminium, sulphate of alumina, and sulphat iron. Its composition is very uncertain.

SALAM. ARAB. Peace, a Muhamma salutation, of which there are several ki viz.—

Salam Bandugee.
Salam Kurnish.
Salam Tasleem or Tasleemat.
Salam Qadambosee or Zameenbosee.
Salam Sashtung (prop. Hashtang).
Salam Gallay-milna, or embracing.

Us-salam-oon-alei-kum-Rahmat-Oolahe, The peace and mercy of God be with you all.

It is incumbent upon all Muhammadan return the words Alaik-us-salam to the sa tion 'Salam-alaikum' of a true believer, w ever be his rank.

Salam-alaikum, peace be unto you; O al salam, and unto you be peace! Salam say unto him peace, touching the b and forehead or lips and forehead; kis of the lips is not known with men, only cheeks and shoulders. The right cheek first, the left, and sometimes the cheeks alone kissed, but generally the shoulders, also as Ge xxxiii. 4, xlv. 15, Luke xv. 20. Kissing of hands is common, as in Matthew xxiii. 7, M xii. 38; and rising to receive, as in Job xxix.

One of Lane's useful allies was, he says, a bo seller. Ahmad, a descendant of the prop brought him a mushaf (a copy of the Kora which he wished him to purchase; but he thoug necessary to offer an excuse for his doing so. remarked that 'by my following or conforming w many of the ceremonies of Muslims, I tacitly o fessed myself to be one of them; and it is incu bent on him to regard me in the most favourable light.' 'You give me,' says he, 'the salutation of "Peace be on you!" and it would be impious in me, and directly forbidden in my religion, to pronounce you an unbeliever; for he, whose name be exalted, hath said in the excellent Book, "Say not unto him who greeteth thee with peace, Thou art not a believer" (chap. iv. v. 96).'

The not returning Salam is a sign on the part of the Bedouins that they are out to fight, and not to make friends. In India, after the

irst salutation of peace, in conversation you say, Is your illustrious disposition well?' and the eply is, 'Al hamd ul illah,' Thanks be to God, or 'Ap ki mihrbani se,' By your favour, and if enting to a proposition, 'Insha ul illah,' If it ease God. Salam-alaikum is the Hebrew alom Alechem, Peace be to you, of Luke x. 5. ve my peace to So-and-So, on parting, where e says good-bye, or God be with you. With ace, go in peace, Exodus iv. 18.—*Fraser's orasan*, p. 81; *Burton's Mecca*, i. p. 340.

SALAMANDER, the water-salamander of pan (Sieboldia maxima), the largest of existing ies of the order of Batrachians. These are , sluggish animals, said to be endued with an ordinary amount of vitality, and to live to eat age. They feed principally on fishes. r native home is in the clear mountain ams of the Japanese empire, in the valleys of hon, between lat. 34° and 46° N. They reside rivulets and lakes formed by the rains at a ht of from 4000 to 5000 feet above the level he sea; they grow to about 3 feet in length. A extraordinary aquatic salamander is found in lakes of Central Mexico,—the Siredon Mexi- m or Axolotl,—which in its ordinary state esses naked external gills.

ALAMI, HIND. Tribute, quit rent; Act vii. 863 imposed a quit rent in Bombay Presidency wo annas per rupee on all unadjudicated ated lands.

ALAMLIK, also Salamji. TURK. The place sembly in a house where the Muhammadan ting Salam-alaikum is pronounced.

AL-AMMONIAC.

ma, ...	ARAB.	Sadar, ...	MALAY.
-sha, Nou-sha.	CHIN.	Nowsadur, . .	SANSK.
sha, . . .	,,	Vayvagarra lunu,	SINGH.
ing-sha,* . .	,,	Navacharum, . .	TAM.

l-ammoniac is a hydro-chlorate of ammonia. substance from which this salt was first ined was the soot of camels' dung, by sub- tion, in Egypt, near the temple of Jupiter mon, whence its name. Since the establish- t of gas-works, it has been chiefly derived the liquor obtained during the preparation oal-gas. It is found native at Etna and uvius, in some of the Tuscan lakes, in Persia, hara, in Mongolia and Ile, from lakes and the nity of extinct volcanoes. That in use in ia was formerly obtained from Lan-chau-fu Ning-hia, in Kan-su; but the country of the or Sifing and Turfan formerly yielded it, also tures in the volcanic mountain of Peh-ting Turfan. It is met with in commerce as large s of a semicircular form, translucent, and uriess, with a sharp, saline, cool taste, but no ll. It forms a considerable article of trade in nal, where the manufacture has been known ages. It is important as a source of most of compounds of ammonia, and is used at Lahore for the manufacture of solution of ammonia, for snake-bites,* to a considerable extent. It is extensively employed in the arts, in the prepara- tion of aqua regia, in soldering some of the metals, in tinning iron and copper, in the preparation of dyes, liquid ammonia, and in various chemical manufactures.—*O'Sh.; Smith's China; Powell.*

SALANGORE, in lat. 3° 20′ N., and long. 101° 12′ E., lies on the south side of the entrance of the river of the same name. This place was formerly frequented for tin and other articles of trade. Salangore is separated from Perak by a small river called the Runkup, a little north of the Birnam stream. The Bugi occupy the coast. —*Newbold*, ii. p. 27.

SALARIAS ALTICUS. Near the rocks of the Ceylon coast are multitudes of this curious little fish, which possesses the faculty of darting along the surface of the water and running up the wet stones and across the sand with the utmost ease and rapidity. Mr. Gosse had seen a species of Antennarium similarly running quickly to and fro on the surface of the great beds of floating sea- weed in the Gulf-stream, progressing with the utmost facility by means of its pectorals and ventral fins, quite out of water. By aid of the pectoral and ventral fins and gill-cases, they move across the damp sand, ascend the roots of the mangroves, and climb up the smooth face of the rocks in search of flies, adhering so securely as not to be detached by repeated assaults of the waves. These little creatures are so nimble that it is almost impossible to lay hold of them, as they scramble to the edge and plunge into the sea on the slightest attempt to molest them. They are from three to four inches in length, and of a dark- brown colour, almost undistinguishable from the rocks they frequent.—*Gosse*, p. 122; *Tennent's Ceylon*, i. p. 332, ii. p. 493.

SALAR JUNG, a successful financier, for many years minister of Hyd[redacted] in the Dekhan. He was grandson of Mir Alam, who also had been the minister of that State. His titles from the Nizam were Mukhtār-ul-Mulk, and the Queen-Empress of India made him a Knight Grand Cross of the Star of India. He died A.D. 1883.

SALATAH. ARAB. A favourite Arab dish made as follows:—Take a cucumber, pare, slice, and place it on a plate, sprinkling it over with salt. After a few minutes, season it abundantly with pepper, and put it in a bowl containing some peppercorns, and about a pint of curds. When the dish is properly mixed, a live coal is placed upon the top of the compound to make it bind, as the Arabs say. It is considered a cooling dish, and is esteemed by the abstemious as well as by the toper.—*Burton's Mecca*, i. p. 198.

SALATHI. HIND. A kind of cotton floor- cloth.

SALATURA, the So-lo-tu-lo of the Chinese pilgrim Hiwen Thsang, the birthplace of Panini, the grammarian. Hiwen Thsang says it was 20 li or 3⅓ miles to the north-west of Ohind. At the village of Lahore, which is exactly four miles to the N.E. of Ohind, General Cunningham in January 1848 procured several Greek and Indo- Scythian coins, from which it may be inferred, with some certainty, that the place is at least as old as the time of Panini himself, or about B.C. 350. He therefore identifies Salatura with Lahore. The loss of the first syllable of the name is accounted for by the change of the palatal sibilant to the aspirate, according to the usage of the people of Western India, by whom the Sindhu river was called Hendhu, and the people on its banks Hindus. Salatura would therefore have become Halatura and Alatur, which might easily have been corrupted to Lahore; or, as General Court writes the name, to Lavor.—*Cunningham's Ancient India*, pp. 5–8.

SALEM, a town of Southern India, in lat.

11° 39′ 10″ N., and long. 78° 11′ 47″ E., which gives its name to a revenue district of the Madras Presidency, extending between lat. 11° 2′ and 12° 4′ N., and long. 77° 33′ and 79° 6′ E. The town is prettily situated on the Terumani mattar, 900 feet above sea-level, in a long valley, with the Shevaroy Hills towering above, six miles distant. The area of the district is 7483 square miles, and population 1,966,995. The district is hilly, and is largely cultivated by the Maleali race in villages at heights of 2230 to 4150 feet above the sea. The chief ranges are the Shevaroys (highest point 5410), the Kalrayan (about 4000), the Melagiri (4580), the Kollimalai (4663), the Pachamalai (about 4000), the Yelagiri (4441), the Jevadi (3840), the Vatthalamalai (about 4000), the Erivani and Valasaimalai (about 3800), the Bodamalai (4019), the Thopur Hills, the Thalaimalai. Dharmapuri is about 1500 feet, and Krishnagiri from 1500 to 2000 feet above sea-level.

The chief river is the Kaveri (Cauvery), from the left bank of which a large area in Tiruchengod and Namakal is irrigated. The Palar, Pennar, and minor streams fertilize the district. The district contains three palaiyams or zamindaris,—Sulagiri, Bagalur, and Berikai, all in the Osur taluk. A large portion of the Shevaroys is clothed with middling-sized jungle. Sandalwood is found, and the Jevadi and Yelagiri Hills contain some valuable timber. Magnesite veins occur chiefly at the chalk hills (so miscalled) near the foot of the Shevaroys. Potstone is found in several places. Magnetic iron-ore occurs in practically inexhaustible quantities. Corundum and chrome iron-ore are also obtainable. The Pennar and some other rivers yield gold. Hindu pilgrims crowd to the sacred springs on the Tirthamalai, to Hanumatirtham on the Pennar, to the pagoda at Osur, to the Adipadinettu at the falls of the Kaveri (Cauvery), and to the festivals at Dharmapuri, Mecheri, and other places. The chief shrines where the Malayalis worship are on the Shevaroys and the Chitterimalai Hills near Harur.—*Imp. Gaz.*

SALEMOTE, a silk scarf of Singapore, sometimes embroidered with gold thread. The Salendong and Salemote, with and without gold thread and silk, are in use throughout the Archipelago from Sumatra to Timor. Timor is the most remote of the eastern islands in which textile fabrics are manufactured, the countries beyond producing no other cloths than those of bark beaten out. The texture of the cotton cloths manufactured in Timor and the adjacent islands closely corresponds with those of the Batta of Sumatra and the Dyak of Borneo. The manufacture is evidently of great antiquity, and must have been introduced before that of Java of the present time, which is of Hindu origin. Cotton and dyes are grown in Timor. The silk threads introduced are made from raw silk imported from China and the continent of Asia.—*Cat. Ex.*, 1862.

SALENDONG, a silk scarf of Singapore. It is a woman's head-dress thrown over the head and shoulders.

SALEP. Salep misri, Arab., Hind., Pers. Oriental salep is probably obtained from Eulophia vera and E. campestris. European salep is obtained from Orchis mascula, *W.*; O. latifolia, O. morio, *W.*; O. militaris, *W.*; O. papilionacea, *W.*; O. coriophoira, *Pers.*; and O. undulatifolia; and Tacca salep from Tacca pinnatifida. The tubers of the orchis are compressed, ovoid, rather transparent, and composed chiefly of bassorine, soluble gum, and a large proportion of amylaceous matter or starch. One drachm of the powdered r requires 60 drachms of boiling water to effect it solution; two drachms afford a sufficient meal f an invalid. Good salep carefully prepared is o of the best articles of diet a convalescent can u In India the salep of Kashmir from E. vera reckoned the best. It is also imported from Persian Gulf. From the peculiar shape of tubers, it has gained immense, but most unmerit celebrity as an aphrodisiac. The same circ stance has given the orchis plant its name bot the Greek and Arabic language. Native pra tioners prescribe it in conjunction with m and some other ingredients, in such case require tonics. In England it is supposed chocolate-makers grind it up with cocoa; Europeans it is frequently used for child as an easily digestible form of farinaceous fo consisting mostly of bassorine. Residents Simla and Ootacamund (in the Neilgherries) ar the habit of collecting the tubers of sev orchids for family consumption. Tacca p abounds in certain parts of Arakan, and Mug race prepare the farina for export to China market. After removing the peel, root is grated on a fish-skin, and the pulp ha been strained through a coarse cloth, is wa three or four times in water, and then drie the sun. Mr. Nuttall (American Journal Pharmacy, ix. p. 305) says the Otaheite sal obtained from a new species of Tacca, whic names the T. oceanica.

SALEP-i-SHAITAN. Pers. Conium m latum; Cicuta virosa.

SALI, in Berar, silk-weavers of saree choli.

SALIBAH, an Arab race in the northern pa the Peninsula and southern parts of Mesopota who take their name from Salib, a cross. Anne Blunt describes them (ii. p. 110) as s of stature, well made, engaged in hunting, clothed in gazelle skins. They have donk and goats, but no camels or horses; they from the Arabs; they eat hedgehogs. T women are beautiful, but no Bedouin, howe poor, would marry one of them. She suppo them to be of Indian origin. Lieut.-Col. Pelly some men of this tribe at Koweit and elewh They are said to worship the cross (Salib), perform many ceremonies, more nearly allied the corruptions of Asian Christianity than Islamism. Men and women dance round a sor May-pole. They wear a carter's smock, com down to the feet, and which, like a boy's pinaf ties behind. They possess a beautiful breed donkeys, which they ride, without girths, up saddle made like a cottage wooden chair bot They squat on this seat, and twist their legs over a pummel peak, crossing them over the donkey's neck. They seem to prize their saddles as an Arab does his mare, and would not sell them. They appear a merry, quick-witted, disreputable lot, with retrousse noses and Irish features. They stood, with eyes twinkling (legs and hands always on the fidget), and pelted him with the peelings of their fun. This strange people live on the flesh of the gazelle, which they shoot, and dress

themselves in its skin. They wander about amongst, and are friends with, all the Arab tribes, d yet remain entirely distinct. They adopt me of the forms of the Muhammadan faith, but t feasts and marriages they raise the cross as a gn of rejoicing. They are the best guides for e desert, knowing where water is to be found, nd the position of the various tribes. Those om he saw seemed much more intelligent than Arabs, and they have more of a European an Asiatic cast of countenance.

SALICACEÆ. *Lindl.* The willow tribe of ants, comprising species of the genus Salix. licine is a crystallizable bitter principle, tained from the leaves and young bark of the plar, willow, aspen, etc.; used in rheumatism. forms small white silky needles, and in some pects resembles the vegeta-alkalies, cinchona g febrifuge properties; but it in containing no nitrogen, and with acids.—*Tomlinson.*

ARABICA. *Wight.*

Arab.	Chook, ...	Hind.	
Hind.	Ghasul, ...	Pers.	

Sunderbuns and on the Coromandel is made from it.

chiata, *Roxb.;* Koiloo, Koyala, l plant, very abundant in the ges and on the Coromandel coast, nds overflowed by the tides. It r soap and glass.—*W. Ic.; Roxb.*

ca, *Roxb., W. Ic.*

Beng.	Koyya pippali, . .	Tel.	
,,			

n plant on such salt grounds as by the spring tides on the Malabar ed for barilla. The value of barilla depreciated by the progress of in Europe, where the purest ctured by decomposing common by sulphuric acid, and at the low rate of £10 maunds. Salicornia, Salsola, and over every patch of saline land in —*Eng. Cyc.; Roxb.; W. Ic.; Voigt.*

B. A traveller, a class of devotees, the Tarikat or path of salvation of ns.

SOILS occur in many parts of British stan, in the Dekhan, and in the In Northern India they are own as reh (*q.v.*), and salts of soda are largely ctured from them.

carbonates of soda, known as rasi and sajji, are manufactured from reh soil. Rasi is ained by lixiviating the reh and concentrating brine by solar heat. Sajji is the fused solid ained by mixing reh with water, and exposing n a furnace to artificial heat. The products m both processes are crude carbonate of soda, these are largely used in the manufacture of p and tobacco.

Reh soil tracts have intermixed patches of salt soil and saltpetre soils, and if these soils are intermixed with the reh in the manufacture of sajji or rasi there will be no formation of salt. Reh soil, however, where genuine or pure, differs from the other soils containing sulphate of soda and saltpetre, as it contains no common salt.

An ordinary factory worked by five or six men will, in one season, produce over 250 British man or maund of crude carbonate of soda.

Glauber's salt is known in N. India as Khari, also Khari-nun. Its manufacture is by filtration and solar heat. The machinery requisite consists of a filter (channa), reservoirs (hauz or hauda), a shallow masonry pan (patta) 14 yards by 12 yards and from 5 to 6 inches deep, made of consolidated kankar, with a thick surface coating of lime-plaster. The patta or masonry pan is subdivided into four or five compartments (kyari) on different levels to facilitate transfer of the fluid. These are constructed on a tract of khari soil, where water is conveniently at hand, and in the early part of March work is commenced. The soil is gathered and taken to the factory, passed through the filter, and the compartments filled with the brine, and exposed to the action of the sun. On the second or third day, the contents of one compartment are run off into the others; one after another is thus emptied, until all the concentrated brine is collected in one compartment for the Glauber's salt to precipitate. The empty compartments are filled with fresh brine.

In the soil there is always a percentage of common salt, and during the evaporation the sulphate of soda first precipitates; secondly, the chloride of sodium. It is thus an easy matter to remove the upper layer of salt from the glauber beneath, and this is usually done.—*Carnegy.*

SALINE SPRINGS are found in Sind and in the higher portion of the Punjab; they contain common salt with some sulphate of soda and small quantities of other salts, when they are not simply brine. Traces of iodine are found near Kangra. Throughout Rajputana and in some parts of the Panjab, the wells are abundantly impregnated with soda. Some of the springs in Kamaon contain mineral impregnations, but scarcely to an extent to be considered saline. Scarcely any strong saline springs are thermal. The few thermal salines are chiefly calcareous, and one or two silicious. There are many saline springs in Turkish Arabia and in Persia; also springs in Salt Range, Peshawur; a hot fountain in Kattyawar, with saline and sulphur springs within high-water mark; sulphurous well near Somnath; saline springs in the Konkan; saline and sulphurous springs in Lukee pass; sulphuretted hot springs at Badrachellum on the Godavery; hot springs at Nair and Urjunah, and at Byorah in the Dekhan.—*Jour. B. A. S.* iii., 1856. See Reh; Salt; Saltpetre.

SALISBURIA ADIANTIFOLIA. *Sm.*

Gingko biloba, *Linn.*		Pa-hwo, ...	Chin.
Yin-kwo (fruit), .	Chin.	Gingko, Jinko, . .	Jap.

A tree of Japan, much cultivated in China, and found in many gardens in Europe. In congenial climates it attains the size of the walnut. Its leaves are wedge or fan shaped, deeply bilobed, and finely striated with veins, having some resemblance to the leaves of some species of Adiantum, whence it is commonly called maiden-hair tree in England. The pulp of the fruit is austere tasted, but the large kernel is sweet, with some degree of bitterness when raw, but agreeable as a dessert when roasted like chesnuts. They are much eaten in China. The Chinese are fond of dwarfing it, and it is often seen in that state in their gardens. Its fruit is sold in the markets in all Chinese towns by the name of Pa-hwo, and is not unlike dried almonds, only whiter, fuller, and more round. It is rarely eaten by Europeans.

—*Eng. Cyc.; Fortune's Wanderings; Roxburyh; Smith.*

SALITAH. HIND. A canvas sheet used to contain the articles composing a camel's load. In cold weather it is converted into a blanket.—*Burton's Scinde*, ii. p. 43.

SALIVAHANA was the son of a potter. He headed a successful popular movement, and became the chief of a powerful monarchy in Maharashtra. He ruled at Munji-Paithan. The ruler whom he overthrew is said to have been Vikramaditya, king of Malwa, but there are 135 years between the era of the historical Vikramaditya and that of Salivahana. He gave origin to a new era, which is still current in India. The era reckons from A.D. 78, the supposed date of his death. It numbers the solar years, as the era of Vikramaditya numbers the luni-solar years. Tod describes Salivahana as of the Takshak race, and states that the Salivahana era set aside that of the Tuar in the Dekhan. Salivahana had 300 wives, from whom the Beis Rajputs are descended.—*As. Res.* p. 121; *Elphinstone*, p. 224.

SALIX, the willow genus of plants. There are about 50 species in Eastern and Southern Asia. The earliest mention of the willow tree is in the Pentateuch, where the Israelites were directed at the institution of the feast of tabernacles to 'take the boughs of goodly trees, branches of palm [redacted] of thick trees, and willows of the brook, and to rejoice before the Lord their God seven days.' At a later period, the Psalmist describes the captives as lamenting—'By the rivers of Babylon, there we sat down; yea, we wept, when we remembered Zion. We hanged our harps upon the willows in the midst thereof. For there they that carried us away captive required of us a song; and they that wasted us required of us mirth.' Willows are valuable for economic purposes. S. Babylonica and S. Ægyptiaca occur in gardens in Upper India. S. Lindleyana, or dwarf willow, occurs at 12,000 to 13,000 feet on the Himalaya; S. chita and S. rotundifolia in Kanawar. In Tibet, the whole plough except the point, which is iron, is generally made of willow. In Afghanistan willow wood is generally used for building, as insects do not attack it. On the Chenab, pails, etc., are rudely cut from single blocks of the willow; and, according to Moorcroft, combs to remove the [redacted] goat's hair from the animal's back are made of this in Ladakh. The wood in Tibet and Spiti is employed for boarding. The small twigs are used for basket-work, and the leaves are highly valued in winter as food for sheep. One of the substances known as manna, the bed-khisht, used as a laxative, is said to be a product on a species of willow of Khorasan and Turkestan. S. flabellaris, *Ands.*, S. hastata, *L.*, and S. oxycarpa, *Ands.*, are found at various elevations in the Panjab Himalaya and Ladakh from 6000 to 15,000 feet; and the leaves, etc., of several are used as fodder. In Kashmir the willow is used largely for basket-making; in Tibet many of the houses are made of willow wattle and daub. Twig bridges of willow are mentioned in Spiti, Zanskar, and Ladakh, where Parrotia is not found. In Kashmir, willow twigs are employed as tooth-sticks. There also, and still more on the Chenab and in Ladakh, the trees are severely and systematically lopped, the young shoots and bark of the larger removed by hand, being used as fodder.—*Cleghorn; Royle; O'Sh. Hooker, Him. Jour.; Stewart; Honig.*

Salix acmophylla, *Boiss.*

Bisu, . . HIND., PANJ.	Budha, . . . SIN
Bedh, ... PUSHTU.	

A moderate-sized tree of Persia, Afghanista N.W. Himalaya, and Upper Sind. Wood tou and elastic, used in small carpentry; weight, lbs. to the cubic foot. Leaves as fodder.—*J. Murray.*

Salix Ægyptiaca, *Linn.*

Bed-i-musk, . . . PERS.	Khagawla, . . PUSI

Cultivated at Lahore for the distillation, fr the palm, of an aromatic water, which is m used in the hot season.

Salix alba, *L.*

Bushan, . . . CHENAB.	Kalchang, . LADA
Yur, Chung, . ,,	Walchang, .
Chaugma, CHEN., LADKH.	Shan, Madanu, . .
Bis, ... JHELUM.	Kharwal, . TRANS-I
Vwir, . . . KAGHAN.	

Dr. J. L. Stewart says that there is consider doubt as to this species, but it or an allied appears to be common in Kashmir, Pangi, Lah and Ladakh, etc., occasionally in the last f 5000 up to 14,500 feet, and it seems to occu Trans-Indus; height to 80 feet. It reaches 8 9 feet in girth when well protected. Moor mentions one of 16 feet, but the largest trees very often hollow. It is planted round al every village, and along the water-courses of Chenab. The slender branches and leaves as food for sheep and goats. Its timber is lightest of all woods, and is used for bungs.

Salix Babylonica, *L.*, Weeping willow.

Bada, Baint'h, . . BEAS.	Bisa, Giur, . . KA
Baida, ... ,,	Chung, ...
Mo-ma-kha, . . BURM.	Bed-i-majnun, . .
Bidai, ... CHENAB.	Laila, Kutira, . .
Pani-Jumma, . HIND.	Willa, Khar-Willa,
Sail-i-majnun, . ,,	Wala, . . TRANS-I

A small tree of Greece, Asia Minor, con on the sides of all the rivers and canals, as as in the gardens of the Chinese; is c vated in gardens in Northern India, thro out the Panjab, and to 5500 feet in the and Kashmir. Near Chumba Dr. Stewart trees of 12 feet girth. It grows rapidly, is easily raised in moist places by cuttings, u stakes of considerable size, which are often pla to consolidate the banks of watercuts, etc. branches and twigs are largely used for bask wattles, weirs, etc. Good cricket bats have made from it. The leaves are reckoned to contain a neutral principle called salicine, tannic acid; some consider it nearly equal to chona; it is also said to be anthelmintic. The s twigs are used for kiltas, baskets, and rope brid

Salix caprea, *Linn.*

Bed-i-mushk, . . PERS.	Khagawala, . . PUS
Khilaf-i-balki, . . ,,	

Cultivated at several places in the Pa plains. The large yellowish catkins of flo appear in February, and are collected and sold at about 6 or 8 rupees per maund to perfumers, who distil a scented water from them. This, mixed with water, is drunk as a sherbet, which has a rather pleasant though somewhat medicinal taste.

Salix tetrasperma, *Roxb.*

Bheh, ... ASSAM.	Bhainsa, Baishi, . HIND.
Pani-juma, . . . BENG.	Bhumtas, . JALLANDHAR.
Mo-ma-kha, . . BURM.	Gud-byns, . KAMAON.
Bed, Laila, Safeda, HIND.	Walloonj, . . MAHR.

In the Panjab this is planted in the plains, but is occasionally seen in the outer hills to 4000 feet, and to 5000 or 6000 feet on the banks of the hill streams of Kamaon. It is common at Rangamally, in the Terai, in the Kheeree pass, and along the foot of the mountains; is very common throughout the Madras Presidency from the sea-el up to 7000 feet; is absent from Ceylon, but nds to Burma and Java. Its wood is small tough and elastic, but is not used in Burma India. A cubic foot weighs 37 lbs. It is adily raised by cuttings, and grows rapidly to considerable size. Dr. Stewart had seen trees 6 feet girth. The names of all these plants, as la and majnun, are alluding to the well-known stern love story.

SALKH. The custom of the Arabs, called them As-Salkh, *i.e.* scarring, appears to be a de of establishing their manhood and courage. e father and friends go out into the open air, ere they surround the lad, who sits down.

SALLY MAN, Velella mutica, a hydrostatic ulepha of a very beautiful and interesting struc-e. Also V. limbosa and other species.

SALMALIA MALABARICA. *Sch. and E.*
mbax Malabaricum, *D.C.*; *B. heptaphyllum*, *Roxb.*

kto shimul, . BENG.	Mul elavu, . . MALEAL.
, Let-pan, . BURM.	Salmali, Shalmali, SANSK.
r, ... DUKH.	Katu-imbul-gas, SINGH.
l cotton tree, . ENG.	Elavam, Pula maram, TAM.
kta-sembal, . . HIND.	Buraga, ... TEL.

his is a large tree, with flowers of a beautiful colour, common in the warmer parts of lon, and from one end of India to the other, ticularly along the foot of the Himalaya moun-s, and is one of the most abundant of the st trees of Tenasserim. The tree grows idly, and is occasionally found 30 to 40 feet girth. The tree is sometimes called S. penta-llum, when the lobes of the leaves are 5 ead of 7, but there is no difference in species, the trees frequently carry both kinds of leaf. en very large, their appearance is magnificent; thick stem spreads out towards the base at ervals into buttress-like projections, strengthen-g and supporting the main stem; and in the ring season the tree is covered with huge mag-lia-shaped scarlet blossoms. The silky down t envelopes the seed is used to stuff mattresses l pillows, and has occasionally been made into th; the young trees and branches have short t thorns. The young flower-buds are cooked d eaten in some places; its white, soft, light, ittle wood, though not strong, is used for boxes, abbards, doors, and water-conduits; white ants dily attack the wood. Leaves used as fodder; gum is the mooche-ras of the bazar, and the ts of young trees produce the safed musli, ich is used to make a cooling beverage.

SALMA SITARA, of gold and silver, a manu-ture of Bengal.

SALMON.

x, . . . DAN., SW.	Salamone, . . . IT.
chs, . . . DUT., GER.	Salmao, ... POR.
aumon, . FR., SCOTCH.	Semgha, ... RUS.
Sermone, ... IT.	

No trout or salmon inhabits any of the rivers that debouche into the Indian Ocean (the so-called Himalayan trout is a species of carp). Salmonidæ are, however, found in the Oxus, and in all the rivers of Central Asia that flow north and west; and the Salmo orientalis, *M'Clelland* (Calcutta Jour. Nat. Hist. iii. p. 283), was caught by Griffith (Journals, p. 403) in the Bamian river, which flows into the Oxus, and whose waters are separated by one narrow mountain ridge from those of the feeders of the Indus.

S. orientalis, *Pallas*, according to Adams, p. 187, occurs in the Gulf of Pe-chi-li. The nature of the tropical ocean into which all the Himalaya rivers debouche is no doubt the proximate cause of the absence of Salmoninæ. Sir John Richardson (Fishes of China Seas, etc., in Brit. Ass. Rep., etc.) says that no species of the order has been found in the Chinese and Eastern Asiatic seas.

SALON, Manchu tribes on the Upper Saghalin.

SALONES are a tribe of sea-gypsies, living in the dry weather in their boats, and during the monsoon seeking a temporary shelter in huts built on the lee side of the islands of the Mergui Archipelago. They are said to be divided into several clans, which have each a recognised right to fishing-grounds within certain limits. Formerly they were much exposed to the predatory attacks of Malay pirates, but these troubles have almost ceased, and during the fine weather Salones may be seen in their peculiar wicker-work boats at Mergui, whither they come to dispose of their fish and beche-de-mer. In personal appearance they are between the Malays and the Burmese. Their language has affinities with the tongue of the former, and belongs to the Malay-Polynesian group of agglutinating languages. 894 were counted in the Mergui district living in various islands of the Archipelago.

SALOO, a cloth of Banda; it is dyed with alkanet root, with a mixture of castor-oil, in the proportion of one pâo to every piece of cloth, each piece of cloth being eight yards. Besides castor-oil, Russee, a kind of earth, is also mixed, and goats' dung and alum. The cloth is first rubbed for ten days in the castor-oil, Russee, and goat's dung, and then dried in the sun. After ten days it is well washed and dried, and then steeped in the oil for five days; afterwards washed and dried in the sun; and after a third application of soap and water, the cloth is ready for sale. The cost of dyeing different kinds of cloth is as follows:—Nynsook cloth sells at 1 anna per yard; mul-mul at ¾ anna per yard; and that used for the pagri or turband at ½ anna per yard.

It is not easy to ascertain the extent and value of the quantity of saloo cloth annually manufactured. It is exported to other parts of India, and its use is general, and not limited to particular castes. The wholesale market value is about 1 rupee 6 annas 6 pice per piece, according to the quality of the cloth dyed.—*Cal. Cat. Ex.*, 1862.

SALOTAR. A work is extant on veterinary medicine; it is said to be by Salotar, who is stated to have been the tutor of Susruta. It was translated from Sanskrit in the year 1831. But Professor Max Müller mentions that Salotar is not known as the author of such a work, and he adds that Salotariya is a name of Panini, and that the teacher of Susruta is said to have been Devodasa. Salotar, also Salastri and Salotri, HIND., is a veterinary surgeon.—*Müller's Lectures*, p. 142.

SALSETTE is supposed to be derived from She-aste, meaning, in Mahratta, eighty-six, it having formerly contained, it is said, that number of villages. Mr. Burgess says (p. 349) it is called Shatshashthi. It is 150 square miles, and much

the largest of the many islands near the island of Bombay, and the islets of Dravee and Versova are just off the shore of Salsette. Salsette and Bassein were taken by the British on the 28th December 1774, and Salsette, Bassein, and the revenues of Broach were ceded by Raghoba on the 6th March 1775. Its northern point is in lat. 19° 7′ 40″ N., and long. 72° 47′ E. It is connected with Bombay by a causeway and bridge at Sion, 2 miles E. of Mahim. Between Mahim and Bandora are a fine causeway and bridge, constructed at the joint expense of Sir Jamsetjee Jejeebhoy and Government. It is beautifully diversified and well peopled. It has many ancient rock-temples at Kanheri, Marol, Magathana, Mandapeswar, and Jogee, and at Kanheri, about one hundred, mostly small, excavated in a large, solitary, bare hill, some of them covered with sculpture of the Mahayana type. The chaitya at Kanheri has been pronounced by Dr. Fergusson to be merely a copy of the Karli cave. It belongs to the beginning of the 5th century, but nine of its viharas seem to be of earlier date.—*Burgess*, p. 349.

SALSOLA, Kontee-lanee and Kharu lanee, SIND. A genus of plants belonging to the natural order Chenopodiaceæ, named from Salsus, salt, in consequence of many of the species, S. kali, S. sativa, S. soda, and others, yielding kelp and barilla. The species are chiefly found on the sea-shore in temperate climates, but also in hot parts of the world where the soil is saline, or where there is salt water in the vicinity. Various species of Salsolaceæ abound in the more saline dry parts of the doabs of the Western Panjab. The Salsola kali of Europe and the colder parts of Asia is mostly found on sandy shores or arid deserts; an annual bushy plant, with stiff, thorny, channelled leaves. The dried plant, when reduced to ashes, yields 25 to 30 per cent. of carbonate of soda; used in India in soap-making, calico-dyeing, washing, etc.

SALSOLA INDICA. *Willde.* Oomari-keeray, TAM.; Ella-kura, TEL. This, with species of Salicorneæ, and other of the Chenopodiaceæ, are natives of the salt marshes and grounds near the sea, flowering the greater part of the year. The [illegible] universally eaten by all classes green leaves are univers[illegible] and are reckoned of natives who live near the sea, [illegible] very wholesome. The leaves of this [illegible] saved many thousand lives during the famine in India of 1791–92–93. It is a small procumbent weed, with linear-shaped leaves, is used as greens, and is a very pleasant vegetable. This, being naturally salt, has given rise to the Teling saying, 'The carping husband (finding fault without cause) says to his wife, There is no salt in the Ilakura.' In Malabar, barilla is made from it.

SALSOLA NUDIFLORA. *Willde.* Ravakada, Reyyi-kada, TEL., is a native of salt barren lands near the sea, and flowers during the greater part of the year. The stems are perennial, many spreading close upon the ground, and often striking root, ramous extremities of the branches ascending. The plant is only used for fuel, but Roxburgh believed it would yield excellent soda. —*Roxb.; O'Sh.; Voigt; Jaffrey.*

SALT, Common Salt.

Malh, ...	ARAB.	Shih-yen, . . .	CHIN.
Uyah, . . .	BALI, JAV.	Kwan-ming-yen, .	,,
Tsa, ...	BURM.	Jung-yen, T'sing-yen,	,,
Zout, ...	DUT.	Meet, Mit, . . .	MAH.
Muriate of soda, .	ENG.	Gharam, Garam,	MALAY.
Chloride of sodium,	,,	Nun, Noon, . .	PER.
Sel, ...	FR.	Sol, ...	RU.
Salz, ...	GER.	Lavana, . . .	SANS.
Namak, ...	HIND.	Lunu, ...	SING.
Sale, ...	IT.	Uppu, . . .	TAM., TE.
Sal, .	LAT., PORT., SP.	Tuz, ...	TUR.

Four kinds are distinguished,—rock-salt, s[illegible] salt, lake-salt, and earth-salt. When found n[illegible] in immense masses, which only require to [illegible] dug and reduced to powder, it is termed r[illegible] salt; when obtained by the evaporation of [illegible] water, common salt or sea-salt; and when ma[illegible] factured from the saline soil, it is known [illegible] earth-salt. Sea-salt is extensively manufactu[illegible] on account of the Indian Government at m[illegible] places along the coast. The process is not eve[illegible] where exactly the same, but generally, the [illegible] water being raised by means of levers, ca[illegible] pakottas, is run into shallow beds or pans, [illegible] evaporated, additional water being added as [illegible] evaporation goes on. The salt is raked to [illegible] side, and conveyed to platforms or raised pla[illegible] where it is heaped in quantities of 10 or n[illegible] garce. In some places a proportion of the [illegible] water is obtained from wells dug near salt cre[illegible] in others the salt water is dammed up in [illegible] mouths of rivers, where it is partially evapor[illegible] for some time before being run into the cry[illegible] lizing pans. In some parts of Ceylon, of [illegible] adjoining coast of the Peninsula of India, w[illegible] the beach is long and shelving, also on the s[illegible] of the Runn of Cutch, salt is formed naturall[illegible] the sea-shore, by the sun's rays evaporating [illegible] tidal waves.

All round the coasts of Ceyl[illegible] and the Peni[illegible] of India, but chiefly on the east coast, s[illegible] locally made in great quantities, and at a [illegible] defying all foreign competition. For this re[illegible] in British India, Ceylon, and Netherland I[illegible] salt manufacture is a monopoly of the respe[illegible] governments in India, and yields a large [illegible] of the revenue.

In Bengal, the monopoly of salt in one [illegible] or other dates at least from the establishmen[illegible] the Board of Trade there in 1765. The s[illegible] monopoly of salt commenced in 1780 [illegible] system of agencies. The system [illegible] 1780 continued in force with c[illegible] and cations till 1862, when the se[illegible] introduce[illegible] occasional mo[illegible] were gradually abolished, leaving the suppl[illegible] salt, whether by importation or excise ma[illegible] facture, to private enterprise. Since then, Bengal proper, the supply of the condiment [illegible] been obtained chiefly by importation, but in [illegible] by private manufacture under a system of exc[illegible]

The Indian Salt Act xij. of 1882 was pa[illegible] by the Governor-General on the 10th March, repealed the Inland Customs Act viii. of 1[illegible] and the Salt Act xviii. of 1877; also sectio[illegible] of the Bengal Salt Act vii. of 1864, clauses *b* [illegible] *c* of section 39 of the Burma Land Act i[illegible] 1876, and sections 36 and 37 of the Ajmir L[illegible] Regulation iii. of 1877.

Act xii. of 1882 embraced the N.W. Provinces, Panjab, Oudh, Ajmir, Mairwara, Sind, the Patna Division, and Central India, and fixed Rs. 50 as the fee for a licence to manufacture and refine saltpetre and to separate and purify salt; also Rs. 10 for a licence to manufacture sulphate of soda (Khari-nun) by solar heat in evaporating

CTUARY, a place of refuge or safety. ave been established in most countries, to f alleged criminals and debtors escaping mmediate punishment, and so admit of y examination into the merits of their In one of these, in Rajputana, whatever hether man or animal, passed their abode e purpose of being killed, was saved (amra). ors to the state, robbers, felons escaped con- ent, who may fly for sanctuary (sirna) to the ings (upasra) of the Yati, shall not there be l by the servants of the court.' In Persia, ish Arabia, the Muhammadans have several tuaries. In most of the cathedral towns of pe there were until lately places of this , and the Broad Sanctuary of Westminster in don still bears the name. See Bast.

ANCU. SANSK. A gnomon for astronomical poses. The pillars which are erected in front very pagoda are real gnomons.

AND.

l, ... ARAB.	Arensi, ... IT., SP.
l, ... DUT.	Arena, . . LAT., PERS.
le, ... FR.	Areia, ... PORT.
, Reti, . . . HIND.	Pesok, ... RUS.

howers of sand fell in China on the 26th ch 1850, and lasted several days; about ten ns to the square foot collected in one day, or t eighteen tons per square mile. Such wers are frequent,—three occurred in 1850; natives believe that the dust comes from the ert of Gobi. Mr. J. Alexander mentions t on the 29th March 1821, when in lat. 11° 3′ and long. 22° 5′ W., 300 miles from the ic coast, sand was blown on to the rigging the ship.—*Jam. Ed. Journ.* vii. p. 494.

SA . HIND. A bull liberated by Hindus on em occasions, and allowed t wander at ll.

SA a sort of lizard in Java. It is l ed, the product applie Muhammadans the is; the reptile is also eaten as an phrod —*Gen. Med. Top.* p. 151.

SANDACRES, districts in Ceylon which differ om those called Patuna in being studded with roups of timber trees of majestic dimensions.—*ennent.*

SANDAL, a ceremony; an embrocation of ndal-wood.

SANDAL-WOOD.

Sandal-abiaz, . . ARAB.	Sandel-holz, . . . GER.
Chandana, BENG., SANSK.	Sandalo, IT., SP., PORT.
ra-mai, . . . BURM.	Shandana, . . . JAP.
da-ku, Ka-ra-moi, ,,	Sandal safed, . . PERS.
Sh-ganda, . . . CAN.	Sandaloe dereos, . RUS.
h-chen-tan, . . CHIN.	Sandan, . . . SINGH.
Tan-hiang, Tan-muh, ,,	Sandel trad, . . SW.
Kayu-yndan, COCH.-CHIN.	Chandanam, . . TAM.
Sandeltræ, . . . DAN.	Chandanapu, . . TEL.
Sandel-hout, . . DUT.	Tsandan, ... TIB.
Sandale, Santal, . FR.	
Ayasra, Ayasru, AMBOIN.	Ahi, Eimeo, . . TAHITI.
Iyarsi, ... FIJI.	Aika manil, . . TIMOR.
Nassau, . . . N. HEB.	Turi-Turi, OPARO ISLANDS.
Nebissi, TANNA ISLANDS.	Sarpa-bridaya, . SANSK.
Bua-ahi, . . MARQUESAS.	Mala-yaja, . . . ,,
Hiahi, SANDWICH ISLANDS.	

Many of the synonyms for this wood have been derived from the Sanskrit, the letters ch of that tongue being converted into s and ts. One kind is the produce of a small tree, Santalum album, growing in India and Ceylon, which gives its title to the natural order of plants called Santalaceæ or sandal-worts. The sandal-wood of the Sandwich Islands is from two other species of the same family, S. Freycinetianum and S. paniculatum; but S. Freycinetianum has been so recklessly cut down in the islands of the South Seas that it has almost disappeared. The Myoporum tenuifolium, or spurious sandal-wood tree, grows in elevated situations, attains to 15 or 20 feet in height and 3 or 4 feet in circumference. Its scented wood varies from yellow to red, according to the age of the tree, and is used for planes. A white sandal-wood, termed lava or lawa, is imported into Bombay from Zanzibar, and is applied to the same purposes as Mysore sandal-wood.

Another spurious kind is from the Exocarpus latifolia of the Percy Islands, Cape Upstart, the Palm Islands, Repulse Bay, etc., and in India the wood of the Plumieria alba is fraudulently mixed with the billets of the true sandal-wood. In the year 1881-82, the value of the exported sandal-wood from India was Rs. 3,98,284, and in 1882-83, Rs. 4,02,031.

Coorg sandal-wood sells at Rs. 180 to Rs. 425 the ton. That of Mysore is of excellent quality, and there the tree has been strictly conserved since the middle of the 19th century. Up to 1875-76, five sandal-wood plantations had been formed in Mysore. The Mysore revenue from sandal-wood (1055 tons) in that year was Rs. 2,87,132. [illegible] wood was [illegible] inferior [illegible] down w[illegible] root; i[illegible] logs, whi[illegible] in order [illegible] outer woo[illegible] out touchi[illegible] only valu[illegible] however, [illegible] yellow; [illegible] layers of t[illegible]od.

The odour of sandal-wood is very strong, rose-like, and enduring; its taste slightly bitter. The odour is due to the presence of an essential oil, heavier than water, readily congealed, and having a peculiar sweet smell. The deeper the colour, which is of a yellow-brown, and the nearer the root, the better is the perfume. The Chinese imported an amount of sandal-wood in 1838 worth about 150,000 dollars. From Timor and the Fiji islands China derives her chief supply. The natives of Yap, the Isle of Pines, and Maree traffic with ships for the sandal-wood. Timor is the only country in the Eastern Archipelago which produces it in any quantity. That of Bonin Island is of excellent quality.

The oil is employed by the European perfumers, and in India is very extensively used for the adulteration of attar of roses. The wood in powder is given by the native physicians in ardent remitting fevers, and is supposed to be sedative and cooling; with milk it is also prescribed in gonorrhœa. The Chinese consume it largely as a fancy wood, and by them it is often elegantly carved. By the Chinese it is ground into powder and used as a cosmetic. The powder is rubbed on the skin to allay the irritation of mosquito bites, of prickly heat, and other cutaneous disorders. The wood is a preservative against insects, and is much used in making work-boxes, walking-sticks, pen-holders, and other small articles of fine ornament. It is much used in

India and China for burning in temples, is extensively employed as a fuel in the funeral ceremonies of the Hindus. Its bark gives a most beautiful red or light claret-coloured dye, but it fades almost immediately when used as a simple infusion. In the hands of the experienced dyer, it might, it is supposed, be very useful. — *G. Bennett*, p. 419; *Tomlinson; Tredgold; Ainslie; Crawfurd; M. E. J. R.; Macgillivray's Voyage*, i. p. 97; *Bombay Forest Reports; Report of Madras Forests; Poole, St. of Comm.*

SANDARACH, Sandrac, Sandarac.

Sundroos, Zoos, . ARAB. | Yun-hiang, . . . CHIN.

A resinous substance met with in round or elongated tears, of a whitish or pale-citron yellow; brilliant, transparent, and limpid, brittle under the teeth, burns with a clear flame, and emits a pleasant odour; taste resinous, and slightly balsamic. It is used as an ingredient in varnishes and incense; when reduced to a powder, it forms the article term pounce. Sandarach is obtained from Morocco, according to Brongniart and Schousboe from the Callitris quadrivalvis, a coniferous tree, which in Barbary is called the arar tree, and attains a height of from 15 to 20 feet. It was discovered by Desfontaines on Mount Atlas in 1796. Dr. Lindley had seen a plank two feet wide of this sandarach tree. The wood is con- [illegible] s indestructib[illegible] nd they use [illegible] mosques. [illegible] vagantly [illegible] een the [illegible] ed arbor [illegible] s striped, [illegible] ed, apiatæ. [illegible] able. The [illegible] —*Faulk-* [illegible] *Smith.* *ner* [illegible] ng natur- [illegible] and

SAND-B[illegible] ally all along the [illegible] ores of Brit[illegible] in the tracts on the margin of the Indian desert; but more could be done to prevent the sands being blown from the deserts and from the gulf between Ceylon and Peninsular India, and from the shallow beds of its many rivers. Bremontier, by planting the Landes of Gascony with the cluster or pouch pine (Pinus pinaster or P. maritima of botanists), recovered 100,000 acres from the blown sand.

This class of plants has been largely utilized in Australia, and Baron von Mueller enumerates sixty genera, which he recommends to be so employed; among them species of aloe, carex, casuarina, cynodon, opuntia, spartina, spinifex, stipa, tamarix, and yucca.

Spinifex squarrosus, Linn., known to Europeans by the designation of ground rattan and sea pink. The Tamil name, Ravan mise or Maha Rawana and Ræwula, *i.e.* whiskers of Ravana, is a descriptive epithet. It comes near to the sand carex of England in its habit of growth, creeping along horizontally, sometimes above, sometimes below the surface of the earth, emitting roots and shoots at intervals of a few inches. It is extremely tenacious of life, the shoot at every node being capable of renewing the existence of the individual as fast as destroyed, and the whole plant offers a resistance to the effects of a storm, which is rarely overcome. This species would be nearly as indestructible from natural causes as couch grass, and would speedily colonize the sand tracts spontaneously, if it wer[illegible] unmolested for a year or two.

Ipomœa pes-capræ, Sweet. Mosul t[illegible] Goat's-foot-leaved ipomœa, or rabb[illegible] perennial, creeping to a very great ext[illegible] rooting at distant intervals. Leav[illegible] long-petioled, two-lobed, like those of [illegible] tipped with a neacro. Flowers larg[illegible] purple, very handsome. This fine [illegible] equally abundant in both Peninsulas [illegible] also a native of Mauritius, Macao, etc., [illegible] the place of C. soldanella of the Br[illegible] and a more striking and beautiful sp[illegible] tropical bindweeds is rarely seen. Rab[illegible] and horses eat it, so do cows, but th[illegible] tainted. Great difficulty occurs in [illegible] plant in the vicinity of houses, as the [illegible] tread it down, and cattle nibble the te[illegible] It naturally takes a higher position on [illegible] band than the spinifex, and suffers [illegible] during a storm; but they often gro[illegible] and conjointly effect much benefit. T[illegible] arrests the drifting sand, and the ipom[illegible] what the former collects. Mr. Cadde[illegible] extensively along the canal banks near [illegible]

Canavalia obtusifolia, D. C. Koyli a[illegible] Common on the sea-shore, frequentl[illegible] with the Ipomœa pes-capræ. It is a [illegible] plant, very abundant at the Adyar, [illegible] mouth of the Godavery, and between [illegible] Anjengo.

Hydrophylax maritima, Linn., the [illegible] kola of the Singhalese, literally jointed sea-shore plant, a straggling herbaceous plant, native of the shore of Coromandel, where it shows its pale lilac blossoms great part of the year. The branches run over the sand, sometimes under the surface, and strike root at the joints. It answers well when the sand is moist.

[illegible] *sarmentosus, Wight Ill.*, [illegible] ble plant, commo[illegible] along the [illegible] *Microrhy*[illegible] flagelliform runners [illegible] widely-diffused hum[illegible] sea-beach, with long [illegible]

Pupalia orbiculata, Wight.

Achyranthes orbiculata, *Heyne.* | Adai yo[illegible]
Cyathula orbiculata, *Moquin.* |

Grows on sandy soils near the sea-beach, abundant at St. Thome and near the mouth of the Adyar river. It is an extensively-spreading procumbent plant, the branches being often several feet long; bristles attaching themselves to the clothes of passengers, cling to them with tenacity.

Pandanus odoratissimus, Linn., the kaloo bush, Taylie maram, TAM., is a large spreading ramous shrub, often planted in belts, but takes up much room, forms dense thickets, and harbours venomous reptiles. The lands in which chay roots is cultivated are often protected from drift sand by means of this shrub. It is a very strong binder, but is objectionable from its raising sand-hills.

Ehretia arenaria, Griffith, is found between lat. 12° and 28° N., binds together loose sand in a minor degree. It may be the same as Ehretia cuneata? *W. Icon.* iv. t. 1385, which grows on sandbanks in the beds of all the rivers of the Western Peninsula of India.

Pedalium murex, Ipomœa pes-tigridis, and Sesamum prostratum, etc., co-operate in the work of conservation to a minor extent, but are less widely diffused along the coast; also Eagrotis Coromandellia. Trees such as the cashew

(Anacardium occidentale), the Alexandrian laurel (Calophyllum inophyllum), and the wild date (Phœnix sylvestris) grow well, and render a double service by preventing a further encroachment of sand, and rendering the land useful. In Ceylon, the grass-worts, Salicornia Indica, and salt-worts, Salsola Indica, are the first to appear among the newly-raised banks. Ipomœa pescaprœ abounds on the shores, also Canavalia obtusifolia, Dolichos luteus, and the Hydrophylax maritima. A little above high-water mark is, likewise, the Aristolochia bracteata, the Hedyotis umbellata, Sayan; also Choya, SINGH.; Gloriosa superba, Vishnu karandi, TAM., or Lippia nodiflora.—*Dr. Clephorn; Sir J. E. Tennent; Von Mueller; Prof. Rolleston*, p. 16.

SAND-BOX TREE, Hura crepitans. Chiefly remarkable for the violence with which the ripe fruit opens to discharge its seeds, often with a report like that of a pistol.

SANDERS-WOOD. Red Sanders-wood.

Sundun,	ARAB.	Ruttunjee,	GUJ., HIND.
Surw-ul-Ahmir,	,,	Sandalo roso,	IT.
Honnay,	CAN.	Sundul-surkh,	PERS.
Sandal-hout,	DAN.	Buckum,	,,
Lal-chundun,	DUK.	Rakta-chandana,	SANSK.
Red wood,	ENG.	Ranjana,	,,
Ruoy wood,	,,	Sigapoo shandanum,	TAM.
Santale rouge,	FR.	Ku-chandanum,	TEL.
Sandal-holz,	GER.		

The sanders-wood or red sanders-wood of commerce is the product of a large useful timber tree, the Pterocarpus Santalinus, found in Malabar, Mysore, Ceylon, near Madras, in the Pulicat and Tripaty Hills, Malay Peninsula, and Timor. The wood is extremely hard, of a fine grain, and a bright garnet-red colour, which brightens on exposure to the air. It is employed to dye lasting reddish-brown colours. The concentric circles are finely divided by lines which indicates a deep-red to [illegible] cold water. It is principally imported from Calcutta in logs [illegible] diameter, generally without the roots and light pieces; it is very hard, and it is very much used as a red dye-wood, [illegible] often for turning. The logs are often notched at both ends, or cut with a hole as for a rope, and much worn externally from being dragged along the ground; other woods, as also indeed ivory tusks, are sometimes thus perforated for the like purpose. With different mordants, it yields various shades of red; these are said to be little permanent. This wood is largely exported from, but little used in, Madras. The Madras exports for 1854 amounted to 47,431 cwt., value 5[illegible]570 rupees.—*M. E. J. R.; Tredgold.*

SAND-GEMS, or Ava gem sand, comes from the neighbourhood of Ava, and is sometimes one of the Shan articles of merchandise. It consists of small fragments of nearly all the precious stones found in the country; but garnet, beryl, and spinel are its principal constituents, more especially the last, which seems to constitute nearly three-fourths of the whole mass. A single handful will contain specimens of every shade,—black, blue, violet, scarlet, rose, orange, amber-yellow, wine-yellow, and white.—*Mason.*

SAND GROUSE, the Syrrhaptidæ, *Blyth*, and Pteroclidæ, *Jerdon*, are also known as the rock grouse and rock pigeon. They are birds of rapid and powerful flight. The Indian species are Pterocles arenarius, *Pallas*, Pt. fasciatus, *Scopoli*, Pt. alchata, *Linn.*, Pt. exustus, *Temm.*, and Pt. Senegallus, *Linn.*, the last being of Africa and Arabia, and it is said also of Sind. The Tibetan sand grouse, Syrrhaptes Tibetanus, *Gould*, repairs in large flocks to drink at the fresh-water springs. The plumage of both sexes is much alike, but the long tail of the male is distinctive.—*Adams.*

SANDHARA. HIND. Cutlers in Hindustan, who profess to have come originally from Marwar, and to be related to the Rajputs. Muhammadans who pursue the same avocation are called Saikalgar.

SANDHEADS, a maritime term applied to the seaward islets of the delta of the Hoogly, nearest the Bay of Bengal.

SANDHI, a form of conjunction of words in Sanskrit, and in those words of the Telugu language derived from Sanskrit, and is a systematic element in grammar.

SANDHI or Sandhya. SANSK. The twilight or crepuscle. The Sandhya of Brahma consists of 1,728,000 solar sidereal years, the same duration as the Krita or Satya-yug, which quantity is used in its double capacity for constructing the Kalpa. Pratas sandhya, the morning twilight; Sayam sandhya, the evening twilight. The twilight of each yug is equal to 1-6th part of the same.

SANDHYAVANDANUM, three prayers by Brahmans at sunrise, noon, and sunset.

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This el[illegible]rge size in Burm[illegible] enang, the Molucc[illegible] Philippin[illegible] is scarce in the forests of British Burma, but is large and plentiful near all villages both in the Rangoon and Tounghoo districts, where it is cultivated by the Burmese for its fruit, which is of the size of an orange, and has a fleshy acid pulp. The wood is white-coloured, and adapted to every purpose of house-building. The pulp of its fruit is eaten raw by the natives of Tenasserim, who esteem it as excellent. It is watery and cooling, and makes a good jelly, but this has a peculiar odour. Its root is bitter, and used in medicine in bowel complaints.—*Roxb.* ii.

SANDOWAY (Than-dwai), a British district in the Arakan division, British Burma. Area, 3667 square miles; population (1872), 54,725 souls. The town is situated in lat. 18° 27′ 35″ N., and long. 94° 24′ 36″ E., on the Sandoway river, about 15 miles from its mouth.

SANDRACOTTUS of the Greeks, king of Magadha, was a contemporary of the early successors of Alexander. He was the Chandragupta of the Indians, who founded a new dynasty, and he was grandfather of the Asoka who reigned B.C. 250, the Constantine of Buddhism, the first who gave that religion supremacy in India.

SANDSTONE ROCK occurs in most countries, an aggregation of sand by a sort of semifusion, as in quartz rock and in common gritstone, adjoining trap dykes or great faults. In many of the white sandstones the grains merely cohere together. Some sandstones are in the laminæ, plane, waved, or slightly concentric; these admit

of being readily split. The freestones are not distinctly laminated, the grains being so arranged as to present equal resistance in every direction. They work freely under the stone saw and the ordinary picks and chisels. They can also be turned into balustrades, pedestals, and vases. In the East Indies, sandstones occur of different qualities, from the coarsest soft grit to the hardest freestone, the most compact snakestone, and the toughest chert.

The sandstones of the Kymore range in the Vindhya have a high commercial value at Partabpur, Chunar, and Mirzapore, being used as flagstones and for ornamental purposes. The proximity of the Ganges affords an easy river carriage. They are in general fine-grained, and of reddish-yellow or greyish-white colours.

In the upper Bhanrer series are two varieties of excellent building stone,—one dark-red, sometimes quite unspotted, sometimes streaked and dashed with yellowish-white spots; the other is a yellowish-white, very fine-grained rock, perfectly homogeneous both in texture and colour.

Flexible sandstone is found in Ulwar, at Dadri, in Jheend, and at Jubbulpur. It is called Sang-i-larzan, *i.e.* shaking stone, and is obtained from the Kalyana Hill in the pargana Dadri; it is used for roofing and for ornamental pillars. Sandstones also occur at Sahi Balabgarh, in the hills [redacted] eeana at [redacted] mosque [redacted] earliest [redacted] stones of [redacted], and the [redacted] n erected [redacted] The [redacted] ram, and Tilowlhoo[redacted] famous. The Sone ca[redacted] d the [redacted] nway bridge are built of the dense sandstone of Sasseram, and little quantities of it are found in the higher portions of the range towards Rohtas. The best stone, while easily workable, is almost as hard as granite, and may be had of any colour, viz. white, crystalline, blue, grey, and all shades to a dark red.

The ghats of Benares, its palaces, walls, minarets, and many temples, are built of sandstone, and St. John's Church, Calcutta, is built of Chunar stone. The Vindhyan sandstones near Gwalior have been used to construct forts, temples, etc.; and on the cliffs are some figures of Titanic dimensions.

The upper Bhanrer formation has quarries to the south of Bhartpur, Futtehpur Sikri, and Rupas. Portions of the Taj at Agra, Akbar's palace at Futtehpur Sikri, the Jaina Masjid at Dehli, and buildings generally in Agra, Dehli, and Mutra (Mathura), and the palace of the raja of Bhartpur, have drawn on these quarries for the materials used. The Jain temples and railway bridges at Barakar are built of sandstones of the Gondwana series. The caves of Sirguja and Chang Bakhar are in the Gondwana sandstone. They have inscriptions in the old Pali character.

The Tawa viaduct is built of sandstones of the Bagra group of the upper Gondwana series. In the Jubbulpur station is a very dense sandstone which has been largely used locally, and the viaduct over the Nerbadda below Jubbulpur has been built with it. The sandstones and flag-beds of the Rajmahal series are occasionally employed for local building purposes. The jurassic rocks of Cutch, the cretaceous sandstones of the Bagh beds, those of the eocene series at Dagshai, Kasaoli, Subathu, and Dharmsala, afford good building material, at the latter place of a grey colour. The quartzite of the Satuma Hill in Manbhum, has been used in Calcutta for paving and coping.

The compact sandstones at Conjeveram are easily dressed. The whole of the valley of the Kistna and great parts of the valleys of its affluents, the Gutpurba, Malpurba, Bhima, Tungabudra, and Tumbudra, and much of the valley of the Godavery and of the valleys of its northern affluents, have limestone, clayslate, and sandstone rocks, and the houses and more extensive buildings are all built of these. The limestone of Kurnool, west to the Bhima, is an excellent building material. Soft sandstones resembling bathstone and tripoli abound near Nellore, Bellary, Cuddapah, and Hurryhur. Sandstones suited for grinding purposes are obtained in Cuddapah; at Chellamacoor, a greyish-brown schistose granular sandstone; near Cuddapah there is bluish-grey compact magnesian limestone, suited for fine sharpening stones; from Woontimitta, fine-grained schistose sandstone, suited for a ragstone. In Guntur, at Palnaud, are purple and lilac-slaty sandstones fine in grain, honestones, black limestones, and lithographic marbles. From Gootemookoola and Dyda, hones from Koopokoonda, 8 miles west of Vinacondah, below the signal pond; rough sandstone glistening with mica. From Matoor Hill, schistose ragstone.—*Powell's Handbook*, pp. 35-56; *Mad. Ex. Jur. Report; Reports and Ca[redacted]alogues of Govt. Cent. M[redacted] Madras; Tomlin[redacted]on.*

SANDUR, an i[redacted] ive State in the Ceded D[redacted] of India; a[redacted]ea, [redacted] the family was 140 [redacted] in the arm[redacted] of Malaj[redacted] um of Rar[redacted]an-malai is [redacted] On the plat[redacted]ux there is [redacted] ars, and the [redacted]mple of Kumaraswa[redacted]an adjoining hill. The [redacted]ills are about 1[redacted]miles long, running from south-east to north-west, ending abruptly near Hospet. This range forms the greater part of the western boundary of the native state.

SANDWIP ISLAND, in the Bay of Bengal, is situated off the coast of Chittagong and Noakhali, in lat. 22° 24′ to 22° 37′ N., and long. 91° 22′ to 91° 35′ E. It is the largest of many chars or islets formed by the Megna as it enters the sea. From its low-lying position, Sandwip is peculiarly exposed to inundation from storm-waves, and suffered severely in loss of life and property by the cyclones of 1864 and 1876. On the latter occasion, the number of deaths was officially estimated at 40,000, out of a total population of 87,016, and cholera set in soon after the cyclone had passed over.

Cæsar Frederick, the Venetian traveller, in 1565 described the inhabitants as 'Moors,' and stated that the island was one of the most fer[redacted] places in the country, densely populated, and well cultivated. Purchas (circ. 1620) states that most of the inhabitants near the shore were Muhammadans. Sir Thomas Herbert (circ. 1625) describes it as one of the fairest and most fruitful spots in all India.

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language is flexible, ductile, pol-
ve, and copious. Its vast literature
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which reveal much that is curious in
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well as of dramas remarkable for
skill of plot and delicacy of poetic
even in the works of the greatest of
are occasional fanciful conceits,
too studied and artificial elabora-
and a constant tendency to what a
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d playing upon words.

A. SANSK. Corruptly Sanvasthan.
place where a Hindu deity is said
manifest; a place sanctified by
eminent Hindu teachers or holy
any sacred event.

Æ. Eight genera of Indian trees
to belong to this order,—Henslowia,
Santalum, Scleropyrum Wallichi-
Sphærocarya edulis, *Wall.*, Octaril-
sium. They are trees, shrubs, or
ants, with round or irregularly-
es. Found in Europe and North
Australia, the East Indies, and the
nds they exist as large shrubs or
The most valuable genus in this
type the Santalum, of which the
om forms the true sandal-wood of

PARGANAS form a British dis-
lying between lat. 23° 48′ and 25°
veen long. 86° 30′ and 87° 58′ E.
ore miles; population, according to
872, 1,259,287 souls. In the east
retches for about 100 miles from
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Dibus, strip of flat alluvial land about
length, lying for the most part
line of the East Indian Railway.
forms the northern and a large
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all the rivers of the district even-
her into it or into the Bhagirathi.
iople have been known to the British
since the latter part of the 18th century. In 1832 two Government officials were deputed to demarcate with solid masonry pillars the present area of the Daman-i-Koh or skirt of the hills. The permission to Santals to settle in the valleys and on the lower slopes of the Daman stimulated Santal immigration to an enormous extent. Since the beginning of the 19th century they have intruded themselves into some of the Rajmahal districts, which therefore now contain two populations, allied to each other, but speaking languages said to be mutually unintelligible. And, in 1855–56, in attempting to revenge themselves on the Hindu money-lenders, who had taken advantage of their simplicity and improvidence, the Santals rose in arms. The insurrection was not repressed without bloodshed,—indeed, half their numbers perished; but it led to the establishment of a form of administration congenial to the Santal immigrants; and a land settlement has recently been carried out on conditions favourable to the occupants of the soil.

The Goalas, cowherds and milkmen (of whom there are 74,529), form by far the most numerous caste in the Santal Parganas; the artisan castes number altogether 83,722 persons, of whom 27,954 are Telis (oilmen). The total number of persons belonging to aboriginal tribes is 557,277, of whom the great majority (455,513) consist of San[redacted] oth[redacted] th[redacted]

[redacted] Hazaribagh, 35,306. The Santals form 3 per cent., or more than one-third of the total number of the aboriginal races under the Lieutenant-Governor of Bengal, and are the best known to Europeans.

The Santal, Mundah, Bhumij, and Ho races speak languages nearly identical. The Santal are a simple, industrious people, honest and truthful, tractable, free from caste prejudices, and are much sought after and prized as labourers by the Bengal indigo planters, and on the railways and other works of Western Bengal, and in the Assam tea plantations. The Santal are a branch of the Mundah Kol. They seem to have separated when the Mundah fell back on Chutia Nagpur from the Damuda river, which the Santal call their sea, and they preserve the ashes of their dead until an opportunity occurs of throwing them into that stream or burying them on its banks. Lieutenant-Colonel Dalton thinks that they left their chief settlements on the Damuda river from having been pressed by the Kurmi. The Santal, Bhumij, and Mundah tribes have long been known to be intimately connected, and they have affinities with the wild clan of the Korewah of Sirguja and Jushpur, the Kheriah tribe of Chutia Nagpur, and the Juanga of the Cuttack tributary mahals.

The Santal and Bhumij races have suffered in esteem in consequence of the human sacrifices offered, up to 1835, at the shrine of Kali, as Runkini; but these races personally do not much care for this goddess, at whose shrine the establishment and ritual are essentially Brahmanical. The

Santal and Paharia or Rajmahali are markedly different in habits, appearance, manners, and national characteristics, and on the Chutia Nagpur plateau these differences are very marked. The Santal are a very ugly race, with flat, broad-nosed features. They are a more simple, mild, and industrious race than the Rajmahali, Gond, or Khond, are truthful and kind-hearted.

In 1881 they again became uneasy, the cause having a religious mixed with a political element. The movement is said to have been started in 1875 by one Bhagrit Mangi, who gave out that he was commissioned by heaven to deliver the Santals from British rule. He acquired great influence, his orders were implicitly obeyed, and he himself received both royal and divine honours, being crowned as king of the Santals, and having a shrine set up for his worship. Eventually he was convicted and imprisoned, and his shrine demolished, but his religion continued to spread, being preached throughout the country by his disciples, the Kherwar. The most influential of these, Dhubia Gosain Babagi, was arrested, and sent to Lucknow as a state prisoner about 1881. The Kherwar stirred up an agitation against the 1881 census, using it for their own purposes, and spreading wild tales as to the intentions of the Government, which were readily believed by the credulous Santal. The Santal believes in [redacted] five [redacted] they [redacted] buried [redacted] shed called Buddhathan, [redacted] is also called Buddah Manji, a Manji and Santal being synonymous. The panchayets of the Santal assemble here. In the months of April and May, when the leaves are bare, 2000 to 4000 Santals assemble with bows and arrows, for their great Seudra or hunting expedition, during which they make wide circles to enclose and kill all the smaller game. They eat the flesh of every animal. Their most solemn oath is taken when touching a tiger's skin. They dance in bodies of one or two hundred to the monotonous music of flutes and drums. The men go round one way, while the women circle the other. The men step in time without much action, but the women drop their heels and toes in a double shuffle, and bend their bodies forward to a half-kneeling position, as though paying homage to the men. The houses of the Santal are in enclosures made with the green boughs of the Sakua, planted in the ground and tied together; they keep each family distinct from its neighbours.—*Dalton*, p. 154; *Campbell*, p. 33; *Travels of a Hindoo; Lubbock, Or. of Civil.*

SANTALUM ALBUM. *Linn.* A small evergreen tree rising to 30 feet in height and 4 feet in girth. It grows in a wavy tract from S. Canara southwards into Mysore and Coimbatore; is most abundant almost throughout the dry Denkenacotta taluk of Salem, less abundant on other hill tracts in the Salem, Trichinopoly, and N. Arcot districts, such as the Shevaroys, Kollay Mallays, Putche Mallays, Javadies, etc., and on the Pulneys in Madura. In these places it is found up to about 4000 feet elevation. It also thrives well in North Canara; freely without any cultivation in all parts of the Bombay Dekhan; may be seen there in quantities in waste gardens, even in some of the grass preserves, and in numbers of the hedges along the water-courses in Western Kandesh. But the Northern Bombay sandal-wood has not the high qualities of that found in the more southern provinces.

The Madras Forest Department have now large plantations of this valuable tree. It grows readily from seed if slightly shaded. Two or three seeds are sown in the pit where the tree is to stand, and at the same time a few chili seeds round them; the latter grow up before the sandal seedlings, and give them the necessary amount of shade whilst young; eventually the strongest of the two or three seedlings only is left in the pit, the others being removed.

It is only the heart-wood that is scented and of any value, and trees grown slowly on rocky and dry poor soil produce the maximum of this; where the tree is found in rich alluvial soil on the banks of rivers, etc., it is of very fine growth, but produces no heart-wood, and is consequently valueless. The heart-wood is yellow, and deliciously fragrant; when unseasoned it weighs 72·75 lbs., and when seasoned 58 lbs., and its specific gravity is ·924. It finds an immediate sale at Rs. 4 or 4.8 per maund of 28 lbs., and it is chiefly employed for making all sorts of ornamental articles, such as small tables, work-boxes, glove-boxes, card-cases, etc. A valuable oil, used as a perfume, is distilled from the roots and chips or pieces of the heart-wood. The heart-wood of the tree yields the oil, and one pound of the wood will yield about two drachms. In North Canara there are many stills for making sandal-wood oil. The wood is burned as a perfume in houses and temples, both in India and China; is used in the funeral ceremonies of the Hindus; is employed for trunks, almirahs, etc., as a preservative against insects; is much used in making work-boxes, walking-sticks, pen-holders, and other small articles of fine ornament. Its powder is a favourite cosmetic with Hindu, Chinese, and Burmese ladies, and Hindus use it to form the sectarian marks on their foreheads. It is much used among the Chinese in cabinet-work, and in the manufacture of fans and other ornamental articles.

In Mysore, foresters are employed to destroy the strong creepers which tend to choke the young plants, springing from seed dropped in hedgerows by birds. It is their duty also to cut, annually, all the ripe trees, 20 years old, and to take care that the billets are properly prepared and sorted, and brought into the sandal godown.

Sandal-wood is very liable to the heart-shake, which decreases its value 20 to 30 per cent. It bears a small black berry, which, if planted, grows without any trouble. The seeds of the sandal-wood tree yield by expression a thick and viscid oil, which is burned by the poorer classes in lamps. The attractive nature of the sandal tree is described in the Sanskrit sloka, 'Round the stem of the Chandana dwell serpents; on its top birds; on its branches monkeys; on its flowers bees,—so the riches of a good man are beneficial to all.'—*Roxb.; Bennett, Gatherings; Gibson; Cleghorn;*

M'Gillivray; Wight; Mason; M. E. J. R.; Wilson, Hindu Theatre; Beddome.

SANTALUM CYGNORUM, *Miquel*, of S.W. Australia, yields scented sandal-wood. S. Preissianum, *Miquel*, of the desert country in extra-tropical Australia, yields the Quandong or edible native peach. S. yasi, *Simmonds*, of Fiji, yields scented sandal-wood.

SANTALUM FREYCENETIANUM, *Gaudi.*, grows up to 3000 feet elevation in the Sandwich Islands. The sandal-wood of the Sandwich Islands is from S. Freycenetianum and S. paniculatum, and the name of sandal-wood is also given to the wood of the Exocarpus latifolia, which grows in the Percy Islands, Repulse Bay, Cape Upstart, Palm Islands, etc. etc.; but it is useless as a substitute. These grow in the South Sea Islands, at Hawai, Fiji, and New Hebrides, but have been nearly extirpated by the avidity of traders.—*Bennett's Gatherings*, p. 419.

SANTALUM MYRTIFOLIUM, *Roxb.*, is a strongly-marked variety of S. album, found by Dr. Roxburgh in [illegible] district. [illegible] of the Rajamundry Circar. [illegible] tree is indigenous, kusoom[illegible] opposite lanceolate le[illegible] and where, as in the Doon in April, according t[illegible]ily recognised at a distance by the it is 'cert[illegible] of its young leaves. All its parts of

SANT[illegible]ion are liable to considerable variation. descent[illegible]y sub-acid aril forms a grateful fruit; Kajrava [illegible] hard, and used as timber. Schmidelia had fou[illegible] which the root is said to be astringent, virya, a[illegible]so a[illegible]ible fruit. The wood of several second 's[illegible]-grained and hard, and forms child fr[illegible] timber, as of Sapindus rubiginosus, and names b[illegible]ngan and N. lichi, the latter also one

SANT[illegible] ornamental of trees.—*Royle; Roxb.; Ainslie; Williams' Midd. Kingd.* p. 286.

SANTHA, a house, in 13 miles

SANT'HA, a villages on and s[illegible] la[illegible]d in Sirguja, habitants of th[illegible] more than 100 selves a separat[illegible]

SANTI-NA[illegible] Jain [illegible]

SANTIPUR[illegible] district, Beng[illegible] lat. 23° 14' 24' Rat-jatra festi[illegible] brated at Sant[illegible] in Kartik (Oc[illegible] visited by abo[illegible] the Santipur female form, t[illegible] graceful shape[illegible] that smooth[illegible] native beauty[illegible]

SANWAK. [illegible] life, but who[illegible] Chuta Sanwa[illegible] Also in Chut[illegible] bagh, there a[illegible] the hill tribes[illegible] or 20, the H[illegible] and his heirs[illegible] interest has b[illegible]

DÂNA in Hinduism in an ancestral most dan[illegible]ed at the expiration of twelve are under wa[illegible] death of a person, who then coast.—*Findlay.* [illegible] the race of ancestors. Hence

ed by offerings of cakes to villages on and s[illegible]s are called Sapinda. All who la[illegible]d in Sirguja, same deceased are Sapinda to habitants of th[illegible]ferings of the Pinda or funeral

genus of plants of the natural ceæ,—names derived from Sapo ian soap,—the berries of several the S. saponaria in Java, S. S. acuminatus, S. laurifolius, S. d S. detergens (the last, according nearly allied to S. saponaria), the purposes of soap; owing, it ed, to the presence of the vegetalled saponine. This has been other vegetables, which have the ming a lather with water. S. is a stout, very shady tree, of of India; S. squamosus, *R.*, is a alay Archipelago and of the island

S. longifolia and S. fruticosus, tus, *R.*, are trees of the Moluccas. *Wall.*, is a tree of the valleys of of Nepal, and the Khassya mounticosus, *Roxb.*, a shrub of the retty, rose-coloured, small flowers, March, and fruiting in May. the Dekhan. S. unijugus, *Thw.*, he Hewahette district of Ceylon, of 3000 to 4000 feet. S. attenu-

24 or 37½ per cent. per annum. In the Trans-Gogra districts, ploughmen receive loans, the interest of which they repay in labour, receiving one-sixth of the grain, called bhata, which he helps to rear, and a blanket. His wife is also employed in grinding grain, husking rice, and feeding animals, etc., and receives the huskings, bran, etc., and a dhoti. Under British rule, the son is only responsible for the father to the extent inherited.

SANYAL PEN or Sanalk, the spirits of the departed, amongst the Gond, worshipped or propitiated for a year after death; but persons of note, headmen of villages or priests, are treated as gods for years or generations, and sacrifices are usually offered at their Sthapana or shrines of earth.

SANYASI. Amongst the rules prescribed for Hindu men, those of the Brahman, the Kshatriya, and the Vaisya have to pass through four stages (asrama) in life, viz. the Brahmachari or religious student, the Grihashta or householder, the Vanaprastha or hermit, and the Bhikshuka or Sanyasi, religious mendicant, who has renounced the world; but this term is now applied to a variety of religious mendicants, some of whom wander stop e[illegible] about the country, subsisting on alms, or mouth.—[illegible]in maths under a spiritual head. The *Powell, Hand*[illegible] usually a worshipper of Siva. The

SAPIN[illegible] [illegible] of good [illegible] but some of th[illegible]
Buro rith[illegible]
Hseik-kh[illegible]
Thaby ma[illegible]
Rithi-ka-jh[illegible]
Areeta, [illegible]

This han[illegible]
the Peninsul[illegible]
Burma. It[illegible]
gent, and[illegible]
return th[illegible]
occasional[illegible]
purposes; [illegible]
construction of [illegible]s. It is pa[illegible]
and prettily grai[illegible]d, hard, but not dur[illegible]
cracks if expose[illegible]nd is said not to work easily. Unseasoned it w[illegible]hs 75 to 80 lbs. the cubic foot, and 64 lbs. when [illegible]asoned; its specific gravity is ·928. Mr. M'Iv[illegible] says the wood is elastic, strong, and durable. It[illegible]emi-solid oil, extracted from the kernel, is used m[illegible]dicinally. Its cost prevents its general use. W[illegible]n the soap nut is mixed with water it froths l[illegible]e soap, and is used instead of that substance for washing woollens, silks, and hair. Dr. Sherwood has mentioned that the seeds pounded with wate[illegible] often put an end to the epileptic paroxysm, a small quantity being introduced into the patien[illegible]s mouth.—*Roxb.; Wight; Gibson; Cleghorn; O'Sh[illegible]; Beddome.*

SAPINDUS LAURIFOLIUS. *Vahl.*
Sapindus acuta, *Roxb.* S. trifoliata, *Linn.*

This tree, Purinsji or Urinji, MALEAL, grows in the Peninsula of India, where its fruit and leaves are used in medicine. Its berries are saponaceous and used by all.—*Roxb.* ii. p. 278.

SAPINDUS RUBIGINOSUS. *Roxb.*

S. fraxinifolia, *D.C.*	Moulvisia rubiginosa, *Don.*
Hseik-kyi, . . . BURM.	Isakarasi manu, . TEL.
Rusty soap nut, . ENG.	Ishi-rashi, . . . ,,
Rithi-ka-jhar, . . HIND.	Undurugu manu, . ,,
Mani pungum, . . TAM.	

This large timber tree grows in both the Peninsulas of India, in the mountainous tracts of the

Circars, in the Pegu district, where it attains a girth of 3 or 4 feet, growing tall in proportion and straight. Its wood is white coloured, large, straight, strong, and durable, and useful for a great variety of purposes. When dry it has something the appearance of teak, but towards the centre it is chocolate coloured. Its Tamil name is derived from the quantities of silex or sand it contains, particularly near the bark, and which injures tools used in working it.—*Roxb.; Voigt; Mr. Rohde; Dr. M'Cl.; Flor. Andh.; Ains.*

SAPIUM, a genus of plants belonging to the natural order Euphorbiaceæ. S. baccatum, *Wight*, a tree of Assam, with minute greenish flowers.

Sapium Indicum, *Willd.*

Huruga, ... BENG.	Kirri nakulu, . SINGH.
Benjieri, . . . MALEAL.	

A small tree of the warmer parts of Ceylon, the Coromandel coast, South Konkan, the Sunderbuns, and Assam, with minute greenish flowers, and in fruit all the year round. Capsule or nut globular, size of a nutmeg, and exceedingly hard; juice very poisonous, taste exceeding nauseous; seeds used for intoxicating fish.—*Cal.; Roxb.; O'Sh.; Thw.*

SAPOR or Shahpur, the second sovereign of the Sassanian dynasty of Persian kings. It was this sovereign who captured the Roman emperor Valerian. He succeeded the Artaxerxes of the

[redacted] mode of
gan, the
ing
Persian
dynasty in
ur or Sapor
There were
381, and the
dynasty
dejerd III.
es Longi-
shir daraz-
Persian kings.

Mnemon, a Persian king, B.C. 426, at whose court Ctesias resided for some years. After Scylax, Ctesias was the next historian in India, and in his Indica, cap. iv. p. 190, he mentions that Artaxerxes Mnemon and his mother Parasatys presented him with two iron swords, which when planted in the earth averted clouds, hail, and strokes of lightning. This is the first notice of the lightning conductor.—*Prinsep by Thomas:*

SAPOTACEÆ. *Endl.* The Sappodilla tribe of plants comprise genera which may be thus shown:—

Achras sapota, *Linn.*, East and West Indies.
A. sessiliflora, *Poir.*, Mauritius.
Lucuma mammosa, *Juss.*, America, China, E. and W. Indies.
Chrysophyllum cainito, *L.*, E. and W. Indies, S. America.
C. Roxburghii, *G. Don*, Assam, Khassya.
Imbricaria Commersonii, *G. Don*, Bourbon, Mauritius, Java.
Payena lucida, *D.C.*; Cachar, Tenasserim.
Isonandra Wightiana, *D.C.*, W. Ghats, Ceylon.
I. obovata, *Griff.*, Tenasserim, Tavoy.
Sarcosperma Griffithii, *Hooker f.*, E. Himalaya.
S. arborea, *Hook. f.*, E. Himalaya.
Dichopsis polyantha, *Benth.*, Cachar, Chittagong, Assam.
Mimusops Indica, *D.C.*, S. India.
M. littoralis, *Kurz*, Andamans.
M. elengi, *Linn.*, Moluccas, Ceylon, both Pen. of India, Bengal, Sylhet.
M. obtusifolius, *Lam.*, Mauritius.
M. kauki, *L.*, Malabar, Gour, Malay Islands, New Holland, Moluccas.
M. hexandrus, *Roxb.*, Circar mountains, Bombay.
M. erythroxylon, *Bojer*, Bourbon, Mauritius.
Bassia longifolia, *L.*, Ceylon, Malabar, Coromandel.
B. sericea, *Bl.*, Java.
B. latifolia, *Roxb.*, Peninsula of India, Malwa.
B. cuneata, *Bl.*, Java.
B. butyraceæ, *Roxb.*, Nepal, Almora.
B. Parkii, *G. Don*, West Africa.
Sideroxylon inerme, *L.*, —?
S. elengioides, *D.C.*, W. Ghats.
S. regium, *Wall.*, Pegu.
S. cinerium, *Lam.*, Mauritius.
S. tomentosum, *Roxb.*, Ghats.
S. Wallichianum, *Wall.*, Penang.
Isonandra lanceolata, *Wight*, Peninsula of India.
I. villosa, *Wight Ic.*, Peninsula of India.
I. gutta, *Wight Ic.*, Malay Peninsula, Java, Borneo.

The Indian Sapoteæ spread from the islands of the Indian Archipelago along the Malayan Peninsula to Sylhet, and from that to Nepal. The Achras sapota has delicious fruit with very bitter seeds, believed in Martinique to be powerfully diuretic; the bark is deemed a substitute for cinchona. The barks of other species are astringent, the fruits pulpy, acidulous, and edible. The seeds contain an oil rich in stearine. Bassia butyracea is found in the neighbourhood of Almora and Nepal Hills. The butter is of a delicate white colour, and of the consistence of fine lard, but without any disagreeable smell. It is highly esteemed as a liniment in rheumatism, contraction of the limbs, etc., and when used by natives of rank is frequently impregnated with some fragrant attar. The tree very much resembles B. latifolia, but may be distinguished by its much less fleshy corols and more numerous stamens; flowering in January, and ripening its fruit in August. The kernels are about the size and shape of almonds, are easily extracted from the smooth chesnut-coloured pericarps, when they are bruised and rubbed up to the consistency of cream, and subjected to a moderate pressure in a cloth bag. The oil concretes immediately it is expressed, and retains its consistency at a temperature of 95°.—*Lindley, Fl. Med.* p. 388; *O'Sh.* p. 427; *Royle, Ill. Him. Bot.* pp. 262, 263; *Roxb.*

SAPOTA ELENGIOIDES. *A. D. C.* A large tree of the hot, drier parts of the island of Ceylon, common on the Neilgherries. Bark rough and cracked; fruit edible, used in curries; wood strong and elastic like the hawthorn, burns well when green.—*Thw.; M'Ivor.*

SAPPHIRE.

Sufir, . . . ARAB., SW.	Sapphirus, . . . LAT.
Saphir, . . DAN., FR.	Safira, ... PORT.
Saffierstin, . . . DUT.	Jachant, Sapfir, . RUS.
Sapphir, ... GER.	Nil, ... SINGH.
Nilam, HIND., MALAY., TAM.	Safiro, Safir, . . . SP.
Zaffiro, . . . IT., SP.	

Corundum, if translucent, when red is the oriental ruby, when blue a sapphire, when green it is the oriental emerald, and when yellow a topaz. Sapphire is usually dark-blue, but also occasionally colourless, and the green variety of corundum is the rarest of all gems. But Sapphirus with the ancients was a generic term for all blue gems. It was on sapphirus tablets that the Ten Commandments were engraved. In the arts, other minerals are also styled sapphire, the names being dependent on their colours. Chemically, sapphire is 92 per cent. of a pure alumina; it occurs in six-sided prisms, often with uneven surfaces; it

ranular. When the surface is polished, x rays corresponding with the hexa- is in some specimens seen within the

n, sapphire, ruby, emerald, and topaz great abundance in the Peninsula of not with sufficient translucence to be precious stones. At the Madras ome small fragments of sapphire and th the matrix in which it occurs, were m Masulipatam. Sapphires, in colour, deepest blue and black, and stones varied hues. If held in water with se coloured and uncoloured stones A very good blue sapphire of one would bring £20.

lly very valuable stones are met with, eat bulk are of comparatively little larger among them being generally Sapphires of good quality are also e same beds in the proportion, it is sapphire to about 500 or 600 rubies. dix to Yule's Ava (published 1857), , superintendent of the Geological ndia, estimated the value of the gems se mines, rubies and sapphires, about annum. The mines are considered opetty of the king, who maintains a t monopoly of them, and employs his own aries to polish and prepare the best of the es.

pphires have been discovered in the territory e maharaja of Kashmir.

pphire occurs in Ceylon in dolomite. A dug out of the alluvium near Ratnapura, 853, was valued at £4000. In Burma, hires are found in the same earth with rubies, are much more rare, and are generally of a r size. Sapphires of 10 or 15 rati without w are common, whereas a perfect ruby of size is hardly ever seen. The value of the , rubies and sapphires obtained in a year be from 1¼ to 1½ lakhs. A Karen informed Helfer that precious blue stones are to be had, h the Shan people collect and carry to kok. He described the place as eight days' nt. Some valuable sapphire mines were dis- ed in 1878 in the Siam provinces of Chantaboon Battambong, and throughout 1879, thousands British subjects went from Burma to the mines. e sapphire was offered for sale at Chantaboon Rs. 1000. The owner finally sold it in Cal- ta for Rs. 3000. The largest which the Govern- t has yet heard of weighed 370 carats in the h, and 111 carats when cut. The mines are to be very unhealthy. In Mr. Hope's collec- is a blue sapphire which cost £3000. A able sapphire of 133 carats, now in the eum of Natural History at Paris, is said to come from Bengal. It was sold for £6800. Burdett Coutts had two of them, valued at 000.—*Emmanuel; Tomlinson; Mason.* See ious Stones.

APRIA GRIFFITHII, a plant closely allied to esia, which was discovered in the Assam tains by Griffith, is the most remarkable known to occur there.

SAPTA. SANSK. Seven. Saptag, the octave in music. Sapta Matri, a name of Brahmi or Chamunda. Saptaswa, the seven-headed horse that draws the chariot of Surya, the sun. Sapt-Gandak, the feeders of the Gandak, and Sapt-Kausika, the Nepalese term for the seven alpine feeders of the river Cosi. Sapta Sindhava, the seven rivers, applied to the Panjab, but also to other rivers and seas of India. Virgil says (Æneid, ix. p. 30), 'Ceu septem surgens sedatis amnibus altus per tacitum Ganges.'

SAPU TANGANG. MALAY. A kerchief for the head. Sapu-Tangan Siri, a handkerchief.

SAR. HIND., PERS. The head, chief, principal; often employed to form compound words. Sardar, a chief; Sar-kar, a government, a head servant; Sarhad, a boundary; Sarrashtadar, the head of a department; Sar-band, head-binder, is the source of the turband, the s being changed into t.

SAR. BALUCH. The Northern Indus, from the junction of the Panjab rivers to the town of Sihwan. It is also a Slavonic word. Gatterer and Niebuhr mention that Sauromatæ means Northern Medes, and north of the Caucasus were the province and tribe of Siracene.—*Elliot, Hist.*

SARACA INDICA. *Linn.*

Thaw-ka-hpo, . . BURM.	Jassundi, . . . MAHR.
Ashunkar, . . . CAN.	Diyera tembela, . SINGH.

The Jonesia asoka, *Roxb.*, the asok tree, is a small tree cultivated throughout India and Burma for its handsome flowers. Its wood is light and of a reddish-brown colour. S. lobbiana, *Baker*, is a tree of Martaban, and S. triandra, *Baker*, [redacted]

SAI[redacted]GEN, a name given by [redacted] tian w[redacted]ers to the Arabs. It is from Sahra, the des[redacted]nd Zadan, to traverse.

SARAF. HIND. A money-changer or banker.

SARAI. HIND. A caravansary, a building for the shelter and accommodation of travellers. Sarai, as in Ak-sarai, means a palace, a large edifice. It is a purely Persian word, and has been adopted into the English language under the word Caravansary (Karawan sarai). There are many Sarai throughout British India, but few of them have gathered towns about them. The Tamil term Chattram corresponds with the Sarai in Anglo-Tamil Choultry.

SARAKHS, an ancient city of Khorasan, situated about midway, or six days' journey, between Merv and Naishapur.

SARAN, a district in Bengal, lying between lat. 25° 40′ and 26° 38′ N., and between long. 83° 58′ and 85° 14′ E. The chief aborigines, Bhar, number 7647; the Chamar, 94,844; the Dasadh, 73,046; and the Bind, 18,429. The most numerous caste is the Goala, herdsmen. They bear a bad character for turbulence and dishonesty. The Koeri (141,209) are the best cultivators in the district, holding most of the opium lands, from which they raise first-rate crops; and the Kurmi (100,790) are also an agricultural caste.

SARANGI, a stringed musical instrument of Hindus and Muhammadans; a violin.

SARANJAM. PERS. Utensils, furniture; remuneration for services.

SARANYU of the Vedas, Varuna of the Hindus, is the Greek Erinys and Ouranos.

SAR-a-PA. PERS. A suit of garments presented by Muhammadan princes to those whom they intend to honour; literally, from head to foot.

SARAS, HIND., also Surhuns, Grus antigone, occurs all over British India. They may be seen in pairs, now plunging their bills into the shallow waters, now scattering pearly drops from their

throats. The natives of India strongly object to shooting these birds, about which they have a multitude of curious stories. There is a prevalent idea that if one of a pair be killed, the survivor will return again and again to the spot to hover over it. It is perhaps less exclusively a grain feeder than some other species, and is generally met with not far from water. Its fine trumpet-like call, uttered when alarmed or when on the wing, can be heard a couple of miles off. In many parts of the country it is so confiding and fearless in its habits, as to prevent the sportsman from shooting it, and in the territories of Holkar it is said to be esteemed so highly as to be held sacred from the shikaris. In Australia the place of the Saras is occupied by the Australian crane, the Grus Australis.—*Burton's Falconry*, p. 58; *Jerdon.*

SARASWATA, a tribe of Brahmans who originally dwelt on the banks of the river Saraswati, and are now met with in the Panjab and other parts of Northern India. They are usually fair complexioned, tall, and handsome men. They seem to take their appellation from a rishi named Saraswata, and the Hindu tradition is that during a famine the Vedas became forgotten by all but Saraswata, to whom, at the close of the scarcity, Brahmans repaired, and 60,000 disciples again acquired a knowledge of the Vedas. This legend seems to indicate the introduction or a revival of

[redacted] rivers of this name.

Saraswati or Sarsuti, a sacred river [redacted] the Panjab, frequently mentioned in the Vedas. It rises in lat. 30° 23′ N., long. 77° 19′ E., in the low hills of Sirmore State; emerges upon the plain at Zadh Budri in Ambala, a place esteemed sacred by all Hindus; passes by the holy town of Thanesar and the numerous shrines of the Kurukshetra, a tract celebrated as a centre of pilgrimages; enters Karnāl district and Patiala State, and finally joins the Ghaggar in Sirsa district (lat. 29° 51′ N., long. 76° 5′ E.). In ancient times the united stream below the point of junction appears to have borne the name of Sarsuti, and, undiminished by irrigation near the hills, to have flowed across the Rajputana plains, debouching into the Indus below its confluence with the Panjab rivers. The Hindus identify the river with Saraswati, the Sanskrit goddess of speech.

On the banks of the Caggar Saraswati the Aryan race came into contact with others, caste became recognised, but their descendants on the banks of that river have never adopted the high Hinduism of the Brahmans of the Gangetic valley, and continue agricultural.

Saraswati of the Sanskrit writers, in Zend became Haraquaiti, and in Greek Ἀραχωτος, all of which agree in the last two syllables with the Chinese Tsaukuta.

Another Saraswati river, rising in Mount Abu, Rajputana, flows through the Palanpur and Radhanpur States of the Mahi Kanta Agency.

Saraswati river of the Hoogly district, Bengal, was formerly the main stream of the Ganges, and navigable by large vessels as far as Satgaon. It has silted up and become a foul shallow creek.—*Imp. Gaz.* viii.

SARASWATI, a Hindu goddess, the wife, or sakti, or female energy of Brahma, is analogous in western mythology to Minerva, the patroness of learning, etc. Saraswati is the [redacted] dess of learning, music, and poetry, [redacted] called Brahmi or Brahmini, the god[dess] sciences; and Bharadi, the goddess [redacted] She is sometimes represented as a w[oman] standing on a lotus or water-lily, hol[ding] (or vina) in her hand, to show that [she] the goddess of music; at others, [with] peacock, with the same emblem in [her] Although the worship of Brahma has [fallen] disuse, the annual festival of Saraswat[i] day of the month Magha, is highly hon[oured] day is called Sri-panjami, and Saras[wati] the goddess of arts and eloquence, is [worshipped] with offerings of perfumes, flowers, [fruit] rice; even implements of writing and [books] treated with respect, are not used on t[his] and are presented to the image of t[he] Saraswati is, among other deities [to be] propitiated in the marriage ceremo[ny] Brahmans. The following hymn is [addressed] her honour:—'Charming Saraswa[ti] a mare, whom I celebrate in the [sacrifice] universe, protect this solemn rite. [Goddess] whom the elements were produced, i[n the] universe was framed, I will now sing [the] (the nuptial text), 'which constitute[s] glory of women.'—*Colebrooke, As. Res.* [vii.] *Moor, Hindu Pantheon*, p. 128; *Cole[brooke]* *Hind.* p. 10; *Menu*, ch. iii. v. 121.

SARATH, Buddhist ruins in the Benares [district] trict of the N.W. Provinces, distant 3½ [miles] north of Benares city; Sakya Muni first preached his doctrines here.—*Imp. Gaz.*

SARAWAK, in Borneo, is situated in a [bay] to the eastward of Point Api, at the foot of a range of mountains from 1500 to 3000 feet high, extending towards the interior of the island. The Sarawak government acquired the [whole] territory from Cape Datu to the river Bantam. The banks of the river of Sarawak are everywhere covered with fruit trees; the mangosteen, lansat, rambutan, jambou, and blimbing are abundant, but the durian is most [delicious] and esteemed. A beautifully resplendent sand, particles of which resemble amethysts and topazes, is found at Lingah, a branch of the great Batang Lupar river, not far from its mouth. Sago is manufactured at Muka, and antimony is found at Bassein in Borneo.—*Low's Sarawak.*

SARAWAN, a province in Baluchistan. The great central mountain range or table-land, running north and south comprises the provinces of Sarawan, Jhalawan, and Lus. See Baluchistan.

SARAWI, a sect of the fakirs of India.

SARCOCEPHALUS CORDATUS. *Roxb.*

Nauclea cordata, *Roxb.* | N. coadunata, *Sm.*

This tree, the Bakmee of the Singhalese, is very common in the southern parts of Ceylon on the banks of streams; it flowers in May and June. The wood is light and tough, and in use for sandals, common furniture, doors, etc. The Australian tree is described under this name in Bentham's Fl. Aust. iii. p. 402, but it must be a different species. The size of the larger coadunate leaves of S. cordatus are often about one foot long and upwards of 8 inches broad.—*Beddome, Fl.*

SARCOCHLAMYS PULCHERRIMA. *Gaud.*

Urtica pulcherrima, *Roxb.* | Tsa-tya, Sap-sha,

A large handsome shrub of E. Bengal and

also occurs g liber gives a good fibre for ropes.—
a star of si
gonal form, INIUM HOOKERI. *Thw.* Maha-
crystal. SINGH. A moderate-sized tree near
Corundur in the Ratnapura district of Ceylon,
are found i evation.
India, but m longifolium, *W. Ic.* Bairoo-gass,
valuable as ee of the Central Province of Ceylon,
Exhibition an elevation of 4000 to 6000 feet.
of spinel, wi re of a firm consistence, do not
exhibited fr pose, and are used by the Singhalese
vary to the —*Thw.*
are often of CCA PRUNIFORMIS. *Lind.*
forceps, the *Wight Ic.* | Shial, Shila, . . HIND.
will be seen. he central province of Ceylon, very
carat weight an elevation of 5000 to 8000 feet.
Occasiona y variable in the shape of the leaves,
but the gr from nearly orbicular to narrow-
worth, the uminated. S. trinervia, or Neil-
full of flaws wood tree, very common on the
found in th wood hard, durable, might be used
said, of one oxwood in the arts. S. Hookeriana,
In an appe Sikkim; and S. saligna, *Mull.*, of
Mr. Oldham Survey of I a white wood used for walking-
found in the .; *M'Ivor.*
£15,000 per DLLA. Anzarut, ARAB. Runjudeb,
the ple pr acid, sweetish, and somewhat nauseous
stric produced in North Africa, Persia,
lapic by the shrubs Penæa sarcocolla, P.
ston unata, and other species. It is yellow or
S ish, like gum-arabic, in oblong globules
of t ze of a pea or of grains of sand, friable,
S ue or semi transparent, softening but not
piec ng by heat; *v.p. gr.* 1268. Sarcocolla was
in 1 emed a powerful healer of wounds (σαρξ,
sapp and κολλα, glue), but this idea has been
but abandoned. It is rarely met with in India,
larg then only brought from Persia and Arabia.—
a fl *Powell; Faulkner.*
that ARCODACTYLIS ODORATA. *Smith.*
gen -yuen, . . CHIN. | Huing-yuen, . . CHIN.
may su-shan, . . ,, | Buddha's citron, . ENG.
Dr. tree of several parts of China. Its yellow
wh in some place attains a very large size, and
Ba capsules of the fruit separate naturally.—
dist
cov ARCOSTEMMA, a genus of plants of the order
and epiaceæ, of which S. acidum and S. viminale
of in India. The name is from σαρξ, flesh,
On στεμμα, a crown, in reference to the leaflets
for the inner corolla being fleshy.
cut arcostemma acidum, *W. Contr.*
mer revistigma, *W. Contr.* | Asclepias acida, *Roxb.*
rou ni, Shomluta, BENG. | Pullatige, Soma luta, TEL.
said Soma, . . HIND. | Tige jemudu, ... ,,
tion a kiriya, . . SINGH.
valu is leafless plant grows in rocky, sterile places
Mus ver India. The plant yields an abundance
have mildly acidulous milky juice, and travellers
Lad its tender shoots to allay thirst. This is
£30, Soma or Som plant of the Vedas, and it
Prec ned this name from the ancient Hindus
S use they gathered it by moonlight, carried
Raffl their homes in carts drawn by rams, and
mou mented liquor was prepared by mixing its
form ined through a sieve of goat's hair, with
ney and ghi. This wine was drunk at all
their ligious festivals, and was used by the
rishi intoxicant. The rishi continued it
at their meals with beef. The Rig Veda, ix., says, the purifying Soma, like the sea rolling its waves, has poured forth songs, and hymns, and thoughts.—*Roxb.; W. Ic.; Voigt; Birdwood.*

Sarcostemma viminale, *R. Brown*, the Soma or Soma luta, is a plant of all British India, Sind, and Baluchistan. It is a leafless plant, resembling the Euphorbia tirucalli; flowers white in the rains. The natives tie the stems up in a bundle, and place them in the water-course of their wells for the purpose of preventing the attack of white ants.—*Riddell; Voigt.*

SARCOSTIGMA KLEINII, its oil, long known under the name of Poovana and Poovengah, is used largely on the western coast of the Peninsula of India as an external applicant in rheumatism. —*M. E. J. R.*

SARDAB. PERS. An underground room which the people of Baghdad occupy in the hot weather. Except in British India, most houses in the hot countries of the east are provided with subterranean chambers, called sardab (literally cold water), to which the family retire during the heat of the day. They are often furnished with the greatest luxury, and their refreshing coolness is increased by the play of fountains, and punkahs or large fans hung from the ceiling. This is the favourite place for the ladies' afternoon siesta.—*Ed. Ferrier, Journal*, p. 292.

SARDANAPALUS, of the Roman historians, was Assur-bani-pal, the son of Esarhaddon, and the greatest of the Assyrian monarchs, who reigned B.C. 67[illegible] to about 626.

SARDHANA, a town in the Meerut (Mirath) district of the N.W. Provinces of British India, in lat. 29° 9′ 6″ N., and long. 77° 39′ 26″ E.; pop. (1872), 12,466. Walter Reinhard, a soldier of fortune, better known by the name of Samru or Sombre, was a butcher by his trade, and a native of Luxemburg. He came to India as a soldier in the French army, and deserting that service, took employment with the British, where he attained to the rank of sergeant. Deserting again, he rejoined the French service at Chandernuggur, and on the surrender of that settlement accompanied M. Law in his wanderings throughout India, from 1757 to 1760. For the latter year, Law's party joined the army of Shah Alam in Bengal, and remained with the emperor until his defeat in 1760 at Gaya, by Colonel Carnac, in his attempt to reconquer Bengal from the nawab. Samru took refuge with a succession of new masters, and was ultimately presented with Sardhana, where he died in 1778, leaving the Begum Samru as his widow and heir. This lady, in 1834, devoted £15,000 to the foundation of a clergy fund and poor fund; and her name now stands first in Archdeacon Pratts' Endowments of the Diocese of Calcutta. The litigation connected with her property was not finally settled till more than a third of a century after her death.—*Imp. Gaz.*

SARDINE. ENG., FR., IT.
Sardellen, . . . GER. | Sardinas, ... SP.

The sardine fish of commerce is found in the Mediterranean, where its fishery employs a great number of people. In the Asiatic seas there are fishes of the same or allied genera. Engraulis meletta? is a small fish of the herring family at Tavoy and Mergui, which is nearly related to the common sardine.

The sardine of Penang is the Dussumieria

acuta, *Cuv. and Val.*, the Tambat Bulat of the Malays, also the Clupeonia perforata, the Ikan tamban of the Malays.

Sir J. E. Tennent mentions that Sardinella Neohowii, *Val.*, frequents the southern and eastern coast of Ceylon in such profusion, that in one instance, in 1839, 400,000 were taken in a haul of the nets in the little bay of Goyapanna, east of Point de Galle. As this vast shoal approached the shore, the broken water became as smooth as if a sheet of ice had been floating below the surface. S. lineolata, *Cuv. and Val.*, and the S. leiogaster, *Cuv. and Val.*, are found at Trincomalee, also off the coast of Java. Another Ceylon fish of the same group, a Clupea, is known as the poisonous sprat. The sardine has the reputation of being poisonous at certain seasons, and accidents ascribed to eating it are recorded in all parts of Ceylon. Whole families of fishermen who have partaken of it have died. Twelve persons in the jail of Chilau were thus poisoned about the year 1829; and the deaths of soldiers have repeatedly been ascribed to the same cause. An order passed by the Governor in Council in February 1824, after reciting that, 'Whereas it appears by information conveyed to the Government that at three several periods at Trincomalee, death has been the consequence to several persons from eating the fish called Sardinia during the months of January and [illegible]er, enacts that 'it shall not be lawful in that district to catch sardines during these months, under pain of fine and imprisonment.' This order is still in force, but the fishing continues notwithstanding. The poisonous fish of this family which occurs in the Asiatic seas, is, however, the Meletta venenosa.—*Tennent's Ceylon*; *Mason*; *Jour. Ind. Arch.*

SARD-SAIR. PERS. A term in use amongst the nomade races of Persia to indicate the locality to which they drive their herds in summer; the garm-sair is their winter quarters. In the south of Persia, a huge wall of mountains separates the garm-sair, or low region, from the sard-sair. Sard-sair signifies the cold region, but it is also termed the Sarhada, a word literally signifying boundary or frontier, but generally applied to any high land where the climate is cold, as on the high table-land of Persia. One of the most conspicuous of these is an abrupt lofty hill, named Hormooj, where coal occurs.

SAREE. HIND.

Shiali, ...	CAN.	Pudawi, ...	TAM.
Lugra, ...	MAHR.	Chira, ...	TEL.

The saree is the lower garment worn by most of the Hindu and non-Aryan women in India. It is, in fact, the national costume of almost all Hindu women. The Muhammadan women of Hyderabad in the Dekhan, Oudh, Rajputana, the N.W. Provinces, and the Panjab, and many Hindu women, whether secluded or otherwise, wear the voluminous petticoat, or gown, introduced by the Muhammadans; but from Rajputana southwards to Cape Comorin, Bengal, and Orissa, all adhere to the ancient national costume of the saree, and this article of woman's dress only varies with local taste as to colour, length, and breadth, and fineness or closeness of texture. It is an entire cloth, in many cases 18 yards long and about a yard broad; and the texture varies from the finest and most open character of muslin in Bengal and the south of India, to the still fine but closer texture of the Dekhan, Central India, and Gujerat. Sarees are of all qualities, to suit the very poorest as well as the very richest classes of society, the ordinary labourer and the princess, and are obtainable for 2s. each up to £100 of value. In the manner of tying and wearing this garment there is little difference anywhere. The cloth, which has one plain end, is passed around the loins, and the upper border tied in a strong knot; the cloth is then passed two, three, or even four times round the waist, to form a petticoat. A portion is then plaited neatly into folds, and tucked in before, so as to hang down in front to the instep, or even lower. The remainder of the cloth is passed across the bosom over the left shoulder and head, on which it rests, the ornamented ends falling partly over the right arm below the waist. In the south of India, however, the end does not pass over the head; it is drawn tightly over the left shoulder and bosom, and tucked in to the waist behind, or on the right hip. The ancient female costume of Egypt, a saree or single robe, appears to have been put on and worn in precisely the same manner without a bodice. Well-to-do women of the Dekhan and the south frequently wear a gold or silver zone, according to their circumstances, which, passing over all, confines the drapery to the waist in graceful folds. This zone appears unknown to the northward, but in many cases it is beautifully wrought, and extremely ornamental. The sarees are largely made of silk in Benares; but the multitude have them of cotton, some of [illegible] and silk, with borders of gold or silk. Each woman of a household usually gets a new saree once a year. The saree, with a small sleeved bodice, completes a lady's attire; the higher the class of the lady, the lower the saree will hang. Women of the labouring caste seldom wear the saree below their knees. In the Nagpur country every modest Hindu woman drapes one fold of her saree over her head, whereas, in the Konkan, respectable ladies have their heads uncovered. Gond women always keep the head uncovered; some of them wear chignons, and all wear jungle flowers in their hair on festivals.

The Mahratta women, and women engaged in labour, often make the saree take a very ungraceful form, by passing it between the legs, in which it assumes the appearance of tight trousers. Viscountess Faulkland (Chow-Chow, p. 7) describes a group of Bombay women, with their heavy anklets making a tinkling with their feet (Isaiah iii. 16), each with their saree folded over their heads and persons, and carrying little chubby children on their shoulders, or astride on their hips; and now these are lost to sight, and a fresh group appears, consisting of Hindu women of various castes, clothed in jackets and the sarees of divers colours, and wearing the chains and the bracelets, the ear-rings, the rings, and the nose-jewels (Isaiah iii. 19–21); one end of the saree forming a very voluminous kind of skirt or petticoat, the other end being drawn over the head and shoulders, somewhat in the style or form of a Maltese faldetta.

SARGASSUM BACCIFERUM, *Agh.*, or gulf-weed, covers all the Gulf Stream from lat. 22° to 36° N., and long. 35° to 65° W. It is in enormous quantity, floating in an eddy of the

nen and Persian slaves. In Khiva 0,000 families, all engaged in trade, uits, and rearing silk-worms. They rds, but are unwarlike, unacquainted agement of horses or the use of —*Cotton, Khiva; Cent. Asia; Vambery.*

SARUN, district in the Patna division of between lat. 27° 29′ and 35° 40′ N., 55′ and 85° 30′ E., bounded on the by Nepal, on the E. by Tirhut, on S.W. by the Ganges, and on the W. by Hts area, 6394 square miles; popula- about 1,000,000. Its chief civil station is a town built on the left bank of the ges, in lat. 25° 45′ N., and long. 84° 48′ E., 370 miles from Calcutta.

SASA. Tel. Pl. Sasalu. Grains of rice mixed turmeric or other colouring ingredients, is cast over the heads on auspicious occa-

ASALA TALA. Singh. Literally the shak- leaf; one of the names of the Bo Tree, the us religion. Its leaves are almost constantly purious.—*Forbes.*

ASANA. Sansk. Shasana, Tam. A stone or or copper plate on which memorial inscrip- s, grants to religious bodies, temples, etc., are raved; title-deeds, a royal grant.

ASARKUND is a pool in the Mahur jungle, re the Pain Ganga is said to be engulfed. Naikude Gond repair there in pilgrimage, in Chaitra, to a huge stone that rises in a e, and goes by the name of Bhim Sen, before h the Naikude Gond mingle with Raj Gond Kolam in worship. Towards evening the hippers cook a little rice, and place it before god, adding sugar. Then they smear the e with vermilion, and burn resin as incense, which all offer their victims, sheep, hogs, fowls, with the usual libations of arrack. The ari appears to be inspired, rolls his head, leaps dly about, and finally falls down in a trance, en he declares whether the god has accepted services or not. At night, drinking, dancing, beating tomtoms goes on, and in the morning return home after an early meal. Those ble to leave home perform similar rites beneath lahwa tree.

SASSAFRAS PARTHENOXYLON is a lofty ber tree growing in the forests of Sumatra. bark is rough and brown. The fruit has a g balsamic smell, and yields an oil, considered ful in rheumatic affections. An infusion of root is used in medicine. Sassafras bark of Lasiania (Atherosperma moschata; *Lab.*), used emote parts of the colony as tea, also affords essential oil.—*Eng. Cyc.*

SASSANIAN KINGS of Persia. The following the dates given in Dr. Smith's Dictionary, Dr. Mordtman's latest determinations of the alogical history of this race, who ruled in A.D. 226 to 632.

Smith. A.D.	Mordt. A.D.	
	226	Ardashir Babegan bin Sassan, or Artaxerxes.
	238	Shappuhr, Shahpur, or Sapor, captured Valerian.
	270	Hormuzd or Hormisdas.
	271	Bahram or Varanes I.
	274	,, ,, II.
	293	,, ,, III., Segan Shah.
294	291	Narse or Narses, conquered Armenia and Galerius.
303	300	Hormuzd or Hormisdas II.
310	308	Shahpur or Sapor II.
381	380	Ardashir or Artaxerxes II.
385	383	Shahpur or Sapor III.
390	389	Bahram or Varanus IV., Kerman Shah.
404	399	Yezdejird or Izdejerd I.
420	420	Bahram Gor or Varanes V., visited India.
448	440	Yezdejird or Izdejerd II.
458	457	Hormuzd or Hormisdas III.
458	458	Firoz or Perose, allied with Khakan of Huns.
484	485	Balas, Palash, or Balasces.
488	491	Kobad or Caodes.
498	498	Jamasp (Kobad recovers kingdom 502).
531	531	Khosru, Kesri (Nushirvan), or Chosroes.
579	571	Hormuzd or Hormisdas IV.; deposed by his general, Varanus VI. A.D. 590; M., A.D. 591.
591	591	Khosru Parvez, Kesri, or Chosroes II., put to death by
628	623	Kobad Shiruyieh or Siroes.
	629	Ardashir III., anarchy.
	629	Shariar or Sarbazas.
	629	Puran Dukht.
	631	Azermi Dukht.
	631	Ferokhzad Bukhtyar.
	632	Yezdejird or Izdejerd III., overthrown by Muhammadans 641.

This monarchy commenced in Persia in the year A.D. 226, when Artaxerxes overthrew the [illegible] of Parthian dynasty, and it continued until itself overturned by the Muhammadan khalifs in the year A.D. 632. The founder of the Sassanian dynasty died in 240. In his latter days a certain Arpog was king of China, one of whose sons, Mamkon by name, fled from home on account of a charge brought against him, and took refuge in Persia.—*Prin. Ind. Ant.* p. 13; *Thomas' Prinsep*, i. p. 302; *Yule, Cathay*, i. p. 84.

SASSETTI. Philip Sassetti, an Italian, visited India at the end of the 16th century. He studied Sanskrit, and noticed the resemblances between Sanskrit and Italian.—*Sayce*, i. p. 43.

SASTRA. Hind. An order, a command, a Hindu scripture, a religious work; Dharma Sastra, the code of Menu, or any book on law or science, religious books of the Hindus in general, and more especially certain philosophical systems, six in number. Also, as Sastri, a Hindu skilled in the Sastras, the literary title of a learned Hindu, as Ranganadam Sastri. It is written and pronounced Shastri, and in the south of India is the equivalent of pandit.

SATA, a clan of bards of Central India who are genealogists.

SATADRU or Sutudri, the river Sutlej.

SATAN, an evil spirit of the Jews, Christians, and Muhammadans. Shaitan, the Sathanos or Satan of Europe, was recognised by the Chaldees.

SATANI, 714,000 in number, are a sect of Hindus who to a great extent ignore caste distinctions. They are followers of Chaitanya, a religious teacher of the 15th century, and of his disciple Sanatana. They have views similar to those of the Baisnab reformers of Bengal. Many of them in Southern India worship Permalu, an incarnation of Vishnu, perambulate the street morning and evening, and accept alms from all but the lowest castes, often exacting the same by threats of burning themselves with a lamp. The temple servants are generally taken from the Satani. They are skilled in weaving flowers into

beautiful garlands. They are generally attached to the Vishnu temples; while the Pandarums are attached to the Siva temples. One of the Satani sects burn their dead; the other bury their dead in a sitting posture up to the head, then burst the head by throwing cocoanuts on it, and heap it over with earth.

SATARA, a town of the Bombay Presidency, in lat. 17° 41′ 25″ N., and long. 74° 2′ 10″ E., which gives its name to a revenue district, with an area of 5378 square miles. Early in the Christian era, Satara formed part of the dominions of the great Salivahana, whose capital was at Paitan, on the Godavery river. The Chalukya Rajputs next ruled the country, rising to their greatest power in the 10th century, and becoming extinct at the end of the 12th. The Jadhav rajas of Dowlatabad succeeded them for about a hundred years. The first Muhammadan invasion took place in 1294, and the Jadhav dynasty was overthrown in 1312. Two-thirds of the population consist of Mahrattas and Kumbi, who during the period of Mahratta ascendency (1674–1817) furnished the bulk of the armies. The Mawala, Sivaji's best soldiers, were drawn from the Ghatmatha (hill top) portion of the district. Brahmans, employed as priests or Government servants, are found in large numbers in the towns of Satara and Wai. Besides these, Vani, Dhangar, Ramusi, [illegible], and Mang are among the principal castes met with throughout the district. Satara was taken by the Indian army on 11th February 1818.

SATARUPA. SANSK. In Hindu mythology, the female half portion of the androgyne form of Brahma, framed out of one-half of Brahma's body; the type of all female creatures. The consort of Swayam-Bhuva.

SAT-DHARA, said to mean literally the hundred streams, is a group of Buddhist topes on the left bank of the Besali river, just below the junction of the Ghora-pachar river. The topes are two miles W.S.W. of the small village of Ferozpur.

SATHWARA, a humble tribe of the Bombay Presidency, similar in their habits and pursuits to the Kacheea.

SATI. SANSK. Good, pure; hence suttee, a good woman who immolates herself with the body of her deceased husband. The term is applied to a true and chaste wife.

SATI, a Hindu goddess, Siva's first wife, a daughter of Daksha. The gods whom Sati contained in her womb burst out; her limbs were scattered all over the world, and the places where they fell are become sacred. Her breasts fell near Jalandar in the Panjab, the yoni into Assam, and the guhya (podex) into Nepal, where they are worshipped to this day. The last is a small cleft in a rock, with an intermitting spring; it is called Guhyast'han.—*Wilford; As. Res.* vi. p. 477; *Moor*, p. 108.

[illegible]ATIN.

[illegible] . . . . GER. | Atalas, Intalas, . MALAY.
[illegible] . . . IT. | Setim, ... PORT.

fabric manufactured in Europe. A [illegible]oven, twilled silken fabric, with a [illegible]Satins are either plain or figured, [illegible]colours.—*Faulkner.*

[illegible]he Swietenia chloroxylon [illegible]od. It is hard, and when [illegible]ful, with a satiny lustre. It is much used for picture-frames, rivalling bird's-eye maple of America. It is occasionally used by cabinet-makers for general furniture, but it is liable to split. Satin-wood grows chiefly in mountainous districts of Southern India and Ceylon. It is abundant in the hills of the Vizagapatam and Ganjam Circars, though logs seldom exceed eight inches diameter. Very fine satin-wood occurs at Kutapatti, in the Tengrikottah taluk of Salem. It is used for mallets, also for the naves of gun carriage wheels, and is the best suited of all the Indian woods for fuses. The price is nearly the same as that of teak and black-wood. Colonel Frith mentions a satin-wood of Penang, of a straw colour, and a beautiful wood for ornamental furniture, etc.; but it is not known what satin-wood tree grows there. The best variety is the West Indian, imported from St. Domingo in square logs and planks from 9 to 20 inches wide; the next in quality is the East Indian, shipped from Singapore and Bombay in round logs from 9 to 30 inches diameter; and the most inferior is from New Providence, in sticks from 3½ to 10 inches square. The wood is close, not so hard as boxwood, but somewhat like it in colour, or rather more orange; some pieces are very beautifully mottled and curled. It was much in fashion a few years back for internal decoration and furniture; it is now principally used for brushes, and somewhat for turning; the finest kinds are cut into veneers, which are then expensive. The Nassau wood is generally used for brushes. The wood has an agreeable scent, and is sometimes called yellow sanders-wood. —*M.E.J.R.; Mr. Rohde, MSS.; Cleghorn; [illegible] J. Frith; Tredgold.*

SATNAMI, a monotheistic sect in the Central Provinces, who worship the Creator under the designation of Satnam, the pure name. The sect arose among the Chamars of the Ch'hattisgarh, Bilaspur districts, by the influence of Ghasi Das, one of their own number, who disappeared for six months, and on returning he explained to them how he had been miraculously sustained in the wilderness, how he had held communion with a higher power, and how he had been empowered to deliver a special message to the members of his own community. This message absolutely prohibited the adoration of idols, and enjoined the worship of the Maker of the universe without any visible sign or representation, at the same time proclaiming a code of social equality.

The movement occurred between the years 1820 and 1830, and nearly the whole Chamar community of Ch'hattisgarh now call themselves Satnami.

He died in the year 1850, at the age of eighty, and he was succeeded in the office of high-priest by his eldest son, Balak Das. They ignore Hindu festivals. As a rule, they are monogamists, though polygamy is not specially prohibited. Some forms of prayer collated from Hindu authors are said to exist among the teachers, but these are quite unknown to the people, and the only act of devotion which a Satnami practises is to fall prostrate before the sun at morn and eve, and exclaim, 'Satnam, Satnam, Satnam!' They will not even drink water except from one of their own caste, and liquor is prohibited. They are divided into two grand sections, the 'smokers' and 'non-smokers.' There is no class more loyal and

satisfied with British rule than this community. This movement had its origin at Girod, a small hamlet in the Bilaspur district, on the south bank of the Mahanadi, and on the borders of the Sonakhan estate. This class of deistical Chamars now numbers at least a quarter of a million. They are a thriving and industrious people, occupying a very important position as cultivators and village headmen in the Bilaspur district.

SATNARAMI, a religious sect of Hindus who settled near the town of Narnol, and about A.D. 1676, A.H. 1087, rose in insurrection in the time of Aurangzeb. They were principally engaged in trade and agriculture, and though generally peaceable they carried arms, and were always ready to use them in their own defence. In a quarrel with the police, one of their sect was beaten by a police soldier; his comrades retaliated, the affray spread till several thousands assembled, who defeated a body of troops sent against them, and took possession of Narnol. Two other bodies sent against them from Dehli were also worsted, and the belief arose that they were possessed of magical powers and bullet proof, while their enchanted weapons dealt death at every blow. Many of the neighbouring zamindars joined them, and the whole provinces of Ajmir and Agra were thrown into such confusion, that Aurangzeb, to restore order, thought it requisite to take the field against them, ordered his tents to be pitched, wrote verses of the Koran to be fastened to the standards as a protection against enchantment. The exertions of some chiefs at last induced the royal troops to make a stand, when the insurgents were defeated, and dispersed with great loss.—*Elphinstone*, 561.

SATPURA. This name is now generally applied to the mountain range or table-land which, commencing eastward at Amarkantak, runs nearly 600 miles up to the western coast of India, though the appellation seems to have been formerly restricted to that portion of the range which divides the Nerbadda and Tapti valleys. The Satpura range is known to Hindus as three portions, the most easterly being the Mykal, the centre is the Mahadeo, and only their western portion as the Injadri or Satpura. Chouragarh, 4200 feet above the sea, is the highest peak of the Mahadeo range. The Mahadeo portion culminates in the Pachmarri peaks, sacred to Mahadeo. From Rajpipla to Asirgarh consists of a belt of mountainous country, 40 or 50 miles in breadth, and of an average height at the crest of the chain, but little under 2000 feet above the sea, while many peaks rise above 3000, and some (and even some table-lands, as Turan Mal) are as high as 4000 feet. Nearly the whole of this range, both hills and valleys, consist of trap; but towards the west, along the northern boundary of Kandesh, a series of craggy peaks are met with, such as are but rarely seen in the trap region. Elsewhere the summit of the range is more or less a table-land. Just east of Asirgarh there is a break, through which the railway from Bombay and Kandesh to Jubbulpur passes, the highest part of which is only 1240 feet. This break leads from close to the junction of the two alluvial plains in the Tapti and Purna to a flat tract lying between the two Nerbadda plains. East of this break the trap hills continue till south of Hoshangabad, where sandstone and metamorphic rocks emerge and form a great portion of the hills of the Pachmarri and Betul country. There is a table-land of considerable extent round Betul, which extends far to the eastward beyond Chindwara and Seoni, and joins the high plateau of Amarkantak. Upon this plateau trap still predominates, and a great spur from it extends between the Tapti and the Purna, forming the northern boundary of Berar as far as the confluence of those rivers. This range is also of considerable height, in places nearly 4000 feet. Like most other ranges, it has no definite name, and is generally looked upon as a portion of the Satpura. The Satpura Hills divide the valleys of, and form the watershed between, the Tapti and Nerbadda, and the Satpura plateau is the true barrier between Northern and Southern India, and is the line on which the settlers from Hindustan met the emigrants from the Dekhan and Maharashtra, each of them pressing the prior non-Aryan races into the great natural fastnesses of Central India. In Hoshangabad are Bharia, Chamar, Gond, Gujar, Kunbi, Kurku, Lodhi, and Maria. In Maudla, Ahir, Baiga, Dher or Mhar, Dhimar, Gaoli, Gond, Kol, Kurmi, Lodhi, and Teli. In Nimar are Bhil, Bhilal, Dher, Gond, Kunbi, and Kurku; and in Seoni, Ahir, Bharia, Dher, Gaoli, Gond, Kurku, Mali, and Ponwar.

SATRAP. This term is familiar to the reader of the Grecian history of ancient Persia, with merely a softening of the initial letter, as Satrapa, the prefect of a province under the Persian system of government. It is an obsolete Persian title for the governor of a province. In Sanskrit it is a term obtained from one of the insignia of royalty, the royal umbrella, the Eka-ch'hatrya, the possessor of it being the Ch'hatra-pati, lord of the umbrella, a vaulted, horizontal umbrella, the exclusive privilege of royalty. It was under this title that the Persians, at a very early period, were in the habit of governing their numerous tributary provinces. The same system and the same denomination of satrap was adopted and retained by the Macedonian conquerors, alike when Greek or native officers were employed. And instances are frequent enough of the satraps assuming to themselves independence and a regal title. The satraps of the ancient Persian monarchy are not supposed to have extended across the Indus. It was in Alexander's time this limit was first transgressed; it was not long prior to the time when the Bactrian Greeks or the Parthians made themselves masters of Sind, Cutch, and Gujerat.—*Prin. Ind. Ant.* ii. p. 64.

SATR-SOWA, Myrtus communis, the myrtle; its leaves are eaten with black pepper to cure emissions that occur from debility.—*Genl. Med. Top.* p. 152.

SATRUNJAYA, or Palitana, a sacred mountain of the Jains in Kattyawar, about 30 miles from Gogo. Its name means victorious over the foe. From the earliest period of the Jain religion, spreading in Kattyawar, Satrunjaya has been one of the places held most holy by the followers of the Tirthankara. Rising in the midst of a vast plain, near the independent city of Palitana, in the S.E. corner of Kattyawar, this city of temples is reached by a difficult narrow road, and many stairs, on the side of which are built several small resting-stations and tanks. It is surrounded by fortifications, on which a few old guns are still mounted, and has ever been kept in such a state of constant repair, that it is now almost impossible

to trace remains which can safely be considered of the original structures. From the earliest mention of the place, embellishing and restoring seems to have been the work of its proprietors and projectors, and at the present date the same spirit animates Jains from all parts of India, and great care and labour are bestowed upon its numerous temples. One of the curious features of these restorations, is the application of a brilliantly white polished chunam to the outer side, and over every part of the stone-sculptured edifices, giving them the appearance of marble. Many of these temples are beautifully painted inside. Satrunjaya illustrates the Jaina custom of grouping their temples. They are in hundreds there, covering over the summits of two extensive hills. The smaller shrines line the streets; the larger temples are enclosed in 'tuks' or separate enclosures, surrounded by high fortified walls. A few yati or priests and a few servants are there to perform the daily services and keep the place clean, but there are no other residents there. The pilgrim goes up and returns. It is a city of the gods. The shrines are almost all the gifts of single wealthy individuals. Some are as old as the 11th century, but the largest number have been constructed since the early part of the 19th century. See Architecture.

SATTAN, a name of the Hindu god Ayenar, and not identical with Satan of the Bible.

SATTATHAVAN, a Vaishnava sect [redacted] south of India, who are to the Vaishnav[redacted] the Vira Saiva are to the Saiva. They are [redacted] sellers, minstrels. See Satuni.

SATTU or Saktu. HIND. The flour or farina of parched grain of roasted barley or of pulse.

SATURN, in the sidereal theology, was represented by Bel.

SATURNIA. *Schrank.* A genus of insects belonging to the order Lepidoptera and the family Bombycidæ. The antennæ are fringed in the male; the head is small; the wings are very broad and entire; the palpi and trunk are wanting. The genus Saturnia includes now the Pavonia of Hubner, the Phalæna attacus, *Linnæus*, and part of the genus Bombyx of Fabricius. To this genus, also, some of the largest of the Lepidoptera belong; but S. atlas, the giant atlas moth, which has wings measuring 7 or 8 inches across, is now named the Attacus atlas. This species also, with S. cercropia and A. lunula, have their wings produced into a tail. The cocoons of A. cynthia and S. mylitta are used in India for the production of silk. Latreille states that these are the wild species of silk-worm of China. A. cynthia is the Arrindi silk-worm of India. S. promethia, a North American species, forms its cocoon within the leaf of a sassafras tree, having previously fastened the stalk of the leaf to the stem by a strong silken web, whereby it is prevented from falling with the other leaves.—*Westwood; Linn. Trans.* vii. See Silk-worm.

SATYA-GUNA. SANSK. The quality of truth, purity, and wisdom. Satya-loka, the region of truth, or Brahma. See Guna; Loka.

SATYASI, Chourasi, groups of 87 and 84 villages, resembles the English 'hundreds.' Satyasi, or 87, is a very frequent group; 84 is supposed to be the number of solar months in the year by the number of days in the week, $12 \times 7 = 84$.

SATYAVAMA and Lakshmi, wives of Balaji, an incarnation of Vishnu. These two [redacted] are generally seen with him as w[redacted] avatara of Krishna.

SATYAVATI, mother of Krish[redacted] Dwaipayana, and wife of king Santana. Bhishma [redacted] the son of king Santana by the holy river goddess Ganga, and hence called Santanava-Gangaya, and Nadi-ja or river born. Also Tala Ketu or palm banner. His life was one of self-denial, devotion, and fidelity. He adopted a bachelor life, and abandoned his right of succession to the throne, in order to allow of his father's marriage with Satyavati. She bore two sons to his father, each of whom succeeded to power.

Bhishma obtained for the younger, Vichitra Virya, two daughters of the king of Kasi, but he died young and childless, on which Bhishma arranged that Krishna Dwaipayana, who had been born of Satyavati prior to her marriage with king Santana, should raise up seed to his half-brother. Two children were born, Pandu and Dhritarashtra, whom Bhishma brought up, and acted for them as regent of Hastinapura, and he also directed the education of their respective children, the Pandava and the Kaurava. In the war of succession which followed, he took a part, and on the tenth day of the fight he was unfairly wounded by Sikhandin, and pierced with many arrows from the bow of Arjuna, and died 58 days afterwards.—*Dowson.*

[redacted]VRATA or Satyvrata is the Noah[redacted]uft of [redacted] He is mentioned in the [redacted]iliar [redacted]ived a warning of [redacted]ions coming deluge, [redacted]rm of an injunction [redacted] take with him into [redacted]seven rishi or sa[redacted]ward all medicinal herbs, every variety of seeds, [redacted]ing pairs of all brute animals. Satyavrata acted [redacted], this, and when the flood abated, Vishnu descended with to the earth in the form of a tortoise, and [redacted] of Mount Mandara on its back, the gods churned [redacted] scalp ocean, and obtained the fourteen precious [redacted]pping ducts, and amongst them medicines and [redacted] henceforth bestowing Dhanwantari.—*As. Res.* iii., [redacted]., viii., and

SATYAYOGA, or Golden Age of the Hindu [redacted]tory is thus described: [redacted]own,

> 'O lovely age, by Brahmans fam'd, [redacted]s of
> Pure Setye yug in Sanskrit nam'd! [redacted]; for
> Delightful! Not for cups of gold, [redacted]to a
> Or wines a thousand centuries old; [redacted]her-
> Or men, degenerate now and small, [redacted]in-
> Then one and twenty cubits tall. [redacted]the
> Not that plump cows full udders bore, [redacted]the
> And bowls with holy curd ran o'er: [redacted]his
> Nature then reigned, and Nature's law [redacted]kes
> When females of the softest kind [redacted]dle
> Were unaffected, unconfined; [redacted]his,
> And this grand rule from none was hidden,
> What pleaseth hath no law forbidden.'

SATYRIUM CUCULLATUM. *Thunb.* [redacted]pkins S. bicorne, *Thunb.* | Orchis bicornis, *Linn.* [redacted] the

A plant of the Cape of Good Hope introduced into Bengal. S. Nepalense is the Phung of Resi-Bhot race. [redacted]rica,

SAUDA, a celebrated poet who wrote in Hin[redacted]er-He was born at Dehli about the end of the [redacted]code century. His name was Mirza Rafai. He [redacted]which at Lucknow in the times of nawabs Saadat [redacted] still and Asof-u-Dowlah, and had the literary title [redacted]es a Malik-us-Shura. [redacted]chief

SAUR. HIND. A bull liberated. See [redacted]which [redacted]hotsarg. the

SAURA, a drink in use in the N[redacted]ob[redacted]unity obtained from one of the palms. [redacted]and

or Saora, a forest race on the moun- Eastern Ghats. Saura is supposed to from Surya, identical with Sol, the worshipper.

ATA or Saura, Hindu worshippers of he sun-god. A sect of limited extent significance.

SHTRA, an ancient name of the f Gujerat, which is supposed by nningham to have been lost in A.D. the successors of the Sah kings were by the Vallabhas, and the capital m Junagarh to Vallabhi. In ancient owever, the peninsula of Gujerat was n as Saurashtra, and under this name ned in the Mahabharata and in the It is called Surashtrene by Ptolemy thor of the Periplus, and its people are bly intended by Pliny under the cor- of Suarataratæ or Varetatæ, properly

dil is a sterile jungly tract in the rth-west of the Saurashtra peninsula, s about 13,000 inhabitants. These are Their only important places are the u site of Dwaraka on the west coast, a small island a few miles to the north, boasting of scarcely inferior holiness. , as also Umreyli in Kattyawar proper, r in South Kattyawar, are under the of the Gaekwar. In 1803, 1858, and in 1859, they repulsed British troops, but they seemed entirely dispersed or surren- Kattyawar is rich in jungle fastnesses. occasion, the rapidity and severity of the ance, in the escalade of the stronghold of pirates of Dwaraka by the British force the Hon. Colonel Lincoln Stanhope, induced ano, the chief of the Badhail of Beyt, to sue ms, and he agreed to surrender Beyt and to at Aramra on a stipend furnished by his ain, the Gaekwar.

e Wagher of Dwaraka, who, with the ail of Aramra, were so long the terror of seas, are a spurious branch of the Jhareja y of Bhooj, one of whom, called Abra, with gnomen of Muchwal or the whiskered, from mendous pair of these adjuncts to the face, from Cutch in the time of Rinna Sowa, in se family he intermarried, and from whom he in charge the tha'na or garrison of the castle onti or Dwaraka. His son had offspring by mas of impure caste, and they assumed the of Wagher, with the distinctive office of or gem. The last four chieftains of this were Mahap-Manik, Sadul-Manik, Sameah- , and Mulu-Manik, who, with all his kin and y company of Wagher, Badhail, Arab, etc., a desperate defence, was slain in the storm empted retreat. Throughout the sea-coast rashtra, at Gogo and Mandavie, are seamen ail themselves Hindus, but who keep entirely ot from all other classes. Some of them a descent from the mariners of the Arabian , but still as Hindus. The Badhail fixed selves in the district of Oka (Okamandala) e migration of Seoji from Kanouj.—*Tod's* ls, pp. 220, 440, 441; *Rajasthan*, ii. p. 14.

USSUREA, a genus of plants of the order posite; 13 species occur in the Himalaya and of India.

S. gossypina. In East Nepal, at the summit of the Wallan Choon pass, at an elevation of 16,748 feet above the sea, the plants gathered by Dr. Hooker near the top of the pass were species of Compositæ, grass, and Arenaria; the most curious was S. gossypina, which forms great clubs of the softest white wool, six inches to a foot high, its flowers and leaves seeming uniformly clothed with the warmest fur that nature can devise. Generally speaking, the alpine plants of the Himalâya are quite unprovided with any special protection of this kind; it is the prevalence and conspicuous nature of the exceptions that mislead, for the prevailing alpine genera of the Himalaya, Arenarius, primroses, saxifrages, fumitories, ranunculi, gentians, grasses, sedges, etc., have almost uniformly naked foliage.—*Hooker*, *Journ.* i. p. 225.

S. lappa, *Bentham*, is the Haplotaxis lappa, *Decaisne*. It is a perennial plant of Kashmir, and its aromatic root has been supposed to have formed part of the costus of the ancients.

SAVA or Saveh, a town in Persia lying between the towns of Kazvin and Isfahan. This is supposed to be the ancient Saba, whence the three magi took their departure when they proceeded to adore the infant Jesus at Bethlehem.

SAVA, eldest son of Rama, the ancestor of the Balla, a Suryavansa race of Rajputs.

SAVANDRUG, a hill fort in the Bangalore district of Mysore, locally known as the Magadi Hill, 4024 feet above sea-level; lat. 12° 55′ N., and long. 77° 21′ E. It consists of an enormous mass of granite, standing in a base 8 miles in circumference.—*Imp. Gaz.*

SAVANORE or Sanore. Its chief is a Pathan, whose ancestor, in 1750, was one of the three Pathan Muhammadans who conspired against Nasir Jung.

SAVINGS BANKS. The Indian Government sanctioned a scheme for the transfer of savings banks from local treasuries to the post-offices. Thus, 3800 savings banks will be established throughout India.

SAVU ISLAND. Its S.E. point is in lat. 10° 37′ S., and long. 122° E., and is 18 miles long. Savu and Rotti are small islands to the west of Timor, and very remarkable as possessing a handsome race, with good features, resembling in many characteristics the race produced by mixture of the Hindu or Arab with the Malay. They are certainly distinct from the Timorese or Papuan race, and must be classed in the western rather than the eastern division of the Archipelago.—*Wallace*, ii. p. 277.

SAWUNTWARI, a Native State about 200 miles south of Bombay city. Area, about 900 square miles, and population 190,814 in 1872, and 174,433 in 1881, mostly Hindus. A dialect of Mahrati, known as Kurauli, is spoken. The Mahrattas and Mhars are favourite recruits for the Bombay native infantry regiments. This state is ruled by the Sawants, hereditary deshmukhs of Wari, near Goa; they are of the Bhonsla family. In 1709, the British opened relations with Phond Sawant, nephew of Khem Sawant, who in 1707 received from Sahoji a deed confirming him in full sovereignty. In 1730 the British and Phond concluded a treaty against Kanoji Angria, the piratical chief of Kolaba. In 1738 Phond was succeeded by his grandson, Ramchandra; in 1755 Ramchandra's

son Khem succeeded, and his 48 years' rule, till his death in 1803, was one long war with various Mahratta chiefs, and with the Portuguese. In 1765 the British sent a force against him, and he ceded Vingorla and Fort Reree. Being childless, his widow adopted Ramchandra Bhao, who was murdered in 1807. He was succeeded by Phond, who died in 1812, and the regent, Durga Bai, forcibly seized districts belonging to Kolhapur, and during the war with the Peshwa, she supported his cause; but a British force was sent to reduce the country, and in 1819 a treaty was agreed upon, ceding the whole line of the sea-coast. In 1830, and again in 1832, the British had to aid Khem Sawant to suppress rebellions.

SAWUR. MALAY. A very beautiful and useful wood of Java; the colour resembles that of mahogany, but the grain is closer, and it is more ponderous; its chief use is for handles of tools for carpenters and other artificers, for machinery, especially for the teeth of the wheels of mills, and other purposes where a hard and durable wood is required. On account of its scarcity, it is uniformly cut down in Java before it arrives at the necessary size for cabinet-work. Forests of it grow on the hills of Bali, opposite the Javan shore, whence it is brought over by boat-loads for sale.

SAXIFRAGACEÆ. *D. C.* The saxifrage [illegible] Hydrangia, [illegible] splenium, Ciamitis, Adamia, Saxifraga, Chrysos[illegible]age, the Tiarella, Astilbe, and Vahlia. A saxif[illegible] of the Shih-hu-wei and Ngo-puh-shih-ts'ao Chinese, an acrid plant, grows near water; it has small yellow flowers, and is recommended in all diseases of the senses and great orifices of the body; it acts as an emetic and diaphoretic.

Saxifraga ligulata, *Wall.*

Makhan, . . . BEAS.	Bat pia, . . . JHELUM.
Shap rochi, . . CHENAB.	Popal wat phula, KANGRA.
Kurgotar dharposh, ,,	Saprotri, . . . RAVI.
Banpatrak, . . . ,,	Til kachalu, Shiblack, ,,

Cultivated in the Himalaya. Root given in honey to teething children; leaves used by Hindus as food platters.—*J. A. Murray.*

Saxifraga stenophylla, *Royle.*

Fairy-hair, . . . ENG. | Mu-i-pari, . . . PERS.

So named from its numerous thread-like stolons, in which and its general appearance it closely resembles the Saxifraga flagellaris of Melville Island.

SAYANA, the headman of a hill village in the N.W. Himalaya.

SAYANACHARYA, a man of high station and a deservedly celebrated scholar, who wrote a commentary of the Vedas. He was brought up at the court of Vira Bukka Raya, raja of Vijayanagar, in the 14th century A.D.

SAYANI CHANDRA SEKHARA, author of the Madhurani Ruddha, a drama in eight acts; the style has considerable merit.—*Wilson.*

SAYER. ARAB. Literally travelling; but in the fiscal system of India applied to the transit duties levied on goods passing from one district or one territory to another. It was finally abolished in 1834, 1837, and 1844, in the three presidencies of Bengal, Bombay, and Madras. The transit duties in Madras amounted to £310,000 sterling a year.

SA-y-NORONHA. Constantine de Sa-y-Noronha and all his army of 1500 Portuguese and 20,000 natives were destroyed by the king of Kandy in the early part of the year 1632.

SBANGJA. HIND., TIB. Moss tea, a substitute for real tea.

SCABBARD. For these, the people of the East Indies set a great value upon the skin of a fish which is rougher than a seal-skin. Upon the back of the fish there are six little holes, and sometimes eight, somewhat elevated, with another in the middle, in the form of a rose; and the more those holes grow in the form of a rose, the higher value they put upon them. Tavernier had seen ten thousand crowns given for a skin.—*Tavernier's Tr.* p. 151.

SCÆVOLA TACCADO. *Roxb.* Grows on the Coromandel coast and deltas of Indus and Ganges. It is eaten as a pot-herb. Artificial flowers from the pith of its stem and branches are made by the Malays.

SCALIE, of Cuttack, the fibre of a gigantic twining plant, common throughout the forest jungles of the district. It is used for cordage, and is made into twine for mat-making and roofing purposes.

SCALLOP. Jula, HIND., Kashkul, PERS. The fakir's dish, made of a half sea-cocoanut shell. Speaking of a child of unknown parentage, the phrase is, Fakir-ke-jhulay men tukra kon dala Who threw the portion into the fakir's sca who can tell?

SCALPING. All Hindus retain only the t hair on the crown of their heads, which is fan to Europeans from the pictures and descrip of North America, as the scalp of the Indians y, if not the *sole* re the most glorious tropl practice of we of their victor. The Hin this scalping tuft, Shik'ha, SANS Kudi mai, TAM., was doubtless brought them from Scythia; for, like the India North America, the Scythians cleaned the and hung it to their horses' bridles. Sca is generally supposed to be a peculiarly N American practice that originated in High North-Eastern Asia. But the father of hi says, 'Of the first enemy a Scythian sends he quaffs the blood; he carries the hea all that he has slain in battle to the king when he has brought a head, he is entitled share of the booty that may be taken,—not o wise; to skin the head, he makes a circular cision from ear to ear, and then, laying hold o crown, shakes out the skull; after scraping of flesh with an ox's rib, he rumples it betwee hands, and, having thus softened the skin, n use of it as a napkin; he appends it to the b of the horse he rides, and prides himself on for the Scythian that has most of these skin na is adjudged the best man, etc. They also us skulls for drinking-cups.'

The Abbe Em. Domenech (Seven Years' dence in the Great Deserts of North Am xxxix.) quotes the decalvare of the ancient mans, the capillos et cutem detrahere of the of the Visigoths, and the annals of Flude, prove that the Anglo-Saxons and the Frank scalped about A.D. 879. Abbe Domenech rel conversation between two warriors. Is it a who speaks to Mahto-totia? See the scalp w hangs from the bit of my horse, answered Scheyenne. The scalp fastened to the extre of a pole was placed in the conqueror's cabin;

on days of parade or battle, in front of the cabin. The chiefs suspend it to their horses' bridles.

SCAMMONY.

Sukmoonia, . . ARAB.	Purgirwinde, . . GER.
Scammonium, DA. DU. SW.	Scammonea, ... IT.
Scammonee, ... FR.	Pessya smert, . . . RUS.
Skammonien, . . . GER.	Escamonea, ... SP.

Scammony, the Sukmoonia of the Arabs, is found in the bazars of India; it is the product of Convolvulus scammonia, a native of Syria, the Levant, and Gujerat. The most abundant harvest of scammony is in Smyrna and Aleppo. There are several modes of collection, which give rise to corresponding commercial varieties.

SCARFS of fine muslin form part of the dress of most of the Hindu castes, and are worn suspended from the neck to about the middle of the thigh. They are largely manufactured in many parts of India. Dehli scarfs are of Kashmir cloth or net, embroidered with silks of various colours. Those of black cloth, black net, embroidered with white or gold-coloured floss silk, are the most chaste and beautiful. The art was introduced into Lahore and Dehli by Kashmir artisans, and Muhammadans are employed on it.

SCARLET MITE, or Red Spider, is the Acarus telarius or Gamasus telarius, an insect which envelopes the leaves of the coffee plant in a delicate, closely-woven web, which so checks the respiration that the plant becomes dry and withered.

SCEPTRE, the Ch'hari of the Hindu rulers, a long rod with an iron spike on it, often placed before the gadi or throne. Ch'hari mazbut t'ha, 's rod was strong, is a familar phrase, which might be rendered, his sceptre is firm.—*Tod's Rajasthan*, i. p. 410.

SCHIEFNER. F. A. von Schiefner was an authority on Finnish, edited Castren's grammars of Samoyedan and similar languages, and translated the northern epic, the Kalewala. He worked with great results among the mysterious languages of the Caucasus, and helped General von Uslar in his discoveries in the ethnology and philology of that region. But his speciality was Tibetan. The Russian Government became possessed of copies of two editions of the Kah-gyur, one of the two collections of sacred books of Tibet, which run to 100 or 108 volumes folio; the companion encyclopædia, the Tan-gyur, consisting of 225. From the first of the seven divisions of the former group, Professor Schiefner extracted all the legends and stories. They correspond to the stories of the Panchatantra, of the Russian collections of folk-lore, of Æsop, and of the Brothers Grimm. Thus the opening tale of King Mandhatar and his immoderate wishes is the same as Grimm's Fisherman and his Wife; that of Kusa is much like Beauty and the Beast; the Clever Thief is a variation of the well-known story told by Herodotus of the treasure of Rhampsinitus. One of the best stories is that of Visakha, a clever and virtuous girl, whose ways of helping people out of difficulties are innumerable. Among her decisions is one between two wives who are claiming possession of a son, an exact counterpart of the Judgment of Solomon. The story of Susroni and her magic lute is akin to those of Orpheus, Amphion, and the Pied Piper of Hamelin; and the humiliations of Madri, the wife of the princely Visvantara, are an anticipation of those of patient Griselda. The similarity of the short animal stories to Æsop and other western collections, is apparent, the chief differences being purely local, the jackal taking the place of the fox, the lion of the wolf, and so forth. Most of them, however, deal with monkeys, who live in bands of five hundreds under a chief, wise or foolish.

SCHIMA WALLICHII. *Choisy.* A valuable timber tree of Darjiling, India, growing up to 5000 feet. It attains to 100 feet in height.

SCHIZODACTYLA MONSTROSA. *Westwood.* The great cricket or carpenter insect, the Jheengoor, HIND., is about 1½ inches long and the thickness of a man's little finger; bores cylindrical passages in garden grounds, and issues at night, filling the air with a whizzing kind of chirp. It nips off the stems of the plants near its hole. It is destroyed by pouring water in, and killing it as it is escaping.

SCHIZOSTACHYIUM BLUMEI. *Nees.* A lofty bamboo growing in Java at 3000 feet. Other species occur in Madagascar, China, the Philippine Islands, and in the S. Sea Islands. S. brachycladum, *Kurz*, of the Sunda Islands and Moluccas, has stems 40 feet high and very hollow. S. elegantissimum, *Kurz*, of Java, from 3000 to 6000 feet, grows to 25 feet, and flowers in the third year. S. Hasskarlianum, *Kurz*, of Java, and S. serpentinum, Gigantochloa aspera, alter, maxima, and robusta, afford the best kinds of bamboo vegetables, in the young shoots as they burst out of the ground.

SCHLAGENTWEIT, three brothers, Herman, Robert, and Adolphe, who were employed from the year 1855, to report on the physical geography of India and High Asia. They collected and published a vast amount of information. Adolphe, the youngest, was murdered at Kashgar by its fanatic ruler, Wali-Khan. At the time of his journey, Yarkand was occupied in force by a Syud chieftain of one of those predatory bands with whom the Chinese are continually at war, named Dilla Khan or Zullat Khan. Soon after reaching the city, Dilla Khan met with a severe defeat from the Chinese forces, and was obliged to retire. A. Schlagentweit finding himself disappointed in this direction, took the resolution of going to Kashgar, at that time occupied by another Syud chieftain, named Wali-Khan. This man was possessed of considerable power on the borders, and was honoured by the title of Pir. On arrival near the camp of this chief, Adolphe pitched his tents at the distance of a cos, and sent forward Muhammad Amin to notify his advent. In a little time a person came over, who forthwith proceeded to take an inventory of the traveller's property. His arms were also demanded, and surrendered. He was then compelled to go to Wali-Khan's camp, and on remonstrating appears to have been summarily beheaded with a sword. This was about the 26th August 1857.

SCHLEGEL, A. W. VON, a Sanskrit scholar, who in 1823 published an edition and Latin version of the Bhagavat Gita, and in 1829-38 two volumes of the Ramayana, with a translation of the first volume.

SCHLEGEL, FRIEDRICH, a poet and learned Sanskrit scholar, in 1808 published The Language and Wisdom of the Indians. He laid down that the languages of India, Persia, Greece, Italy, Germany, and Slavonia form one family.—*Sayce*, i. p. 49.

SCHLEICHERA TRIJUGA. *Willd.*

Melicocca trijuga, *Juss. DC*
Stadmannia trijuga, *Spren.*
Samma, ... BEAS.
Koon, ... BENG.
Gyootha, Kobin, . BURM.
Saguri, Chakota, . CAN.
Goosum, . . of KAMAON.
Kusoomb, . . . MAHR.
Jamoa, ... RAVI.
Kong, Æmbul kon, SINGH.
Cassambium pubescens, *Bu*
Schleich. pubescens, *Roth.*
Pu maram, Puvati, TAM.
Mayi, Posuku, . . TEL.
Rotangha, Roatanga, ,,
Yelim burika, . . ,,
Zolim buriki, . . ,,
Kola-koosoomoo, URIYA.
Ghuntiah-koosoomoo, ,,

This tree grows in the warmer parts of Ceylon, also in Coimbatore; common in Canara and Sunda, is not uncommon in the Dundele forest and in the forests of the South Konkan, is common in those of the North Konkan, is said to be very abundant in the Govavery forests, and abundant in Burma. It is found in greatest perfection on the banks of the Sitang in the Karen forests above Tounghoo; but is also found throughout the Pegu and Tounghoo forests in abundance, more particularly the latter. It is also found along with teak in Tharawaddy and Prome forests. A cubic foot there weighs 70 lbs.; grows in all the valleys and outer ranges of Kamaon. It occurs rarely, wild, in the Siwalik tract up to the Beas, and on the eastern verge of the Panjab. It produces a red, strong, hard, and heavy wood, which is used to make pestles, spokes for cart-wheels, and other purposes where much strength in small space is required, and as crushers for sugar, rice, and oil mills, screw rollers for sugar mills, cotton presses, etc., and the axle-trees of carts and ploughs. The seeds yield an oil which is used for burning, and from the young branches a considerable quantity of lac is gathered. The fruit is sometimes quite smooth, but occasionally armed with prickles. It ripens in May, and its pulpy aril is of a very agreeable acid taste. The bark is astringent, and is used rubbed up with oil by the natives to cure the itch. —*Roxb.; Voigt; Wight; Gibson; Brandis; Thw.; Thomson; Cat. Ex.*, 1862; *Mr. Rohde; Beddome.*

SCHMIDELIA, a genus of plants of the order Sapindaceæ; several species occur in the E. Indies. Sch. acuminata, *Thw.*, a small tree of Galagama, in Ceylon, on the banks of streams, at an elevation of 2000 to 3000 feet. Sch. allophylla, *D. C.*, a small tree, a variety of which grows at Ambagamowa and Hinidoon districts of Ceylon, up to an elevation of 3000 feet; another variety grows in the Central Province, at an elevation of 2000 to 5000 feet. Sch. hispida, *Thw.*, a small tree, grows in the Ambagamowa district of Ceylon at an elevation of 1000 to 2000. Sch. dentata, *Wall.*, occurs in Assám and in Chittagong, and Sch. glabra, *Roxb.*, and Sch. villosa, *Wight.—Roxb.; Voigt; Thw.*

SCHMIDELIA SERRATA. *D. C., W. and A.*

Ornitrophe serrata, *Roxb. Cor. Pl.*
Rakhal phulka jhar, HIND.
Korra chettu, . . TEL.
Tantisa, Tualike, . TEL.

A straggling shrub or small tree with ternate leaves. It grows in the Peninsula of India and Bengal. Timber very small. Its small red ripe berries are eaten, and the astringent root is employed to check diarrhœa.—*Roxb.; Voigt; M. E. J. R.; O'Sh.; Thw.*

SCHOLASTIKOS, the Thebæan, travelled in India a few years before the Chinese missionary Fa Hian, and was detained a prisoner for six months in the pepper districts of Malabar. Some account of his journey is given by Palladius.

SCHORL is found in Madura in great abundance, also in quartz near the mouth of the river on the east side, and also at the foot of the eastern mountains, near the headwaters of the Dahgyaine,* north-east of Moulmein. In both localities in Tenasserim the crystals are numerous, and in Tavoy they are large.

SCHOUTEN. Cornelius Schouten was one of the earliest Dutch voyagers by the west to the Spice Islands. He discovered Cape Horn in 1616, naming it after Hoorn on the Zuyder Zee, and Tasman's birthplace. Staten Island, was called after the States of Holland, and Lemaire from the projector of Schouten's voyage.

SCHREBERA SWIETENIOIDES. *Roxb.*

Weavers' beam tree, ENG.
Moka, Noka, . . HIND.
Makkam of NULLAMALLAY?
Mava-linga maram, TA.
Moga-linga maram, ,,
Makadoo chettu, TEL.

A large timber tree, a native of the valleys of the mountainous parts of the Rajamundry Circars, the Nullamallay range, the Balaghat mountains, the Thull Ghat near Bhewndy, Jowar, the Central Provinces, and the Hala mountains, west of the Indus. Its wood is of a grey or yellowish colour, very close grain, heavy, and durable. It is much employed by weavers for beams and for many other purposes of their looms. It is said not to be liable to warp or bend; and was recommended by Roxburgh as a substitute for box, in the manufacture of mathematical instruments.—*Roxb.; Beddome; Major Pearson.*

SCIÆNA, a genus of fishes. S. aquila (Maigre of the French, and Umbrina of the Romans, Corvina, is found in the Mediterranean. S. pama or Pharnal pana of Buchanan resembles the maigres, but having a singular natatory bladder. When twelve inches long, fifteen inches long, it is called whiting at Calcutta, and furnishes a light diet. It is caught in great abundance at the mouths of the Ganges, but never ascends higher than the tide.

SCILLA COROMANDELIANA. *Roxb.*

plant of the sandhills of the Coromandel coast.

Scilla Indica, *Roxb.*, Indian squill.
Iskil, ... ARAB.
Kanda, Koondree, BENG.
Pa-daing-khyet-thwon, BU
Jungle Piaz, . .
Nurri vungajum, .
Adavi tella-gadda,

This plant occurs on the sea-shores of the Peninsula. When in blossom, the plant is entirely destitute of leaves; the bulbs are round, fresh the size of an orange. Its root is bitter, the bulb is nauseous, like that of squill. It is extensively used in place of the officinal squill. Few plants are so much influenced by climate and circumstances as the squill.—*Voigt; O'Sh.*

Scilla maritima, *Linn.*
Urginea maritima, *Steinh.* | O. squillitica, *B. M.*
Ornithogalum maritinum, *L.* | Iskil,

This European plant furnishes the squill of medicine as a diuretic.

SCINCIDÆ, the skinks, a family of reptiles of the order Sauria or lizards, and sub-class Reptilia.

SCINDAPSUS. *Schott.* A genus of plants of the order Araceæ, sect. Calleæ, sub-sect. Indianlinæ. The following are East Indian species:

S. caudatus, —? Penang.
S. decursivus, *Schott*, Sylhet.
S. giganteus, *Schott*, Penang, Singapore.
S. glaucus, *Schott*, Khassya, Paras, Nepal.
S. officinalis, *Schott*, all British India, Burma.
S. peepla, *Endl.*, Sylhet.
S. pertusus, *Schott*, Coromandel, South Konkan.
S. pinnatifidus, *Roxb.*
S. pinnatus, *Schott*, Malayana.

…fficinalis, *Schott.*
…Pothos officinalis, *Roxb.*
…G., HIND. | Ati tipili, ... TAM.
MALEAL. | Gaja pippali, . . TEL.
…l plant grows at Calicut, in Bengal, …mountains, Rangoon, Moulmein, …its dried fruit is used medicinally, …ted for this purpose at Midnapur.
…ertusus, *Schott.*
…*Roxb.* | Iletadi maravara, MALEAL.
…plant growing on the Coromandel …on the western coast of India, in …ans. The pericarp is used in leprosy …*Roxb.*; *Voigt.*
SCIURUS, a genus of plants of the order …Dr. Roxburgh (i. 200-202) described … of India, most of which have been …ther genera. Sc. junciformis, *Nees*, …*Roxb.*, grows in Bengal. Sc. kysoor, *Roxb.* …BENG., a plant of Bengal.
…sularis, *Smith*, Tang-sin-ts'au, …n in Kiang-nan and Shen-si, in …ing mats and lamp-wicks; for the …he consumption is enormous. The …the growth of the flower like snuff …andles, and draw omens from the …The stalks are steamed and the …off, leaving the central white pith, …is a tent in surgery. It is used as …strum for other drugs; its ashes …ildren to prevent them crying at …—*Smith.*
…rpus tuberosus, *Smith.*
Eleocharis tuberosus.
. CHIN. | Water chesnut, . ENG.
. . . . ,,
…sedge plant grows wild in watery places in …ch in China. The tubers, called Ti-lik by the …se, meaning ground chesnuts, are called by …English water chesnuts; an arrowroot is pre…d from it.—*Smith.*
SCIURIDÆ, a family of mammals belonging …order Rodentia. The East Indian genera …species are as under:—
Fam. Sciuridæ, or Squirrels.
…iurus Malabaricus, *Schintz.*, Malabar squirrel.
…aximus, *Blyth.*, *Horsf.* | Jangli gilhri, . . HIND.
…Malabar, Wynad, Neilgherries, Travancore.
…iurus maximus, *Schr.*, *Ell.*, *Bly.*, red squirrel.
…berral, . . . BENG. | Karrat, ... HIND.
…n, Ratuphar, . ,, | Kondeng, . . . KOL.
…warati, . . GOND. | Bet-udata, . . . TEL.
…entral India.
…iurus Elphinstonei, *Sykes.*
S. Bombayanus, *Sch.*, *Ell.*
…squirrel of BOMBAY. | Shekra, ... MAHR.
…annala, . . CAN. |
…estern Ghats, Malabar, Mahabaleshwar.
…iurus macruroides, *Hodgs.* Black hill squirrel.
…olor, var. Indica, *Bly.* | S. giganteus, *M'Clelland.*
…gshan, . . BHOT. | Le-hyuk, ... LEP.
…E. Himalaya, Nepal, Sikkim, Assam, Burma.
…iurus macrourus, *Forst*, *Blyth*, *Horsf.*, *Hardw.*
…ylonensis, *Bodd.* | Grizzled hill squirrel, ENG.
…ylon, S. India.
…Sciurus ephippium, *Muller*, Borneo.
Sciurus lokriah, *Hodg.*, *Blyth.*
S. subflaviventris, *M'Clelland.*
…amo, . . BHOT. | Killi, ... LEP.
…ange-bellied grey | Killi-tingdon, . . ,,
…squirrel . . ENG. | Lokria, . . . NEPAL.
S. E. Himalaya, Nepal, Sikkim, Bhotan.

Sciurus lokrioides, *Hodg.*, *Blyth.*
S. lokriah, *Gray.* | Hoary-bellied grey squirrel.
S.E. Himalaya, Nepal, Sikkim, Bhotan.
S. Assamensis, *M'Clell.*, Sylhet, Dacca.
S. ferrugineus, *F. Cuv.*, N.E. India.
S. erythræus, *Pallas*, N.E. India.
S. erythrogaster, *Blyth*, N.E. India.
S. hyperthrus, *Blyth*, N.E. India.
S. chrysonotus, *Blyth*, N.E. India, and also in Tenasserim.
S. hyperythrus, *Is. Geoff.*, N.E. India.
S. Phayrei, *Blyth*, N.E. India.
S. Blanfordi, *Blyth*, N.E. India.
S. atrodorsalis, *Gray*, Tenasserim.
S. palmarum, *Gm.*, *Bl.*, *Ell.*
S. penicillatus, *Leach.*
Beral, Lakki, . . BENG. | Kharri, ... MAHR.
Alalu, ... CAN. | Vodata, ... TEL.
Gil'hri, ... HIND. | Urta, . . . WADDAR.
Common striped squirrel, Peninsula of India.
Sciurus tristriatus, *Waterhouse.*
S. palmarum, *Ell.*, *Bl.* | S. Kelaarti, *Layard.*
S. Brodiei, *Layard.*
Striped jungle squirrel, Ceylon, Pen. of India, is the most common species of palmist squirrel in Ceylon.
Sciurus Layardi, *Blyth*, Travancore striped squirrel of Ceylon, Travancore. It has a parachute.
Sciurus sublineatus, *Waterh.*, *Blyth.*
S. Delesserti, *Gervais.* | Neilgherry striped squirrel.
Ceylon, forests of S. India, Travancore, Neilgherry.
Sciurus insignis, *Horsf.*, Java.
Sciurus M'Clellandi, *Horsf.*, *Blyth*, *Hod.*
S. chikhura, *Blyth.* | S. Pembertoni, *Blyth.*
Small Himalaya squirrel. | Kalli gangdin, . . LEP.
N.E. India, Himalaya, Sikkim, Bhotan, Khassya.
Sciurus Barbei, *Blyth*, Tenasserim.
Sciurus plantani, *Horsf.*, Java.
Sciurus bicolor, *Blyth*, Tenasserim.
Sciurus Brodiei, *Blyth*, Jaffna.
Sciurus Rafflesii, *Vig. and Hors.*, S. Prevostii, *Desmarest*, Malay Peninsula.
Sciurus redimitus, *Vander Boon.* S. rufogularis, *Gray*, Borneo.
Sciurus Berdmorei, *Bly.*, Mergûi.
Sciurus Europæus, *Linn.*, North and Central Asia, Europe.
Pteromys petaurista, *Pallas*, *Blyth.*
P. Philippensis, *Ell.* | P. oral, *Tick.*
Brown flying squirrel, ENG. | Pakya, MAHR. of GHAT.
Orai . . . . of KOL. | Para-chaten, . . MALAY.
Forests of Ceylon, Pen. of India, Central India.
Pteromys inornatus, *Is. Geof.*, *Jacq.*, *Blyth.*
Pt. albiventer, *Gray.*
Rusi-gugar, . . KASHM. | White-bellied flying squir.
N.W. Himalaya, at 6000 to 10,000 feet.
Pteromys magnificus, *Hodg.*, *Bly.*
P. chrysothrix, *Hodg.* | Sciuropterus nobilis, *Gray.*
Red-bellied flying squirrel. | Biyom, ... LEP.
S.E. Himalayas, Nepal to Bhotan, Khassya Hills, Assam Hills.
Pt. cinerascens, *Blyth*, Burma.
Pt. nitidus, *Geoff.*, Malay Peninsula.
Pt. elegans, *S. Muller*, Java.
Pt. Philippensis, *Gray*, Philippines.
Sciuropterus caniceps, *F. Cuv.*, *Gray*, *Blyth.*
Pt. senex, *Hodg.*
Grey-headed flying squir. | Biyom chimbo, . . LEP.
Nepal, Sikkim.

Sciuropterus fimbriatus, *Gr.*, *Blyth.*
P. Leachii, *Gray.* | Grey flying squirrel.
N.W. Himalaya, Simla to Kashmir.

Sciuropterus Baberi, *Blyth*, Afghanistan.

Sciuropterus alboniger, *Hod.*, *Blyth.*
S. Turnbulli, *Gray.*
Piam, Piyu, . . BHOT. | Khim, ... LEP.
Black and white flying squirrel, Nepal, Bhotan.

Sciuropterus villosus, *Blyth.*
S. sagitta, *Walker.* | Hairy-footed flying squirrel.
Bhotan, Sikkim, Assam, at 3000 to 6000 feet.

Sciuropterus fusco-capillus, *Jerd.*, *Bly.*, small Travancore flying squirrel.

Sciuropterus Layardi, *Kel.*, *Blyth*, Ceylon.

Sciuropterus spadiceus, *Blyth*, Arakan.

Sciuropterus Phayrei, *Blyth*, Pegu, Tenasserim.

Sciuropterus sagitta, *Linn.*
Pteromys sagitta, *Geoff.* | Sciurus sagitta, *Linn.*
Sciurus maximus volans, seu Felis volans, *Brisson.*
Grand Ecureuil volant, *Bu.* | Le Taguan, ... FR.
This squirrel has a small rounded head. Length, from nose to tail, 18 inches; tail, 15 inches (Pennant). It inhabits Java and islands. It leaps from tree to tree as if it flew, and will catch hold of the boughs with its tail.

Sciuropterus Horsfieldii, *Waterhouse*, Malayana.

Sciuropterus genibarbis, *Horsf.*, Malayana.

Sub-Fam. Arctomydinæ, Marmots.

Gen. Arctomys bobac, *Sch.*, *Bly.*, *Pal.*
A. Tibetanus, *Hodg.* | A. caudatus, *Jacq.*
A. Himalayanus, *Hodg.*
Bhibi, ... BHOT. | Pot sammiong, . . . LEP.
Lrin, ... KASHM. | Kadia-piu, . . . TIBET.
Cho, ... LEP.
Tibet marmot, white marmot of E. Europe, Central Asia, Snowy Himalaya, Kashmir to Sikkim, at 12,000 to 16,080 feet.

Arctomys hemachalanus, *Hodg.*, red marmot.
A. Tibetanus, *Hodg.*
Chipi, ... BHOT. | Sammiong, . . . LEP.
Drun, ... KASHM.
Kashmir, N.W. Himalayas at 8000 to 10,000 feet.

SCLAVE nations comprise the old Sclavonic, Russian, Servian, Croatic, Wendic, Slovak, and Pole. They were the Sauromatæ of the Greeks, and the Sarmatæ of the Romans; a nation living on the Don and near the Caspian Sea. They spoke a faulty Scythian dialect.

The Scythic warrior of Central Asia, the intrepid Getæ, admitted no meaner representative of the god of battle than his own scimitar. He worshipped it, he swore by it; it was buried with him, in order that he might appear before the martial divinity in the other world as became his worshipper on earth. And to the present day the sword of the Rajput continues to be worshipped.

SCLERIEÆ. *Nees.* A section of the Cyperaceæ or sedges. Two species of Scleria occur in British India. One, a very long sedge, grows by the water in the river Surma near Sylhet, and is used for thatching. Boat-loads of it are collected for the Calcutta market, also immense rafts of bamboo 100 feet long.

Scleria lithosperma, *Willd.*
S. tenuis, *Retz.* | Scirpus lithospermus, *Linn.*
A sedge of Ceylon, the Peninsula of India, and Bengal.

Scleria tesselata, *Willd.*; S. biflora, *Roxb*, a sedge of Ceylon, Peninsula of India, Bengal, and Nepal.—*Hooker's Him. Jour.* ii. p. 327.

SCLEROSTYLIS ATALANTIOIDES. *W.*
Limonia bilocularis, *Roxb.* | Arawi-nim, . . . TEL.
This small tree or shrub, one of the Citraceæ, is found in the Circars. Its wood is yellow, and is always very small, but is very hard, and might be used as a substitute for box.—*Roxb.*; *Beddome.*

Sclerostylis Ceylanica, *W. Ill.*
Scl. Arnottiana, *W.* | Rissoa Ceylanica, *Arn.*
The Yucca-naara-gass of the warmer parts of Ceylon.—*Thw.*

Sclerostylis rotundifolia, *Thw.*, a small and not common tree, growing in Ceylon at an elevation of 4000 feet and upwards.—*Thw.*

SCLEROTIUM STIPITATUM. *Berk. et Curr.* The Puttu kai or Puttu manga of the Tamils, from Puttu, a white ant-hill, and Manga, a mango, and Kai, fruit. Mail manga, TAM., from Mail, dry, like sticks, leaves, etc., and Manga, a mango. On the western coast, where it rains for at least six months in the year, this fungus is occasionally to be met with in dark crevices, and in the recesses of rocks and caves; also in old and deserted ant-hills, and frequently after the insects have become winged. They are found only in the peripheral and more superficial caverns, springing from their roof, occasionally from the floor, never from the cells occupied by the ants. Some grow with long stalks, others are sessile; in those having stalks they can in a few be traced beneath the soil, while the sessile ones seem simply to lie over the soil. They attain the greatest perfection during, or immediately after, the rains. They take on a variety of forms, being oval, oblong, pyriform, irregularly round, etc. The external rind is black and slightly wrinkled; on cutting into it, the interior is found to be white and pithy, and is compared by the natives to the kernel of a tender cocoanut. It is tasteless and inodorous. The Malayalam Vythians believe it to be manufactured by the insects themselves, by a kind of accretive process, and that snakes are very fond of it, and devour it greedily. Snake-charmers collect the Puttu manga, and take it round for sale, and they give out that they keep a supply always on hand with which to feed their snakes. The Vythians eagerly seek it, and use it as a remedy in cholera, syphilis, and a variety of other diseases. In cholera it is prescribed as a specific by rubbing it up with a little water and ginger juice or country arrack; and the dose repeated after every motion or act of vomiting.—*Dr. John Shortt.*

SCOLOPACIDÆ, a family of birds of the order Grallatores or waders, comprising 16 genera and 33 species, as under:—

1 Ibidorhyncus, curlew.	1 Calidris, sanderling.
4 Totanus, greenshank.	1 Philomachus, ruff.
3 Actitis, sandpiper.	1 Phalaropus, stint.
6 Tringa, stints, knot.	1 Scolopax, woodcock.
1 Terekia, sandpiper.	1 Macrohamphus, godwit.
2 Limosa, godwit.	6 Gallinago, snipes.
2 Numenius, curlew.	1 Rhynchæa, painted snipe.
1 Eurinorhyncus, stint.	

This family of birds is interesting to the Indian sportsman. The woodcock is everywhere rather scarce on the plains of India. It is found on the Neilgherries, occasionally on the plains of the Peninsula, and has now and then been met with near Calcutta. Some incline to the opinion that woodcocks may not be so rare, being commonly overlooked in their jungle haunts. The birds called woodcock seen at the dinner-table are

rally greenshanks (Totanus glottis), and sionally the black-tailed godwit (Limosa cephala). Two distinct species in the Hima- are commonly confounded under the name litary snipe,' and both are very different from Gallinago major of Europe and Northern Asia, ich has not been observed in the East Indies. the other Indian kinds, one, Gallinago solitaria Hodgson, is peculiar to the Himalaya, and to s species the designation 'solitary snipe' ould be restricted. It is readily known by its hite belly and yellowish legs, wings longer, raighter, and more acuminated than in the ther, and the upper plumage more minutely peckled, with the pale linear markings on the ack narrower, and the tail also longer. Average easurement, 12½ inches by 20 in expanse of ngs; closed wing, 6½ inches; and tail, 3 inches. eight, 5 to 6 oz., or even more. The other, G. moricola, of Hodgson, should be distinguished the wood-snipe, and is more of a woodcock in earance and habits, though keeping to the skirts of the jungle. Though principally a alayan species, it is not rare in the Neilgherries, it has been met with in various parts of the ntry, and in the Calcutta provision bazar. s species has blue legs, and the under parts uniformly barred throughout; the general uring dark, and the markings bold; the gs more bowed and rounded than in the other, the tail shorter. It is only found, remarks Hodgson, in the haunts of the woodcock, with difference in its manners, that it is averse to interior of woods. Length, 12½ inches by 18 xpanse of wings; closed wing, 5½ inches; and 2½ inches. Weight, 5¼ to 6½ oz. and upwards. he 'grass snipe,' also known as the pin-tailed e (G. stenura), is distinguished by a duller nage than the common British snipe, and cially by the curious series of pin-feathers on er side of its tail; whereas the other has an-shaped tail, altogether different in form. pin-tailed is the common snipe of the Malay ntries, but not of Australia, the Australian Australis) being a much larger bird, with rmediate form of tail, as in the solitary and d snipes of British India. In Bengal G. ura is the more abundant species, early and e in the season, as the common or British snipe luring the height of the cold weather; but so ly as on the 30th August, one was bought from bazar in a bundle of pin-tailed snipes, and sequently the pin-tailed only, in considerable ndance. Nothing is more easy than to dis- uish the two species by the shape of the tail, a practised eye will generally tell them at the glance; yet very few sportsmen in India are re of the difference.

he little jack-snipe (G. gallinula) is much in its arrival, though numerous species of ll waders arrive from their breeding haunts re the end of August. The jack-snipe has a quite different from that of any of the others; rilliancy of plumage it excels all the rest.

here is a small and distinct species of wood- in the Malay Archipelago, the Scolopax rata of Horsfield.

he woodcock, identical with the British, has n obtained in the Tenasserim Provinces; it unds in the Himalaya, is less common in the lgherries, and is considered a rare bird in the mountains of Ceylon. On the Bombay side it is said to be far from common in the Mahabaleshwar.

Of the sub-family Scolopacincæ or snipes, the East Indian genera and species are as under:—

Gallinago gallinula, *Linn.*, *Sykes*, *Jerdon*, *Blyth*, *Gould*, is the jack-snipe. It breeds in the northern regions; it is found in most parts of India, in the cold weather coming later and departing earlier than the common snipe. It prefers thicker coverts, lying very close, and is difficult to flush.

Scolopax rusticola, *Linn.*, *Jerd.*, *Blyth.*
S. Indicus, *Hodgs.*, *Gould.*

Holt-sneppe, . . DAN.	Sim-kukra . of KAMAON.
Woodcock, . . . ENG.	Blom-rokke; . NORWAY.
Becasse, ... FR.	Rutte, Krogquist, ,,
Wald schnepfe, . . GER.	Morkuna, ... SW.
Sim titar, Tutatar, HIND.	Cyffylog, . . WELSH.
Beccacia, ... IT.	

The woodcock is a winter visitant to the more elevated wooded regions of India, all the higher ranges of the south of India, Coorg, Shevaroy, Pulney and Neilgherry Hills, and the Himalaya Mountains, and is occasionally seen in the plains of the Peninsula and Bengal, at Madras, Kaladgi, and Masulipatam.

Scolopax saturata, *Horsf.*, Java.
Gallinago nemoricola, *Hodgs.*, *Jerdon*, *Blyth.*
Nemoricola Nepalensis, *Hodgs.*

The wood-snipe or solitary snipe is rare, but is occasionally found on the Himalaya, Neilgherries, Coorg, Wynad, Ceylon, also in the Saharunpur district below Hardwar.

Gallinago scolopacinus, *Bonap.*

S. gallinago, *L.*, *Sy.*, *Jer.*	S. burka, *Lath.*, *Bonap.*
S. uniclavus, *Hod.*, *Gould.*	
Chegga, ... BENG.	Bharka, Bharak, . HIND.
Hosse gioeg, . . DAN.	Chaha, Chahar, . ,,
Ziege, Heer-schnepfe, DUT.	Myr-snippe, . ICELAND.
Himels-ziege, . . ,,	Beccacino, Pizzarda, IT.
Common snipe, . ENG.	Hors-gjok, ... SW.
Watersnep, . . . FLEM.	More ulan, . . . TAM.
Becassine, Becasseau, FR.	Muku puredi, . . TEL.
Chevre volant, . . . ,,	Ysnittan-y-fyniar, WELSH.

The common snipe breeds in the northern regions, but is a winter visitant to India, arriving in small numbers in the N. of India early in August, and in numbers by the end of September and through October. They are occasionally seen in the Calcutta market early in August, and in that of Madras by the 25th of that month. In Upper Burma, Dr. Jerdon noticed them towards the middle or end of July. Dr. Adams says it breeds there, which Dr. Jerdon doubts. They frequent marshes, rise with a hissing call, fly against the wind, and occasionally alight in a ploughed field.

Gallinago solitaria, *Hodgson*, *Blyth*, the Himalaya solitary snipe, found as yet only in the Himalaya, in winter, up to 3000 to 6000 feet, but probably belongs to Tibet.

Gallinago stenura, *Temm.*

S. gallinago, *Jerd.*	S. biclavus, *Hodgs.*
S. heterura, *Hodgs.*	S. Horsfieldii, *Gray.*

The pin-tailed snipe.

This so closely resembles the common snipe that sportsmen and even naturalists often mistake it.

Rhynchæa Bengalensis, *Linn.*, *Sykes*, *Jerdon.*

R. Capensis, *Linn.*	R. picta, *Gray.*
R. orientalis, *Horsf.*, *Hardw.*	

The painted snipe is a permanent resident in some parts of India, breeding in June and July in thick marshy ground, but is found through-

out Africa, British India, Ceylon, Burma, and Southern China.—*Jerdon, Birds of India; Horsfield and Moore, Cat.; Indian Field.*

SCOLOPENDRIUM, one of the filices or ferns used in medicine in India. Its rhizomes or dried leaves are sold under the altered name, Iskoolikundrioon. Those of Polypodium are called Bulookunboon. The Asplenium radiatum, mohrpunkhee, or peacock's fan, is employed by the natives probably as an anthelmintic.—*O'Sh.*

SCOLOPIA CRENATA. *Wight, W. A. Prod.*

Phoberos crenatus, *W. A.* | Flacourtia crenata, *Wall.*
P. lanceolatus, *Wight, W.* | Hillerloo of the Badaga.

This tree is very common on the Shevaroys, Neilgherries, etc. It is a first-rate wood, and, although white, is very hard and dense. It resists the saw, and injures tools; planks are said to twist. Phoberos lanceolatus, *W.*, has the leaves narrower and more shining, but does not differ otherwise.—*Beddome, Fl. Sylv.*

SCOMBRIDÆ, a family of fishes of the section Acanthopterygii, of which the common mackerel may be regarded as a type. The tunny, sword-fish, dory, boar-fish, pilot-fishes, and the king-fish also belong to this group. The body is generally covered with small scales; the tail is usually very powerful and deeply cleft. In most of the species the pectoral fins are long, narrow, and pointed; the dorsal fins are two in number, the foremost of them being composed of bony rays; the hinder dorsal is chiefly supported by soft rays, and is often divided into numerous small false fins. They are provided with numerous cœca, and these are often united in clusters. The sword-fish, Xiphias gladius, *Linnæus*, is an inhabitant of the Mediterranean and Atlantic, occasionally visiting the British coast. It measures from 10 to 15 feet in length. Its body is lengthy and covered with minute scales, the sword forming three-tenths of its length. On its back it bears a single long elevated dorsal fin; there are no ventral fins. The tail is keeled. The lower jaw is sharp; the mouth without teeth. The upper part of the fish is bluish-black, merging into silver below. The sword-fish is said to attack the whale, wounding it with its beak. There are many well-authenticated instances of the planks of ships being perforated by the upper jaw of this powerful creature, which, it has been supposed, occasionally attacks the hulls of ships by mistake for the whale. Specimens of ships' timber penetrated by its sword are preserved in many museums. The Xiphias is mentioned by Aristotle (Hist. Anim. viii. p. 19), who notices the fact of its striking vessels. The young fish is said to be good eating. When very young, the body is covered with small tubercles, which disappear before it attains the length of three feet. Naturalists arrange the family Scombridæ as under:—

First Group.—Scombrina.

12 Scomber.	13 Thynnus.	5 Pelamys.
12 Auxis.	9 Cybium.	1 Naucrates.
1 Elacate.	10 Echeneis.	1 Hypsiptera.

Second Group.—Nomeina.

1 Gasterochisma.	2 Nomeus.	2 Cubiceps.
1 Neptomenus.	1 Platystethus.	1 Ditrema.

Third Group.—Cyttina.

6 Zeus.	2 Cyttus.	? Oroeosma.

Fourth Group.—Stromateina.

9 Stromateus.	3 Centrolophus.

Fifth Group.—Coryphænina.

6 Coryphæna.	4 Brama.	1 Ta
4 Pteraclis.	3 Schedophilus.	1 Di
1 Ausonia.	1 Mene.	1 La

Scomber pelamys, *Linn.*, the bonito, [illegible] mackerel tribe, inhabits the southern [illegible] is often caught by hook and line. It [illegible] sembles that of raw beef, and when [illegible] inviting.

Scomber thynnus, *Linn.*, the alb[illegible] length from 3 to 6 feet, is an inhab[illegible] southern seas; the back is bright p[illegible] golden tint; eyes large and silvery, [illegible] with a play of iridescent colours.—*Be[illegible] Eng. Cyc.*

SCOPARIA DULCIS. *Linn.* Nat[illegible] part of the world within the tropics; [illegible] India, particularly near the sea. Used [illegible] in ague.—*Voigt*, p. 507.

SCOPOLIA PREALTA. *Dun.*

Belenia prealta, *Dne.*

Sholar bajar bang, CHEN.	Lang, Tang,
Nandru, Dandarwa, ,,	Khardag,

Common in waste ground in parts of [illegible] basin from 6800 to 9500 feet in [illegible] Spiti, and to 16,000 feet in Tibet, and [illegible] found sparingly in Trans-Indus, in th[illegible] perhaps the same plant in one place [illegible] In the hills the leaves are applied to [illegible] also said to be poison, the mouth s[illegible] their touch, and the head and [illegible] affected when they are eaten. A man [illegible] poisonously affected by eating the plant gath[illegible] in the Lahore habitat; and the Negi of La[illegible] when at Leh in 1867, suffered from its nar[illegible] effects for two or three days, some of its le[illegible] having been gathered by mistake with his sa[illegible] greens. At the same time they can hardly [illegible] very poisonous to all animals, for in [illegible] are browsed by cattle. Dr. Christison st[illegible] that this has the same property of dilating [illegible] pupils as belladonna.—*Stewart; Powell; Cleg[illegible]*

SCORODOPRASUM BORNCENSE. Bawa[illegible] utan, the wild onion fruit of Borneo. It is li[illegible] walnut.—*Burbidge.*

SCORPÆNA RUBER, or great fire-fish[illegible] eaten by the native fishermen. Its fl[illegible]sh is wh[illegible] solid, and nutritive.

SCORPION. Eng., Fr.

Aqraba, Am-aryat,	ARAB.	Scorpio,	It.,
T'siuen-hieh,	CHIN.	Escorpion,	
Okrab,	HEB.	Teru, Telu,	
Bichu,	HIND.		

The scorpion is one of the Arac[illegible]ida, or Pedi Palpi and family Scorpionidæ, eight-legg[illegible] air-breathing, articulate animals, comprising ne[illegible] spiders, scorpions. In some parts of the Dek[illegible] scorpions are very numerous in open plains, liv[illegible] in holes about nine lines in diameter. On occasion the plain at the Gor-Nuddi, used parade ground for the Poona Horse, was fo[illegible] pierced in every direction with scorpion ho[illegible] perhaps not a foot of ground but had one of th[illegible] and in every one was a scorpion. It was a [illegible] curious sight, perhaps not rare in India, tho[illegible] unseen or unnoticed. The boys tapped [illegible] ground near, to cause a few particles of san[illegible] fall down on the scorpion, on which it w[illegible] appear at its opening, and the sharp end of a de[illegible] horn was thrust below to prevent its re[illegible] They were then tied together and made to fi[illegible] The scorpion has a curved sting at the end of

gene[illegible]e sharp point of the sting be cut off, occa[illegible] cannot wound or hurt. Scorpions ægea[illegible] hot countries of both hemispheres, live lay[illegible] ground, conceal themselves under stones [illegible] other substances, most commonly in ruins, thick[illegible] cool places, and often in houses. They who with considerable swiftness, curving the tail Over the back; this they can turn in every direc- of[illegible], and use for the purposes of attack and defence. When irritated, they draw back the shawed palpi for the purpose of defending the head, and at the same time curve the tail on the back, prepared to strike at any moment. Most Asiatics have a quite unnecessary dread of their sting. May you be stung by a scorpion of Cashan, is a common malediction in Persia. With their forceps they seize various small insects, on which they feed after having pierced them with their sting, and they are particularly fond of the eggs of spiders. The pain suffered from the scorpion's sting seems to depend more upon the temperament of the sufferer than any other cause; some suffering much agony, occasionally terminating in death, while others become only slightly agitated. The remedies employed are the volatile alkali, chloroform used externally and internally, and, Internally, ipecacuan in form of a paste. The favourite remedy now in the United States is the celebrated 'Usky care,' which, under the form of arrack, with the addition of the case of a scorpion sting with a small piece of chewed tobacco, was known for the cure of Mr. fifty years to the British soldier in India. The Linn., the great black scorpion of the Deccan, is as large as a little cray-fish; its sting in general causes a little inflammation. Small birds struck by a scorpion tremble, stagger, soon fall down, become convulsed, and die. It is said that a scorpion, if surrounded by fire so as to be prevented escaping, stings itself to death. Infested districts seem to have been common in Palestine and Mesopotamia, as in Numbers xxxiv. 4; Joshua xv. 3; Judges i. 36; 1 Maccabees v. 3. The males are smaller than the females; the penis is double, and placed near the combs; the females have two vulvæ; during copulation they are placed upon their backs. They are ovoviviparous, bringing forth 40 or 60 in number, and gestation lasts for a year.—*Eng. Cyc.*; *Burton, The City of the Saints*, p. 493; *Wallace.*

SCORPION FISH, Saccobranchus fossilis.

SCORPION SPIDER. Species of the genus Galeodes, or scorpion spiders, occur in Central Asia, Tartary, and in the Himalaya. The scorpion spiders common on the steppes, are the Galeodes araneoides (Phalangium araneoides of Pallas). The Galeodes (or Solpuga) are dreaded for their bites, reputed to be envenomed; but this is now denied by naturalists. This very formidable and most pernicious spider is a terrible pest on the Astracan steppe, where its bite is much dreaded by the Kalmuks, who call it the 'black widow (bel-befsan charra). They harbour chiefly under the tails of wormwood, and about the bones which in halways to be found near a Kalmuk habitation, T also at the mouth of the deserted nests of the coelmophilus citillus, where they collect a sort of satu of leaves. Camels seem to suffer most from The spiders, because they are most addicted to being on the ground.

abo Galeodes vorax, *Hutton*, of Northern India, Ne[illegible] at night on beetles, flies, and even large lizards, sometimes gorging itself to such a degree as to become almost unable to move, and remaining torpid and motionless for about a fortnight. A sparrow, as also a musk-rat (Sorex Indicus), put along with it, were killed by it. It was seen to attack a young sparrow half-grown, and seize it by the thigh, which it sawed through, then caught the bird by the throat, and put an end to its sufferings by cutting off its head. Dr. Baddeley confined one under a glass wall-shade with two young musk-rats (Sorex Indicus), both of which it destroyed. In neither instance did the galeodes devour its prey after killing it. Capt. T. Hutton, in the eleventh volume of the Asiatic Society's Journal, p. 860, makes mention of a lizard bitten by one being allowed to escape with only a severe wound on the side, and as it lived for some days before being permitted to run off, the bite of the galeodes would not appear to be poisonous.—*Gosse*, pp. 237, 238; *Tenn. Ceylon*, p. 470; *Capt. Hutton, in Jour. As. Soc. of Ben.* xi. part ii. p. 860.

SCORPION, TAILLESS. Three species of the tailless scorpions have been noticed in Ceylon, all with the common characteristics of being nocturnal, very active, very minute, of a pale-chesnut colour, and each armed with a crab-like claw. They are Chelifer librorum, *Temp.*, Ch. oblongus, *Temp.*, and Ch. acaroides, *Herm.* The latter species has certainly been introduced from Europe, in Dutch or Portuguese books.—*Tennent's Ceylon.*

SCORZONERA HISPANICA, *Linn.*, is an annual from the south of Europe, sown in India either in beds, broadcast, or planted out in rows at a distance of a foot apart; has a long milky-juiced root; grows without any difficulty after the rains. The root when boiled and dressed is rather a delicate vegetable. It comes to perfection in three or four months. Salsafy, the black scorzonera, requires the same treatment. Two species occur in the Himalaya. In China, the Meh-mentung is a species of scorzonera, called viper's-grass; its root is eaten as a vegetable.—*Jaffrey; Smith.*

SCOTLAND is supposed to be mentioned in the Puranas. On the east coast of Scotland are many megalithic monuments, several of which bear sculptures of serpents, while others, apparently of almost equal antiquity, bear the cross.—*Darwinism in Morals*, p. 189.

SCOTOPHILUS, a genus of bats, of which the species are Sc. Coromandelianus, falcatus, fuliginosus, fulvidus, Hodgsoni, leisleri, lobatus, pachyomus, pumiloides, serotinus. They are of the family Noctilionidæ.

Sc. Coromandelianus, *Fr. Cuv.*, is a very small bat, not much larger than the humble bee, and of a glossy black colour.

SCOURING-LEAVES, of the Actæa aspera and A. spicata of China, are used for cleaning pewter vessels.

SCREENS, the tatti of Europeans in India, are made of fragrant or other grasses, and are suspended over the house doors and windows, and wetted with water, to cool the interiors. In China, glazed and varnished papers are largely used for screens. In Japan, the Ama-do is an outside sliding shutter. Fu su-ma are sliding paper screens. The shoji is a sliding screen with translucent paper.

SCREW PINE, Kaldera bush, Umbrella tree.

Vacoa of Mauritius,	Fr.	Thaium, Thalay, .	Tam.
Keora, ...	Hind.	Thalay mazali, . .	,,
Sithay nar, . .	Tam.		

The screw pine, the Pandanus odoratissimus of botanists, grows in Africa, Madagascar, Bourbon, the Mauritius, Ceylon, in the Peninsula of India, Burma, and Malayana, being very common along the sea-coast. The leaves are used for making mats, baskets, and hats; there are extensive manufactories of these articles at Pulicat, Cuddalore, and several other localities. The leaves, as soon as gathered, have the spines stripped off their edges, the dorsal nerve is stripped off, and the leaf divided into slips of the breadth proper for the use for which they are required. The fibre of the leaf is white, soft, and pulpy, but possessed of little strength. It appears to be a good material for the preparation of paper, but ill suited for cordage. The aerial roots are much used as coarse brushes for whitewashing houses; when beaten with a mallet they open out like a soft brush. The tender white leaves of the flower yield a delightful fragrance.—*M. E. J. R.*

SCROPHULARIACEÆ. *Lind.* The fig-worts, a natural order of plants, very widely diffused over the surface of the earth, being found in the whole range of climate between the poles and tropics. 36 E. Indian genera and 166 species are known:—

1 Vebascum.	Scoparia.	5 Lindenbergia.
1 Celcia.	12 Linaria.	12 Stemodia.
8 Scrophularia.	1 Antirrhinum.	7 Limnophila.
3 Mazus.	5 Pterostigma.	3 Buchnera.
3 Mimulus.	3 Bonnaya.	1 Sutera.
5 Herpestis.	9 Vandellia.	7 Buddlea.
Curanga.	6 Torenia.	1 Hemiphragma.
3 Dopatrium.	2 Artanema.	Gerardia.
2 Peplidium.	8 Striga.	

SCULPTURES. Monuments, decorated buildings, and sculptured texts have been the principal modes which the various rulers and their wealthy subjects have adopted to perpetuate their edicts, their names, and fame. The history of the ancient races in all the south of Asia is to be read in their sculptures, and that of Egypt, Assyria, Babylonia, and British India is being daily added to by means of relics which are being exhumed after an interval of 2000 or 3000 years. The Jews were forbidden to make the likeness of anything in the heavens above, or on the earth beneath, in order to bow down and worship it. But with the Egyptians of old, and with the Hindu and Buddhist religionists now, the art of sculpture is the very pillar of their religion; the priests in every temple first made (and still make) their god, and then worshipped it; as in Exodus xx. 4, the Egyptians worshipped figures of the sun as Ra, and of the stars as the other gods, as also images of men, beasts, birds, and fishes; but the earliest examples of Indian sculpture are to be seen in the rails of Budh Gaya and Bharhut of the age B.C. 250 to 200. Elephants, deer, and monkeys are better represented there than in any sculptures known in any part of the world; so too are some trees, and the architectural details are cut with an elegance and precision which are very admirable. The human figures, too, are truthful to nature, though differing from the European standard of beauty and grace, and where grouped together combine to express the action intended with singular felicity.

In the first century of the Christian era, there arose in the extreme N.W. of India, in the Panjab, and to the W. of the Indus, a school of sculpture strongly impregnated with the traditions of Greek art, and which continued to flourish there for the first five centuries of the Christian era. What the Buddhists were to the architecture of Northern India, that the Greeks were to its sculpture. Greek faces and profiles constantly occur in ancient Buddhist statuary, and particularly pure in the Panjab. Proceeding southwards from the Panjab, the Greek type begins to fade. Purity of outline gives place to lusciousness of form. In the female figures the artists trust more to swelling breasts and towering chignons, and load the neck with constantly accumulating jewels. Nevertheless the Grecian type long survived in Indian art. It is perfectly unlike the coarse conventional ideal of beauty in modern Hindu sculptures, and may perhaps be traced as late as the delicate profiles on the Sun Temple at Kanarak, built in the 12th century A.D. on the Orissa shore. Borrowing an impulse from Greek models, the Buddhist sculptors, at the commencement of the Christian era, freed themselves from the oriental tradition, which demands only the gigantic and the grotesque, and imitated nature with some success. But with the revival of Brahmanism, Hindu sculpture again degenerated, and it possesses a religious rather than an æsthetic interest.

In the 4th and 5th centuries, at Amraoti, a school of sculpture was developed partaking of the characteristics both of those of Central India and of the west, and the degree of art displayed by sculpture there may be regarded as the culminating point attained by that art in India. In the subsequent sculpture of the early Hindu temples and later Buddhist caves, it has lost much of its higher æsthetic and phonetic qualities, and frequently resorts to expedients of doubling the size of principal personages, and of distinguishing gods from men by giving them more heads and hands than ordinary beings. This is done with considerable vigour and richness of effect in the temples of Orissa and Mysore; and in the south of India some of the most remarkable groups and statues continued to be executed down to the middle of the 18th century. But though the technic art of architecture continues to be practised with considerable success, their paintings and sculptured decorations excite only feelings of dismay, the result of the deterioration of moral and intellectual power.

Many of the Vaishnava temples all over India are disfigured by obscenities, and those in the temples of the Lingaet sect, between the Tumbudra and the Godavery, are unexampled; but the Saiva shrines are generally free from all such, though at Khajuraho in Bundelkhand is one with gross obscenities.

General A. Cunningham believes that the Buddhist sculptures of the Indo-Scythic period, found in the Eastern Panjab at Shahbazgarhi, show traces of Grecian art. In all Indo-Greek sculptures, whenever a face is partly turned to one side, that side is invariably cut away to nearly flatness, so as to give a deeper shadow to it and a greater prominence to the unaverted side. There are also fine specimens of Indo-Corinthian pillars. He thinks the great mass

of them belong to the most flourishing period of Indo-Scythic rule under Kanishka and his immediate successors, or from B.C. 40 to A.D. 100. The beauty of some specimens is great. Athene with spear and helmet, now in the Lahore museum, may date as early as B.C. 80.

The Indo-Persian style prevailed over the whole of Northern India, both before and after the Christian era. Its prototype is to be found in the famous pillars of the Achæmenian palaces at Persepolis and Susa. In the N.W. of India, it was supplanted by the three different styles of Greek architecture, by the Indo-Corinthian in the Kābul valley, by the Indo-Ionic in Taxila, and by the Indo-Doric in Kashmir. But no specimens of these styles have been found to the east of the Sutlej, whereas the Indo-Persian style was spread over the whole of Northern India, from Kābul to Orissa, and from the banks of the Ganges to the source of the Godavery. Numerous specimens of it may be seen in the [illegible]lptures of Bharhut, Gaya, and Sanchi, and in the [illegible]ual pillars of Mathura, Nasik, Bedsa, and Orissa. [illegible]he Hoisala Bellala temple at Somnathpur is [illegible]ple, the cells with their sikras being attached [illegible] a square pillared hall; elegance of outline [illegible]l marvellous elaboration of detail characterize [illegible]se shrines. The great temple at Baillur has [illegible]ery solid vimana, with an anterala or porch, [illegible]l stands on a terrace about 3 feet high and [illegible] to 15 feet wide. It was erected by Vishnu [illegible]rddhana, to commemorate his conversion by [illegible]manuja from the Jain to the Hindu faith. [illegible]t Hullabid is the small shrine of Kait Eswara, [illegible]ered with sculptures of the very best class of [illegible]ian art. The great double temple there rises [illegible]feet from the terrace, but was left uncompleted. [illegible]is built of indurated potstone, erected in a [illegible]ck, and sculptured afterwards. On the terrace [illegible]nds a frieze of elephants, above it a frieze of [illegible] Sherdala conventional elephants, the emblems [illegible]the Hoisala Bellala; then comes a scroll of [illegible]nite beauty, and over it a frieze of horsemen [illegible]l another scroll, over which is a bas-relief [illegible]ut 700 feet in length, of scenes from the [illegible]nayana, representing the conquest of Ceylon, [illegible]l all the varied incidents of that epic. At [illegible]ther part are figures of all the Hindu Pantheon; [illegible]ahma occurs three or four times, Siva with [illegible]rvati on his knee is repeated fourteen times, [illegible]shnu and his avatars still oftener. All that [illegible]wild in human fancy, or warm in human feeling, [illegible]found portrayed on these walls.

[illegible]n the architecture of Southern India, a sculp[illegible] of frequent occurrence are groups of the [illegible]; a monster of the lion type is represented [illegible]pling on an elephant, or a warrior sitting on [illegible]aring horse, his feet on the shields of foot [illegible]iers, sometimes slaying men, sometime tigers, [illegible]th of them barbarous monstrosities.

[illegible]liya stones over the graves of those who [illegible] fallen in battle, and Sati stones, are common [illegible]ujerat and Cutch, and the Paduka or foot [illegible]ptures on the monuments of Sadhus, are [illegible] numerous. The older Paliya are sculptures [illegible]wing the style of dress and warlike accoutrements of olden times,—chain armour, horses in mail, bows and arrows, swords of various shapes, shields, javelins, etc. etc., and not unfrequently the names of the reigning princes with dates, as that of Lakha Phulani at Adkot.

The sculptures in Kashmir, at Sanchi, Benares, Amraoti, Madura, Trichinopoly, Tanjore, and Mahaballipuram have attracted much notice, as also have those in the cave temples at Ellora, Ajunta, Elephanta, and the edicts of Asoka at Girnar and other places.

The Amraoti sculptures belong to a period of 300 years later than those of Sanchi, and the topes illustrate the faith at their date. In the Amraoti sculptures are numerous priests and other signs of a clerical order segregated from the laity and of an established ritual. Sanchi is illustrative of the Hinayana Buddhist philosophy, 500 years before the oldest Buddhist book; and Amraoti illustrates the Mahayana philosophy, 800 years after its promulgation.

The sculptures on every ancient temple in India throw some light on the subject of old costume. These are probably considerably within the Christian era, and they furnish specimens of the local costumes of 1000 years ago; but many temples in the south and west of India, as also in Gujerat and Orissa, etc., are known to belong to periods as early as A.D. 500. But although groups of figures are numerous beyond description, their attire seems to be entirely conventional. Men for the most part wear head-dresses in the form of conical crowns richly covered with ornaments; their bodies are naked, and their breasts and arms show necklaces and armlets of very ornate patterns. From the loins to the knee or middle of the thigh, they have in most instances kilts, as it were, also composed of ornaments; and many are altogether nude, both male and female, with a girdle of ornamental pattern round the loins. These figures abound among the sculptures of Ellora and to the 13th century; also upon the Cholla temples at Conjeveram and elsewhere, probably of the same era. In the Jain sculpture the male and female figures are invariably naked, but ornamented in general with necklaces, bracelets, armlets, and zones of exceedingly intricate and beautiful patterns, in imitation, probably, of the chased gold work of the period.

Some of the men's figures on the temples of the south of India are clothed with defensive armour, and there is no trace of a sewn garment. The men's figures have short waist-cloths or dhotis, like kilts, with an end in some cases cast over the shoulder; the women are in the same costume; but both in the earlier memorial stones and on some of the profuse sculpture on the temple at Hullabid in Mysore (Dhara Samudra, 10th to 12th century A.D.), they wear bodices, tied in front, as Hindu women wear them at present.

The best representations of ancient costume in India are the celebrated fresco paintings in the caves of Ajunta. In the Buddhist caves of Ellora some paintings in a similar style had been executed; but they were destroyed by the Muhammadans when they invaded the Dekhan early in the 14th century, and it is extraordinary that those of Ajunta escaped their iconoclastic and fanatic zeal. They did escape, however, and for several years Major Gill, of the Madras army, was engaged by Government in copying them on their original scale. It is difficult to decide the date of the Ajunta paintings, which represent scenes in Buddhist history; and the series may extend from

the first or second century before Christ to the fourth and sixth century of our era. In either case they are upwards of 1000 years old. One very large picture, covered with figures, represents the coronation of Sinhala, a Buddhist king. He is seated on a stool or chair, crowned with a tiara of the usual conventional form; corn, as an emblem of plenty and fertility, is being poured over his shoulder by girls. He is naked from the throat to the waist. All the women are naked to the waist; some of them have the end of the cloth, or saree, thrown across the bosom, and passing over the left shoulder. Spearmen on foot and on horseback have short waist-cloths only. In another large picture, full of figures, representing the introduction of Buddhism into Ceylon and its establishment there, all the figures, male and female, are naked to the waist. Some have waist-cloths or kilts only, others have scarfs, or probably the ends of the dhotis thrown over the shoulders. Female figures in different attitudes around, are all naked, but have necklaces, ear-rings, and bracelets; and one, a girdle of jewels round.

Later structures have been raised by Muhammadans. In Northern India the best buildings date from the 12th to the 16th century (A.D. 1193–1554). They were erected during the Pathan domination, and are contemporaneous with the best period of European art, that is of the Christian era. The epoch which witnessed the a[illegible]glories of Rouen and Chartres, of Paris under Philip Augustus, of Rheims, Loan, and Noyon, of [illegible]yes and Dijon, participated in the triumphs—only tempered by a low degree of civilisation—of Pathan warriors, who, justly ambitious to perpetuate the conquest of the Hindus, employed their subjects to erect for them a series of buildings in the capital of Dehli, which are among the most remarkable in India. No isolated monument, at least of the 13th century, exists anywhere to equal in beauty, strength, or dimensions the celebrated Kūtub Minar; and the magnificent range of arches which form part of the ruins of the Great Mosque, as the Kūtub, are only less beautiful, from certain defects of construction, than the pointed openings of Christian cathedrals, which, however, they rival in colossal proportions. The 14th century—in France almost barren of art reminiscences, owing to foreign invasion and intestine wars—is remarkable as the epoch when English art first acquired its individuality. At the same period, a like individuality was growing out of the many buildings erected by the Hindus for their Muhammadan masters. In striking contrast with the delicate ornament of Netley, Tintern, and Melrose, with the fortifications of many an English city, and the spires of many an English church, are the mausoleum of Taghalaq Shah, the city he erected and called after his name, the villages of Kirkhee and Begampur, the Jumaat Khana mosque, and the tombs around it, all of which display a stern simplicity, more characteristic of the Anglo-Saxon than the native mind, as well as knowledge of construction and power of execution, combined with mathematical precision in the application of building materials to their logical uses. The arrangements introduced to supply the wants of the ruling race, and the skilful adaptation of an indigenous method of building to the manners and customs of the Muhammadan, are as astonishing as they are successful. In the 14th century neither European nor Asiatic sacrificed utility to beauty; they sought to adorn the parts of their construction, never to construct their ornament. To them a dome was the outward and visible expression of its internal shape; if a kiosk was introduced, it was to crown a staircase, add weight to an angle, or to serve some other useful purpose. Marble was legitimately employed to cover a dome or a kiosk, to form a border to an archway inscribed with sentences from the Koran, or in perforated screens exquisitely carved. It is possible to 'read' such buildings; they are sermons in stones, they are works of art. The plains of Dehli disclose little to mark the 15th century. A mosque full of details of marvellous originality, and other buildings created by Humayun, the gateways of Arab ki serai, and many a nameless sepulchre, fairly represent the 16th; though Humayun's tomb discloses a falling off in knowledge of constructive principle. The works of Akbar, in the 17th century, present a host [illegible] ideas to inquiring men astonished to find so ma[illegible] proofs of bodily vigour and masculine intell[illegible] such as it seems difficult to ascribe to an In[illegible] population.

But the era of the European [illegible] exhibits in the north-west of India a still [illegible] remarkable spectacle. There rose in [illegible] Agra a building of white marble, which [illegible] at sunrise or sunset, in the heat of the [illegible] by chill moonlight, conveys to the eye [illegible] of grace and beauty such as no photog[illegible] skill can seize, no painter or archite[illegible] Forgetting that the dome is as false as [illegible] that a so-called symmetry is obtained at [illegible] expense of propriety and sense, and that a [illegible] of mosaic which should serve to decorate [illegible] boudoir is unfitted for the exterior of a col[illegible] mausoleum,—the Taj Mahal remains the [illegible] magnificent architectural effect to be fou[illegible] the whole world. The men of the 17th cent[illegible] who created it were artists in the highest [illegible] of the word, but they were content to [illegible] eye, while their predecessors of the 14th ai[illegible] at satisfying the mind also.

A raised platform, 313 feet square and [illegible] feet high, faced with white marble, has at ea[illegible] corner a minaret 133 feet in height. In [illegible] centre stands the mausoleum, a square of 186 fe[illegible] with 33 feet 9 inches of its corners cut off. T[illegible] centre of this is occupied by the principal do[illegible] 58 feet in diameter and 80 feet in height, un[illegible] which is an enclosure formed by a screen of tre[illegible] work of white marble. Within this, in its cen[illegible] is the over tomb of Mumtaz Mahal, and on [illegible] side that of Shah Jahan, the tombs being [illegible] vaults immediately below. In every angl[illegible] the building is a small domical apartment, [illegible] storeys in height, 26 feet 8 inches in diam[illegible] All the spandrels, all the angles and more imp[illegible] ant architectural details, of pure white ma[illegible] and the tombs and screens are inlaid with ag[illegible] jaspers, bloodstones, combined in wreaths, scr[illegible] and frets, exquisite in design and beautifu[illegible] colour.

Aurangzeb ordered a structure over his daughter Rabia at Aurangabad, and in the beginning of the 19th century an imitation was erected at Lucknow.

The black-ground mosaics at Dehli are similar

to the Florentine mosaics, and are thought to have been introduced by Austin of Bordeaux, a jeweller who was much employed by Shah Jahan. The mosaics on a white ground are to be seen in the buildings of Lahore, Dehli, Agra; the Taj Mahal and the palace of Shah Jahan, at Agra, contain the most numerous and finest examples. They resemble the white ground mosaics of Europe, as seen in trays, tables, and fancy-work.

Austin or Augustin de Bordeaux executed a mosaic of Orpheus or Apollo playing to the beasts, after Raphael's picture, which was in the throne-room there. It was brought to London to the India museum.

The Indians owe their knowledge of the pietro-duro art of inlaying in precious stones to Florentine artists. Up to the erection of Akbar's tomb at Sikandra, in the first ten years of Jahangir's reign, A.D. 1605–1615, there are numerous mosaics in coloured marble, but no sample of inlay. In the tomb of Itimad-ud-Dowlah, A.D. 1615 to 1628, both systems are in perfection. In the Taj and the palaces at Agra and Dehli, built by Shah Jahan, A.D. 1628–1668, the mosaic has disappeared, being entirely supplanted by the inlay.—*Fergusson*, pp. 33, 362, 388, 405, 588, 596; *Cunningham*, v. viii; *Burgess; Mor. and Mat.*, [illegible].

SCUTELLARIA, a genus of plants of the order Labiaceæ, section Scutellarieæ. Handsome plants when in flower, adapted for the front of borders; the colours are purple, yellow, red, or blue. S. viscidula is the Hwang-k'in of China; the roots and seed are used medicinally.

S. Colebrookiana, *Wall.*, Peninsula of India.
S. discolor, *Coleb.*, Khassya and Nepal.
S. Indica, *Linn.*, Mahabaleshwar, China, Japan, Moluccas.
S. irregularis, *Wall.*, Nepal and China.
S. scandens, *Buch.*, Nepal and Kamaon.
S. violacea, *Wight*, Peninsula of India.
Ib.; *Riddell.*

SCYLAX, B.C. 550, was the first European who is known to have visited India. He was sent by Darius to explore the Indus, and wrote an account of his journey. The next historian of India was Ctesias, who lived for some years at the Persian court of Artaxerxes Mnemon, B.C. 427. Herodotus, however, followed Scylax as an authority, but it was not until the expedition of Alexander, B.C. 327, that a body of able observers, trained in the school of Aristotle, were able to give accurate ideas to Europe of the condition of India; and of these writers, Megasthenes is far the most important. He lived at the court of Chandragupta, at Palibrotha, as an envoy from Seleucus I. According to him, the military force of Chandragupta consisted of 600,000 infantry, 30,000 cavalry, and 9000 elephants. India seems to have been known to the Greeks only as a country that, by sea, was to be reached by the way of the Euphrates and the Persian Gulf; and though Scylax had, by the order of Darius, dropped down the river Indus, coasted Arabia, and thence reached the Red Sea, this voyage was either forgotten or disbelieved, and in the time of the Ptolemies it seems probable that nobody thought that India could be reached by sea from Egypt; and Eudoxus of Cyzicus in Asia Minor came to Alexandria to persuade Euergetes to give him the command of a vessel for this voyage of discovery. A vessel was given him; and though he was but badly fitted out, he reached by sea a country which he called India, and brought back a cargo of spices and precious stones. He wrote an account of the coasts which he visited, and it was made use of by Pliny. But it is possible that the unknown country, called India, which Eudoxus visited, was on the west coast of Africa, for Abyssinia was often called India by the ancients, and all east of the Euphrates was also known as Hind or India.—*Perry's Bird's-eye View of India*, p. 52; *As. Res.* x. p. 113.

SCYLLIIDÆ, a family of fishes, of which the following species occur in the Indian Ocean:—

Scyllium marmoratum, *Benn.*, E. I. Archipelago.
S. maculatum, *Bl.*, *Schn.*, Australian Seas.
S. Capense, *M. and H.*, Cape, India.
S. Burgeri, *M. and H.*, Japan, E. I. Archipelago.
Ginglymostoma Mulleri, *Gthr.*, India.
G. brevicaudatum, *Gthr.*, Zanzibar, Seychelles.
G. concolor, *Rupp.*, Red Sea, Indian Ocean, Archipelago.
Stegostoma tigrinum, *Gm.*, Indian Seas.
Chiloscyllium malaisianum, *Less.*, Archipelago.
C. Indicum, *Gm.*, Cape to Japan.
C. punctatum, *M. and H.*, Java.
Crossorhinus barbatus, *Gm.*, Australia and Japan.
C. dasypogon, *Blkr.*, Archipelago.

SCYTHIA, Sakadwipa, also Sakatai, the country of the Sakæ, was a term in use by the ancient Greeks and Romans, of a very indefinite character, but it was generally understood to mean the territories occupied by the nomadic tribes who roamed over the regions from the north of the Black and Caspian Seas, eastwards into the countries now known as Mongolia and Tartary. Ancient European literature further distinguishes Scythians into those of Europe and those of Asia; the former are supposed to have occupied the country from the Danube to the sources of the Dniester and the Dnieper, in the neighbourhood of the Don, and along the northern shores of the Black Sea. The portion between the Danube and the city of Carcinitis was called Old Scythia; and the peninsula (Taurida) to the Borysthenes was called Little Scythia; and in the time of Strabo, Little Scythia included the country as far as the Danube, previously occupied by the Thracians. These European Scythi seem to have been colonists from Asia.

Of the migrations into India of the Indo-Scythic Getæ, Takshak, and Asi, that of Sehesnag from Sehesnagdes (Takshak from Tacharisthan), six centuries before Christ, is the first noticed by the Puranas. About the same period a grand irruption of the same races conquered Asia Minor, and eventually Scandinavia; and subsequently the Asi and Tachari overturned the Greek kingdom of Bactria. The Romans felt the power of the Asi, the Katti, and Cimbri from the Baltic shore; and the Scythic tribes who have entered India as conquerors, are the Getæ, the Takshak, the Asi, Katti, Rajpali, Hun, and Kamari.

Colonel Tod supposes the Asi and Tachari to be the Aswa and Takshak or Toorshka races of the Puranas of Sakadwipa, and the Dahæ to be the Dahya, one of the 36 royal Rajput tribes, now extinct.

The martial tribes whom Alexander encountered in the Panjab, were of Scythian descent. During his two years' campaign in the Panjab and Sind, Alexander captured no province, but he made alliances, founded cities, and planted Greek garrisons. At Taxila (Deri-Shahan) and Nikaia (Mong) in the Northern Panjab, at Alexandria (Uchh) in the Southern Panjab, at Patala (Hyderabad) in

Sind, and at other points along his route, he established military settlements of Greeks or allies.

During the next 700 years, Scythic tribes of the Su, the Saka, the Hun, Naga, and the Getæ, made continuous and several successful efforts to settle. About B.C. 126, the Tartar tribe of Su are said to have driven out the Greek rulers from Bactria. The Græco-Bactrian settlements in the Panjab were overthrown by the Tue-Chi; and during the rule of Kanishka, who held the fourth Buddhist council about A.D. 40, Scythic settlements were formed as far south as the districts now known as the Central Provinces.

Scythian races more than once overthrew the prior rulers, and more than once sustained great defeats; but some of the Rajput dynasties, and also the Jat, the ancient Getæ, retained a permanent hold on the country east of the Indus and southwards to the mouth of that river, and one Jat prince is now ruling in Bhurtpur, another in Dholpur.

The Sah of Saurashtra (B.C. 60–70), the Gupta of Kanouj (A.D. 319–470), and the Valabhi of Cutch (A.D. 480–722), seem to have opposed successive hordes of Scythians. But Mr. Fergusson believes that it was the White Hun who overthrew the Gupta dynasty between A.D. 450 and 475, and that the Saka and the Hun were finally overthrown at the great battles of Karur, near Multan and Maushari, which that learned writer supposes to have been fought between A.D. 526 and 544.

During these struggles for dominion, Vikramaditya, a king of Ujjain, about B.C. 57, drove back one Scythic invasion, and his victory gave rise to the Samvat era still current in India. Salivahana, another king of Southern India, is supposed to have successfully checked another Scythic invasion, A.D. 78, from which event the Saka era is reckoned; but the victory did not secure permanent advantages, for Cosmos Indicopleustes, who traded in the Red Sea about A.D. 535, speaks of the Hun as a powerful nation in Northern India in his day.

The Jat divide with the Takshak the claim of being the parent name of the various tribes called Scythic invaders of India; and Colonel Tod possessed an inscription of the 5th century, applying both epithets to the same prince, who is invested moreover with the Scythic quality of worshipping the sun. It states likewise that the mother of this prince was of the Yadu race; strengthening their claims to a niche amongst the thirty-six Rajcula, as well as their Yadu descent. The fifth century of the Christian era, to which this inscription belongs, is a period of interest in Jat history. De Guignes, from original authorities, states that the Yu-chi, or Jat, established themselves in the Panjab in the 5th and 6th centuries, and the inscription alluded to applies to a prince whose capital is styled Salindrapura in these regions, and doubtless the Salivahanpur, where the Yadubhatti established themselves on the expulsion of the Tak. How much earlier than this the Jat penetrated into Rajasthan, must be left to more ancient inscriptions to determine; but in A.D. 440 we find him in power.

The evidence of coins and the names of Indian tribes or reigning families, such as the Saka, the Hun, and the Naga, point to Scythian settlements as far south as the Central Provinces of India.

The Jat, who form nearly one-half of the inhabitants of the Panjab, are identified with the Getæ, and their great subdivision the Dhe, with the Dahæ, whom Strabo places on the shores of the Caspian. The existing division between the Jat and the Dhe has been traced back to the contiguity of the Massa-Getæ and the Dahæ, who dwelt by the side of each other in Central Asia. A similar descent has been traced to certain of the Rajput tribes, and until the 5th century A.D., the Jat and the Rajput intermarried.

The northern or Tibetan form of Buddhism, represented by Kanishka and his council in A.D. 40, made its way south to the plains of Hindustan, and during the next six centuries competed with the earlier Buddhism of Asoka. The Chinese Pilgrim, in A.D. 629–645, found both the northern or Scythic and the southern forms of Buddhism in full vigour in India.

As Chandragupta, who freed India from [illegible] Greeks, is celebrated in the drama Mudra-raksh[illegible] so Vikramaditya, the vanquisher of the Scythi[illegible] forms the central royal personage of the Hi[illegible] stage.

Another popular era, the Saka, literally Scythian, takes its commencement in A.D. 78, [illegible] is supposed to commemorate the defeat of Scythians by a king of Southern India, Sali[illegible] hana. During the seven centuries which follow three powerful monarchies, the Sah, Gupta, Valabhi, established themselves in Northern Western India. The Sahs of Saurashtra are tra[illegible] by coins and inscriptions from B.C. 60 or 70 after A.D. 235. After the Sahs come the Gu[illegible] of Kanouj, in the N.W. Provinces, the mi[illegible] land (Madhya-desha) of ancient Brahman[illegible] The Guptas introduced an era of their own, c[illegible] mencing in A.D. 319, and ruled in person or[illegible] viceroys over Northern India during 150 years far to the south-west as Kattyawar. The G[illegible] dynasty was overthrown by foreign invad[illegible] apparently a new influx of Huns or Tartars f[illegible] the north-west (A.D. 450-470). The Valabhi [illegible] ceeded the Gupta, and ruled over Cutch, Su[illegible] Broach, Kaira, and part of Baroda and Mal[illegible] from A.D. 480 to 722. Hiwen Thsang, 630-[illegible] gives a full account of the Valabhi and of prevailing Buddhist religion. The Valabhis s[illegible] to have been overthrown by the early Arab [illegible] vaders of Sind in the 8th century.

Mat-Wan-lin, on the authority of Chinese historians, says the Yue-Chi or Scythians invaded India about B.C. 26, and remained in India till A.D. 222. According to Dr. Bhau Daji, these Yue-Chi appear to have been the Abhira.

In the time of Ptolemy, the geographer, a large part of North-Western India was occupied by the Indo-Scythians. In the Nasik cave inscriptions, Ushavadata, the son-in-law of Nahapana, is called a Saka, and a Saka Sena is mentioned in the Kenheri caves. The prophetic chapters of the Puranas mention 16 Saka kings, 8 Yavana, 7 Abhira, and 10 Gardabhilla kings.

The Scythians who occupied the Yuzufzai country were the Sakæ and Tochari.

The Takka or Takshaka were a Scythian migration about the 6th century B.C. Their settlements in the 4th century B.C. seem to have extended from the Paropamisan range in Afghanistan, to deep into Northern India, and are supposed to have been the great serpent race, the Naga, often mentioned in Sanskrit literature; both Naga and

Takshaka mean snake; and they were tree and serpent worshippers. The Greek invaders, B.C. 327, found the Takka settled in the Rawal Pindi district, for which, from the 12th century, another Scythic race, the Ghakhar, had been fighting.—*Elphinstone's India; Tod's Rajasthan*, i. p. 35; *J. A. S. B.* vi. p. 677; *Imp. Gaz.*

SEA.

Bahr, ... ARAB..	Mare, . . . IT., LAT.
Ping-le, ... BURM.	Mar, ... SP.
Mer, ... FR.	Samandram, . . . TAM.
See, ... GER.	Samudra, ... TEL.
Darya, . . HIND., PERS.	Dengiz, ... TURK.

Sea of China, Bahr-ul-Mahit; Indian Ocean, Bahr-ul-Akhsar; Red Sea, Bahr-ul-Ahmar; Mediterranean, Bahr-ul-Rum; Dead Sea or Sea of Lot, Bahr-i-Lut; sea flow and ebb, Madd-o-Jazr; sea breeze, Nasim-i-Bahr; sea chart, Kinar-Namah; sea-coast, Kinar, Sahilah-Ripa; sea compass, Kiblah-Nooma; sea ear, Darya gosh; sea-horse, Faras-ul-Bahr, Hippocampus; seaport, Bandar; sea-shell, Sadf, Sipi.

As wavelets dash upon a reef, they are lit by what the Arabs call the 'jewels of the deep,' and the superstition is, that these flashes of light are jewels made to adorn the necks and hair of the rmaids and mermen. When removed from their ive elements, the gems fade and disappear. re are some ideas similar to this among the tch and other northern people. The colour he sea greatly varies in different parts of the be. It is white in the Gulf of Guinea, black und the Maldives, vermilion off California sed by the red colour of the infusoria it tains), and green in the Persian Gulf and r all coral rocks. In the Arctic Sea it under- s rapid transitions from purity to opacity, from amarine to olive-green, the green colour being sed by myriads of minute insects which prey each other. The sea-shore residents in trop- countries wait every morning with impatience coming of the sea-breeze. It sets in about ven o'clock. Then the sultry heat of the oppress- morning is dissipated, and there is a delight- freshness in the air, which seems to give new to all in their daily labours. After sunset re is again another calm. The sea-breeze is v done, and in a short time the land-breeze s in. This alternation of the sea and land eze, a wind from the sea by day and from land by night, is so regular in intertropical ntries, that it is looked for by the people h as much confidence as the rising and setting he sun. The oppressive heat of the sun and climate of the sea-shore is mitigated and made refreshing and healthful by the alternation hose winds, which invariably come from the est place,—the sea, which is the cooler by and the land, which is the cooler by night. t ten in the morning, the heat of the sun played upon the land with sufficient intensity o raise its temperature above that of the water. A portion of this heat being imparted to the superincumbent air, causes it to rise, when the air, first from the beach, then from the sea, to the distance of several miles, begins to flow in with a most delightful and invigorating freshness.

SEA-BEAVER, Enhydra marina, the Kalan of the Kamtschadales; Mustela Lutris of Linnæus; Lutra marina of Steller. Captain Cook in his last voyage says that this animal haunts sea-washed rocks, lives mostly in the water, and approximates to the seals more than to the otters in its habits. Their food is fish. The female brings forth on land, and notwithstanding the general marine habits of the animal, it has been occasionally seen very far from the shore. It is found in the North Pacific from Kamtschatka to the Yellow Sea on the Asiatic side, and from Alaska to California on the American coast (Richardson). The fur was eagerly sought after, and is still prized, but not so highly as formerly.

SEA-COCOANUT.

Cocotier de Maldives, FR.	Zi-calappers, . . SINGH.
Cocos-de-mer, ... ,,	Kuddal tayngai, . TAM.
Darya-ka naril, . HIND.	Samutrapu tainkaya, TEL.
Ubdie narikaylum, SANSK.	

This is the fruit of the Lodoicea Seychellarum. It resembles two cocoanuts fastened together; it is convex on one side, and almost flat on the other, oblong, and somewhat pointed at both ends. The shell is dark-coloured, and contains a kernel not unlike that of the ordinary cocoanut, but drier, harder, and more insipid. They are often seen floating in the sea off the coasts of Arabia and Africa, whence they are brought to Bombay; and also from the Laccadive and Maldive Islands, where the tree grows. The shells are made into drinking-cups and scallops, which are used by the Indian devotees. The kernel is used medicinally by native practitioners in cases of typhus fever, etc.

Sea-cocoanut of Tenasserim is the fruit of the Xylocarpus granatum, *Kon.*, the Carapa Moluccensis, *Lam.*, very common in the mangrove swamps, and growing near the shore; its fruit falls into the water, and floats out upon the sea, which gives rise to its name. The fruit is not edible, but is exceedingly astringent, and is regarded by the natives as a specific in cholera. —*Faulkner; Mason.*

SEA-COW of Behring Straits is the Rytinia Stelleri, a sirenian. It lives on sea-weed.

SEA-EAGLES are species of Pandion, Polioætus, Haliætus. See Eagles.

SEA-EAR, species of the Haliotis, a genus of the Haliotidæ of the mollusca.

SEA-ELEPHANT of Tristan da Cunha and Kerguelen's Land, Morunga elephantina. It attains to 12 feet in length.

SEA-GYPSIES, a name by which sailors designate the Baju-laut, a seafaring people of the E. Archipelago, and also the Selones of the Mergui Archipelago.

SEA-HAWK, or frigate bird, the Atagen aquilus, is also called the man-of-war bird and the boatswain. It has short feet, and cannot swim or dive. It is intermediate between the predaceous sea and land birds. It attacks the smallest birds, and makes other fishing birds abandon their prey. It is of immense endurance, takes great flights, and rises to vast heights in the air. It ranges through all tropical seas, and hovers over the tropical waters. It has been seen 400 leagues from land. Its expanded pinions measure 14 feet from end to end.—*Bennett.*

SEA-HORSE, a fish of the genus Hippocampus, one of the Syngnathidæ, the head of which assumes a bent position like the head and neck of a horse.

SEA-HORSE, a mammal of the Arctic seas. Their teeth are brought from California and

other parts of Western America, and are used by the Chinese in the same manner as ivory. They are the teeth and tusks of the walrus and other cetaceous animals.—*Morrison.*

SEAL, the name of a family of amphibious animals, valued for the oil obtained from the fat or blubber, and also for their skin, which is used for a variety of purposes, largely for ladies' cloaks.—*Faulkner.*

SEAL.

Khatm, ... ARAB.	Sigillum, ... LAT.
Cachet, ... FR.	Nagin, ... PERS.
Petchafte, . . . GER.	Sellos, . . . PORT., SP.
Mahr, HIND., PERS. TURK.	Mutra, Mudra, . . TAM.
Sigilli, ... IT.	Muhurle, ... TURK.

The seals of oriental nations are used for ornament, and as signet-rings. The Anguliya mudra, or finger-ring seal or signet, has from the earliest periods been commonly used in the east. Ahasuerus takes his signet off his hand, and gives it first to Haman, and again to Mordecai; and Herodotus notices that each of the Babylonians wore a seal-ring. The Greeks and Romans had their rings curiously engraved with devices, and that cast by Polycrates into the sea was the work of an engraver whose name the historian has not thought unworthy of commemoration. The seal is alluded to also in the Demagogues of Aristophanes.

Seals in the form of signet-rings are in general use amongst the Muhammadans of Arabia, Persia, Afghanistan, and India, for affixing the names of their owners, instead of writing their names, although many of them could write. When the document is finished, he takes the signet-ring from off his finger, generally the little finger, and, smearing it with ink, stamps it on the document. The putting on the wedding-ring by a bridegroom amongst many Christian nations seems to betoken an endowment by him of all his worldly goods, as in the case of Jezebel in 1 Kings xxi. 8, and Esther viii. 8-10. The seal of Solomon, Mahr-i-Suliman, is the Swastika.—*Hind. Theat.*

SEA-LEAF INSECTS or sea-spiders, species of Phyllosoma.

SEA-LEMONS, the Doridæ family of mollusca, comprising ten recent genera.

SEA-LEOPARD of Kerguelen's Land, is the Stenorhynchus leptonyx, *Gray.* It resembles the seal of the British coasts.

SEALING-WAX.

Cire d'Espagne, . . FR.	Lak, ... MALAY.
Cire de cacheter, . . ,,	Surgutsch, ... RUS.
Seigellack, ... GER.	Lacre, ... SP.
Chap-ka-mom, . HIND.	Arakku, ... TAM.
Cera lacca, ... IT.	Lakka, ... TEL.

This is a composition of gum-lac, melted and incorporated with resin, and afterwards coloured with some such pigment as vermilion, ivory-black, etc. It is used for sealing letters, legal instruments, etc.

SEA-LION, Otaria jubata, and the Cape eared-seal, O. pusilla, are known also as eared-seals and sea-bears. They form a very distinct group of marine carnivorous animals, and are readily distinguished from the true seals by their small external ear.

SEA-LIZARD, Glaucus hexapterygius, *Cuv.* It is about an inch long, with brilliant colours.

SEA-NETTLE, species of medusæ. Ships often meet vast numbers of young sea-nettles drifting along with the Gulf Stream. They are known to constitute the principal food for the whale, but the habits of the right whale are averse to the warm waters of the Gulf Stream.—*Maury*, p. 43.

SEA-SLUG, Holothuria, *sp.*, the trepang of the Malays, and the attei of the Tamil people; from 9 to 12 inches long, and 3 or 4 broad; are collected on the Ramnad and Tinnevelly coasts. This animal is abundant on the banks of the Aru Islands. The greater portion is caught in shallow water, where it can be picked up off the bank without diving. They are largely exported to China.

SEA-SNAIL, species of the Ianthina mollusc, I. fragilis.

SEASON. In Oudh, the seasons (rit) are divided into six periods of about two months each, —Sard, Sisir, Him, Basant, Grikham, Pawas. The Vedic races, who seem to have occupied several countries before entering N.W. India, divided the year into six seasons,—Vasanta (spring or flowery), Grishna (the hot season), Varsha (the rainy), Sarada (the sultry season), Hemanta (the frosty season), and Sisira (the dewy season). These divisions indicate their residence in a colder country than British India, and where the seasons were more numerous and more marked.

Throughout almost all British India, there are three seasons, cold, hot, and rainy, and in S[illegible] only two, the Siyaro or the cold season, which lasts from Ashwina to Phalgun, a period of [illegible] months; and the hot season in the other months.

Hindus of Northern India divide the year into three seasons, viz. Chou-masa or Burk'ha, which constitutes the four months of the rainy season. The rest of the year is comprised in Seeala, Jara Mohasa, the cold season; and Dhoob-kal Khursa, the hot season.

Amongst the Hindus, as amongst other ra[illegible] many of the religious festival days or holi[illegible] relate to the changes in the seasons, at th[illegible] year, when the sun turns northwards, and at vernal and autumnal equinox. In illustration [illegible] be mentioned the Ganesh Chaturthi or Chat[illegible] which falls about the beginning of Septem[illegible] On this day was born Ganesh, called also Ganp[illegible] made from the turmeric and oil off the body Parvati. He is the god of wisdom, who remo[illegible] obstacles, and is invoked at the commencement [illegible] all undertakings. Ganpati has a man's bo[illegible] with the head of an elephant. His head is s[illegible] to have been cut off or destroyed by Siva, wh[illegible] Ganesh tried to prevent Siva entering the cham[illegible] of Parvati while bathing. Clay images are m[illegible] and worshipped for from one to nine days, [illegible] then thrown into water. The Chin Cho[illegible] Chinchwad, who resides at a village of that n[illegible] near Poona, is believed to be an incarnatio[illegible] Ganesh, who promised an ascetic named Mo[illegible] who lived in Sivaji's time, that he would be in[illegible] nate for seven generations in his family. The earth image of Ganesh is one of three forms, in which the earth deity Mrittika is worshipped by Hindus,—the first, the Nagapanchami, on which feast a snake of clay is worshipped; the second is Gokul Ashtami, when a clay image of the infant Krishna is worshipped; and the third occasion is that on which Ganesh is worshipped, and this last day of the worship of Mrittika is observed with great pomp. The vahan or carriage of Ganesh is

a rat. The feast in honour of his birth is held on the 4th of the month Bhadrapad, falling on the first days of September. Ganesh is brought to the house with much pomp.—*Jaffrey; Elliot.*

SEA-URCHIN of the Philippines, of the genus Asthenosoma, *Grube*, has short spines, hollow and tubular at their extremities, containing poison. When these spines penetrate the flesh, a sharp stinging pain is felt like that of a wasp-sting.

SEA-WEEDS, or Algæ, are cellular flowerless plants belonging to the class Thallogens of botanists. Algæ are found both in salt and fresh water, have a wide geographical range, and in the domestic economy and manufactures of man they are of no little importance. Chondrus crispus, the Carrageen moss, supplies a nutritious article of diet as a demulcent, in the form of decoction or jelly. The tangles Laminaria saccharina and L. digitata, also the dulse and species of Porphyria and Ulva, known as the green and purple lavers, are used as food; and nearly all the species of Laminaria, Alaria, and Fucus are used as manure, or are burnt for kelp, an impure carbonate of soda, and iodine is extracted from them.

Of the Conferyaceæ in the seas of the south and east of Asia, are to be found the Ulva latissima, mes., and U. crispa, *Lightfoot*, and Porphyra nat aris, *Ag.*, lavers valued in scrofulous cases. The last named is gathered by the Hakims of Sco just before the monsoon, and given along of a emulsion of almonds. Ulva reticulata, *Forsk.*, glo very beautiful reticulated sea-weed of the arc ern Archipelago.

(ca the Fucaceæ or sea-wracks, the Sargassum cou ertina, or sea-grapes, occurs in all seas. Fucus ov culus, *Linn.*, F. nodosus, *L.*, and F. vesiculosus, go the tangles, Laminaria bulbosa, *Ag.*, L. nitrata, L. saccharina, *Lam.*, with Zonaria pavonia *Ag.*, Dictyota dichotoma, *Lamour.*, also Chorda filum, L. flagelliformis, *Ag.*; Bryopsis plumosa, *Ag.*, ical um barsa, *Ag.*, and C. tomentosum, *Stackhe* . Of these Fucaceæ, F. vesiculosus is supposed to be the basis of the popular Anti-Fat; ive sicles, and their tincture, and the calcined fuller, are given in glandular swellings and life rheumatism. F. distichus is a deobstruent. the inaria saccharina, *Lam.*, is brought to India now the Caspian Sea, and it is said from the set ar lakes, and in the form of a syrup, with a brection of quince seeds, is a favourite remedy the syphilitic eruptions; it is also burned into kelp. colen dried in the sun, a whitish manna-like substance exudes.

Of the Ceramiaceæ the rose tangles, several the are occur, viz. Callithamnion corymbosum, bot C. plumula, *Lyngbye*, with Ceramium pedi of tum, *Ag.*, and C. rubrum, *Ag.*; also Chondrus coo us, *Lyngbye*, and Rhodymenia jubata, *Grev.*; day the Chondrus crispus is employed instead of Abo ass for making blancmange and jellies.

has the Siphonaceæ, or green algæ, belong Codotea, Halimeda and its allies.

To the Corallinaceæ, or red algæ, belong Lithothamnion and allied genera.

Sea-weeds commonly eaten by the Burmans are the Gigartina spinosa, *Grev.*, which is the Agar-agar of the Malays, and the Sphærococcus lichenoides, *Ag.*, the Ceylon moss of commerce. These are usually called by the Burmans Kyoukpuen.

The whole coast from Shan-tung to the south of China, and all the coasts of Corea and Japan, furnish large quantities of sea-weed, species of Laminaria, Rhodymenia, Iridæa, etc., which by the Chinese are made into size, jelly, and many excellent dishes of their food. The sea-weed known in British India as Gillur-ka-patta (HIND.) is supposed to be gathered at the mouth of the Saghalin river. The Chinese regard a diet of sea-weed as cooling but debilitating. The Kwan-pu or tangle is given in dropsies. The Yang-tsai of the Chinese is a clarified sea-weed; is made in Japan, and exported to China, and is said to be classed as isinglass.

The Japanese go out in their small boats to the rocks, and with long sticks, to which is attached a piece of iron to serve as a knife, they sever the weed from the rock or bottom of the sea. The instrument may be 20 feet long, the blade about 18 inches. This weed is a valuable export from Japan; it is edible, and, with rice, constitutes part of the Chinese cuisine. It is exported to China, and then sent up to those countries where salt is dear, being lighter as merchandise, and well adapted for cooking.—*Hodgson's Nagasaki*, p. 63; *Smith's M.M.C.; Murray.*

SEB, a divinity of the ancient Egyptians, analogous to the Chronos of the Greeks and Latins. With them the egg of the goose was the emblem of Seb. Seo, also Seo and Sev, a mode of pronouncing the name of the Hindu god Siva, whose emblem is the conical-formed lingam. —*Bunsen.*

SEBASTIAN DEL CANO, commander of the *Vittoria*, one of the ships which formed Magellan's fleet. He returned round the Cape of Good Hope, and arrived at San Lucar on the 6th September 1522, the only survivor of the fleet which had sailed from the same port on the 20th September 1519, and thus completed the circumnavigation of the globe.

SEBESTAN, Sebestena, Sebestens, also Lobesten; Lesura, HIND.; Buhooari, BENG., are dried fruits, distinguished as smaller and larger, of Cordia angustifolia, C. myxa, and C. latifolia. The fruits are edible, but seem only to contain mawkish mucilaginous pulp. These were formerly used in Europe, but now by the native practitioners of the east only. The dried fruits are very glutinous, and are esteemed expectorant. The seeds of Cordia myxa are called Chakoon ki binj, and deemed an infallible remedy in ringworm, the powder mixed with oil being applied to the eruption.—*O'Sh.; Honig.* p. 343.

SECAMONE EMETICA. *R. Br.*

Periploca emetica, *Retz.*	Asclepias angustifolia, *R.*
Asclepias pseudosarsa.	Shada-boori, . . BENG.

Grows common in the southern parts of the Peninsula of India at the foot of mountains. Roots acrid and emetic.—*Roxb.*

SECHIN, the same with Ekhor, the place of burial of the emperors of China.—*As. Res.* vi. p. 484.

SECRET SOCIETIES exist in China and Japan. The Komoso Society of the latter country is a semi-monastic institution not unlike the Order of Templars. Its existence was formally recognised by the government in the early part of the 17th century, and certain lands were granted to it by the Tokugawa dynasty of Shoguns. The society was filled from the ranks of the samurai

class alone, by assuming the white robe of the Komoso. None were admitted into the ranks of the brotherhood who had been guilty of the meaner crimes. The chief was invested with a priestly character, and usually resided at the chief temple in the province of Owari. He had power of life and death over his fellows, and was so far independent of the Government that he could put any of the brethren to death, provided he formally reported to the authorities that he had punished an offender against the laws of Komoso, according to its recognised rules. He was not required to specify the offence for which punishment had been inflicted. The society has never, it seems, been a large one, as, after a man had availed himself of the privileges of asylum which the fraternity afforded, he often retired to his own province, using the Komoso as a sanctuary. Men have been known to join the society with a view to carry out in safety plans of revenge on the murderer of a relative, taking refuge in the same temple in the dress of the brotherhood. The tragic climax of such a situation is reached, when the avenger carries out the vendetta by killing the man he sought, in spite of all oaths and bonds of union. The triad society of the Chinese seems to have been partly political, partly religious.

SECUNDERABAD, in lat. 17° 26′ 30″ N., long. 78° 33′ E., is the [illegible] cantonment of the Subsidiary Force provided by the British for the defence of the Hyderabad territory. It extends from 4 to 10 miles north of the city of Hyderabad, and is 1830 feet above the sea. It is the largest military cantonment of British India, the troops of all arms being about 5000 in number. The cantonment bazar, formed in Secunderabad town, had 7938 houses in 1868, with an estimated population of 32,000. Adjoining the Secunderabad cantonment to the north is the Bolarum cantonment, one of the stations of the Hyderabad Contingent, under the immediate authority of the British Resident at the court of His Highness the Nizam. About two miles south of Secunderabad cantonment, between it and the city, are the regimental lines of the Hyderabad Reformed Troops, belonging to H.H. the Nizam, comprising artillery, cavalry, and infantry, under the command of a European officer. About 8000 soldiers of all arms are located on that portion of the plateau.—*Imp. Gaz.*

SECUNDER BEGUM. In 1817, Nazir Mahomed, minister of Bhopal, married the daughter of the previous nawab of Bhopal, and concluded a treaty with the British Government which guaranteed the country to himself. On his death, the widow, Kudsia Begum, then 17 years of age, became regent, and a marriage was arranged for his only daughter, Secunder Begum, with his nephew, Jahangir Muhammad Khan. In 1837, Kudsia Begum was pensioned, and Jahangir Muhammad was duly invested as nawab. But from Jahangir's misconduct, Secunder Begum left him, and went to reside with her mother, till his death in 1847, when she was appointed sole regent for her only child, a daughter. She was formed to rule, from her abilities, her resolution and lofty aspirations, and she brought the State into perfect order. During the revolt of the Bengal army, and the rebellion in Northern India in 1857-59, she sheltered British officers, put down her own mutinous contingent, and gave peace and order to her territory and help to the British, and the British rewarded her with additional territory, and in 1863 with the Grand Cross of the Star of India. She died 30th October 1868, after a rule as regent and queen of 21 years. She left one child, a daughter, Shah Jahan Begum, who at once succeeded. She too had one daughter, Sultan Jahan Begum, who was installed 16th December 1868, and was married 1st February 1875 to Mir Ahmad Ali Khan Bahadur, a nobleman of Afghan descent.

SECUNDRA, a town in Northern India; its name is probably from Secunder Lodi. In Secundra was laid the great Akbar. The quadrangle of his mausoleum is enclosed by high embattled walls, to break the monotony of which there are four octagonal minarets at the four corners, and four colossal gateways on the four sides. The space within is laid out in walks, flower-beds, orangeries, and groves of mango.—*Tr. of Hind.* ii. pp. 9, 10.

SECUNNY. ANGLO-HIND. A steersman, from Sukhan, a helm.

SEDASHEGHUR, a village on the western side of India, lying between two hills, on the banks of the Kali Nuddi. The lighthouse on the Oyster Rocks in the bay is in lat. 14° 49′ 15″ N., and long. 74° 2′ 45″ E.—*Findlay.*

SEDASHEO RAO BHAO, briefly designated in India the Bhao, was the cousin of the Peshwa Balaji Rao. Sedasheo Rao fell in the battle of Panipat, fought on the 6th January 1761.

SEDGE, plants of the natural order Cyperaceæ, a large tribe of grass-like plants with solid though slender stems, and the sheaths of the leaves not split in front as in grasses. Growing in every country, and some of the species widely distributed, are found on the sea-shore, on the tops of mountains, in marshes, ditches, and running streams, on meadows and in forests, and several of them furnish useful products. Hassocks, mats, brushes, etc., are made of the wiry stems and leaves of species of sedge (Carex). A few secrete fecula in their tuberous root-stocks, as the water-chesnut of the Chinese, etc.; others secrete a little volatile oil, as Cyperus longus and C. rotundus. The creeping rhizomes of Carex arenaria, and of a few allied species, are sometimes used medicinally under the name of German sarsaparilla. An Indian species, Cyperus tegetum, *Roxb.*, called Papyrus pangorei by Nees von Esenbeck, the Madoorkati of the Bengalese, and which is extremely common about Calcutta and in Bengal, is very extensively employed for making the elegant, shining, and useful mats for which the capital of India is famous, and which are frequently imported into Europe. The culms or stalks of the plant when green are split into three or four pieces, which in drying contract so much as to bring the margins in contact, in which state they are woven into mats, and thus show a nearly similar surface on both sides. The strips are tied up in bundles about 4 inches in diameter and 4 feet in length, and seem also well adapted for making paper and ropes. The papyrus of the Egyptians belongs to this order, and is still called Babeer in Syria. It is about 15 feet high; the exterior tunic of the stems, cut in bands and pressed, formed the paper of ancient Egypt and Europe; the leaves, which are several feet long, served for the

same purpose, but were of inferior quality. This paper is but little liable to decay. Pliny, for instance, relates that the book of the laws of Numa Pompilius was found in Rome in a high state of preservation, after having been buried nearly six centuries in the earth.

The cotton grass, Eriophorum of Europe, is a conspicuous ornament of tuft-bogs and marshy moors, from having its seeds clothed at the base with a silky or cotton-like substance. With this pillows are sometimes stuffed, and wicks of candles, as well as paper, made. There is a species of the genus very common in the Himalaya, both in low valleys and at considerable elevations. This, Dr. Royle named Eriophorum cannabinum, in consequence of his finding it everywhere employed in making ropes for all ordinary purposes by the mountaineers. Its name, bhabhur and bhabhuree, has a considerable resemblance to that of the papyrus, considering that the b and p are letters so frequently interchanged for each other. All who have scrambled up the steeps of the Himalaya will remember the great support they have received from the toughness of the tufts of the bhabhur. Specimens of the dried leaves are made up into bundles about feet in length; twine is made from it; this, though rough, is strong and well fitted for ordinary purposes. In the Himalaya the bhabhur holds a conspicuous place, from its extensive use and most abundant supply throughout the whole the hills, affording a most economical substitute an article of cordage, in lieu of others of a more costly and durable nature. All the jhula rope bridges, which are erected over the large rs where the sanga or wooden-planked dges cannot be made, on all the principal roughfares of the Garhwal district, are constructed of this silky species of grass, the cables which are of a considerable thickness. These e bridges are a very safe means of communion over the large and rapid rivers intersecting erent parts of the country, both for travellers men with loads, and, where the footway and s are properly laced with brushwood, afford easy enough roadway for loaded sheep, but ther ponies nor cattle can travel over them. s grass grows abundantly in all the ravines of sides of the mountains, and is to be had only the cutting, but it is not of a very durable ture, though pretty strong when fresh made o ropes. It lasts about a twelvemonth only, a little more, and the people in charge of the bridges are constantly employed in repairing annually renewing the ropes and stays. The chinka, or temporary bridges of a single cable, upon which traverses a seat in the shape of an ox-yoke, are also sometimes made of this grass. There are few of them useful for fodder.—*O'Sh.* p. 628; *Royle's Ind. Fib.* p. 85; *Trans. Agric. Soc. of India*, viii. p. 272; *Cat. Ex.*, 1851; *Captain Huddleston on the Fibres of Garhwal.* See Cyperaceæ.

SEDIL or Chedil. TAM. An apparatus used for suspending men and swinging them in the air in honour of the goddess Mari-amma, as in the Charkh Puja of Northern India.

SEDUM ACRE, Fuh-kiah-ts'au of the Chinese, a pretty plant of Europe and China; the juice is used in China for burns and scalds. The Chinese name means Buddha's nails.—*Smith.*

SEED.

Tsz, Tszee,	CHIN.	Semen,	LAT.
Semence,	FR.	Banih, Biji,	MALAY.
Same,	GER.	Tukhm,	PERS., TURK.
Binj,	HIND.	Veri,	TAM.
Seme,	IT.	Vittu,	TEL.

In commerce, the grains of several species of gramina. Those of most importance, in a commercial point of view, are flax or linseed, rape-seed, mustard-seed, hemp-seed, and gingelly or sesamum seed. The imports into India are small,—about 1500 tons annually, value three lakhs of rupees; but the exports are large,—in 1882-83, to the value of over seven kror.

Essential oil-seeds,	44,076 cwt.		Rs. 2,38,524
Earth-nuts,	265,743	,,	13,13,918
Linseed,	6,724,514	,,	3,52,84,813
Mustard,	23,145	,,	1,37,750
Poppy,	571,542	,,	30,26,401
Rape-seed,	2,821,420	,,	1,57,06,129
Til or gingelly,	2,308,242	,,	1,46,45,453
Other sorts,	370,749	,,	16,72,943

SEEHOO, a lake of China. On its borders stands the wealthy and extensive city of Hang-chu-fu. The surrounding scenery is accounted one of the grandest as well as the most beautiful in all China. The Lui-fung-ta, or tower of the thundering winds, standing on the point of a promontory jutting into the lake, forms a bold object. It is said to have been built in the time of Confucius. In the Vale of Tom[illegible] variety of monuments is almost infinite.—*Macartney's Embassy*, i. p. 28.

SEEKHAN, a piece of iron about a cubit long, with which fakirs pierce their necks and cheeks. Also an Arab musical instrument, used by the Arabians who frequent the Malabar coast.

SEEMANTONNAYANA. SANSK. From Simanta, the place on the head where the hair divides, and Oonayana, a raising up. Amongst Hindus, during the marriage ceremony, the bridegroom first pulls the veil over the face of the bride, and then, turning it up again, draws a line with red lead down the centre of her forehead. To this ceremony this word alludes.

SEEOORSAT, in Persia, provisions supplied to travellers of rank, from the villages that they pass through; possibly from Sair, a journey, Rasad, provision.

SEER or Ser. HIND. A measure used in all retail dealings, but it varies according to the article sold, from 25 to 84 rupees weight, *i.e.* from 4500 to 15,120 grains.

SEERANO, an allowance given to the town shepherds of India.

SEER-FISH of Europeans, in Ceylon, is the Cybium guttatum. The Singhalese call it the tora-malu. Seer-fish frequently migrate to fresh waters to breed, or for prey.

SEET-SEEN. BURM. In Amherst it is a red, compact, very ponderous, and highly valuable wood, used for the construction of religious houses.—*Cal. Ex.*, 1851.

SEEUL GUDA. TEL. The torpam pillu grass of the Tamils; the stalks used in pinning together, for food-platters of the Hindus, the leaves of the Butea frondosa, Ficus Indica, and F. religiosa.

SEGHALIN, Seghalien, or Tarakai, is an island lying between lat. 45° 54′ 2″ and 54° 24′ N., and long. 141° 40′ and 144° 46′ E. It is about 600 miles in length, and from 20 to 100 broad. It is well wooded and fertile, and coal is found in many

places, especially about Jonquiere Bay. Two-thirds of the northern part belong to Russia, and is peopled by Ghilak. The aboriginal races of Yezo, whose severe treatment by the Japanese led them to other countries, occupy the southern part of Seghalin.

SEGHUR or Sigur, a mountain pass running down the north face of the Neilgherry Hills, from Mutinad to near the village of Seghur, lat. 11° 29′ to 11° 31′ 40″ N., and long. 76° 43′ 30″ to 76° 43′ 35″ E. It is practicable for laden carts and other wheeled conveyances, and is the most frequented of all the Neilgherry Ghats.—*Imp. Gaz.*

SEHESNAG. The Takshak race entered Hindustan, led by a conqueror termed Sehesnag, from Sehesnagdesa. He ascended the Pandu throne, and after 360 years his line terminated in ten descents, with Mahananda, of spurious birth. This last prince, who was also named Bykyat, carried on an exterminating warfare against the ancient Rajput princes of pure blood, the Puranas declaring that since the dynasty of Sehesnag the princes were Sudras. A fourth dynasty commenced with Chandragupta Mori, of the same Takshak race. The Mori dynasty consisted of ten princes, who are stated to have passed away in 137 years. See Takshak.

SEHESRA ARJUNA, of the Lunar race, called also Sehesra Bahu, was of the Hi-hya tribe. He founded Mahesvati on the Nerbadda, still existing in Maheswar. In the Bhavishya Purana Sehesra Arjuna is termed a chakravarta, or paramount sovereign; also that he conquered Kurk[illegible] the Takshak, Toorshka, or Snake race, and brought with him the population of Mahesvati, and founded Hemanagara in the north of India, on his expulsion from his dominions on the Nerbadda. Traditionary legends yet remain of this prince on the Nerbadda, where he is styled Sehesra Bahu, or 'with a thousand arms, figurative of his numerous progeny.' He was expelled from Mahesvati by the Solar race.

SEHL, one of the princes of the Bharat, who founded Aror.

SEHWAN, the ancient Sindomana, is built on the extremity of a spur from the Baluchi range. The pass of Sehwan has a picturesque appearance from the river, with its rocky mountains rising in terraces along the bank, and its old ruined castle, supposed to have belonged to the Alexandrian age. Sehwan town is in lat. 26° 26′ N., and long. 67° 54′ E., and gives its name to a sub-district of Kurachee in Sind; of area 3646 square miles; pop. (1872), 162,836 souls. It contains the Manchhar or Manchur Lake; the Laki Range, an offshoot from the Khirthar mountains, and the Jatil Hills; the principal canals being the Western Nara, the Aral, the Phito, and the Karo. There are several hot springs. The people are largely supported by the offerings of pilgrims at the shrine of Lal Shahbaz, whose tomb is enclosed in a quadrangular edifice, said to have been built in A.D. 1356. It is covered with a dome and lantern, and has beautiful encaustic tiles with Arabic inscriptions. Mirza Jani of the Tarkhan dynasty completed a still larger tomb to this saint in A.D. 1639. The gate and balustrade are said to have been of beaten silver, the gift of Mir Karm Ali Khan Talpur, who also crowned the domes with silver spires. Sehwan fort, ascribed to Alexander the Great, is an artificial mound 240 or 270 feet high, measuring round the summit 1500 by 800 feet, and surrounded by a broken wall. The remains of several towers are visible. Tradition asserts that the town was in existence at the time of the first Muhammadan invasion of Sind by Muhammad Kasim, Safiki, about A.D. 713; and it is believed to be the same place which submitted to his arms after the conquest of Nerankot, the modern Hyderabad.—*Imp. Gaz.; Postan.*

SEIR ABONEID, in lat. 25° 14′ N., and long. 54° 22′ E., an island 2½ miles long and 2 miles broad, on the south side of the Persian Gulf, contains large quantities of sulphur, and has some mineral springs.

SEIR-i-MUT'AKHERIN, or Latter Review, a work on the history of the British in India in the middle and close of the 18th century, by Seid Gholam Husain Khan, Calcutta 1789.

SEISTAN, Sejistan, or Nimroz, between lat. 30° 30′ and 32° N., and long. 60° 30′ to 64° E., is the country on the S.W. corner of Afghanistan, between Bast and Girishk. Seistan proper is the basin of the Helmand. It is a flat country, with low hills here and there, and is surrounded, except on the north, by wide deserts. One-third of [illegible] surface is moving sand, and the other two-thirds are composed of compact sand and clay, covered with thickets of tamarisk and abundant pasture. The Helmand, which is by far the finest river between the Tigris and the Indus, flows through Seistan, and runs into the lake of Zurreh. Its river banks are clothed with luxuriant vegetation, and the lake, which is about 90 miles long by [illegible] broad, is bordered by forests of reeds, beyond which there are pastures and tamarisk thickets. The country has long been occupied by savage tribes.

Ferrier (p. 425) says the population of Seistan, a district forming the extreme eastern and northern limit of Seistan, are of mixed Baluch, Afghan, Arab, Turk, Kakar, and Kurd descent, the families thrown there by the waves of revolution and intestine feuds; and the Zarangæ or Drangæ, the Agriaspes or the Arrachoti of the time of Alexander, cannot now be traced. In recent times, it has repeatedly changed hands between Persia and Afghanistan.

The only parts which still retain their fertility are those on the banks of the Helmand and Farrah Rud, and of the lake which is formed by the rivers. This celebrated lake is termed by geographers the Sea or Darya of Zereng. In Persian books, it is said sometimes to be called the Sea of Loukh, and by the people of the country the Lake of Zoor or of Khaujek; in the neighbourhood it is merely called the lake or the sea, and it is at least 150 miles round. The water is brackish and hardly drinkable. The edges of the lake, for a considerable breadth, are choked with long rushes and reeds; the shores also are overgrown with the same sort of vegetation, and, being liable to inundation, are full of miry places and pools of standing water. These marshes and thickets are frequented by herds of oxen, whose owners are men distinct from the other inhabitants of Seistan; they are said to be tall and stout, but black and ugly, with long faces and large black eyes; they go almost naked, and live in hovels of reeds. Besides their occupation of herdsmen, they fish and fowl on rafts among the rushes of the lake.—*Bellew.*

SEJ-BAND. HIND., PERS. A cord and tassels of silk, for tying down the coverlet of a bed at the corners; they are of different kinds, Sej-band pinjri wala, Sej-band penchi wala, Sej-band sada wala. Its parts are the nati or stem, the tukhm or hollow bulb, and kalghi tassel and jhabba or jhallar fringe. The bulb is filled with kasturi, musk.

SEKHARA, Raja Sekhara, author of the comedy, Viddba Salabhanjika.

SEKONG, a prahu boat with long outriggers. It is made of one log of wood, very sharp fore and aft.

SELABAH, Selaib, or Selib, an Arab race who receive their name because on certain festivals, and particularly on occasions of marriage and circumcision, they fix at the door of the person to be married or circumcised, a wooden cross, dressed in red cloth, and adorned at the top with feathers, and people collect and dance around the cross. They dwell in tents. They are good sportsmen, and eat anything. They are said to believe in one God.

SELACHE MAXIMA is the great basking shark; attains 30 feet in length.

SELARI is a cloth half silk and half thread, [illegible] edging and borders of silk and gold [illegible] mostly in the form of sarees and do-pattas.

SELENITE. Hiuen-tsing-shih, CHIN. It [illegible] in the Chinese provinces of Shan-si, Pe-[illegible], and Kiang-si. The occurrence of selenite [illegible] indicates the presence of sodalite.

SELEUCIDÆ have been noticed under the [illegible] Greeks of Asia; they got their name [illegible] the first of the dynasty, Seleucus surnamed [illegible], who ruled from B.C. 312 to 280, but the [illegible] had other five of this name. The death [illegible] Alexander had occurred in the spring of the [illegible] B.C. 323. His colonies, and their institutions, [illegible], and language had a lasting action in [illegible] Asia, the effects of which were felt for at [illegible] 500 years after his decease. But though he [illegible] his brother Aridæus and the posthumous child [illegible] Roshana or Roxana, called Alexander, neither [illegible] these succeeded him, for his commander and [illegible] lieutenant, Seleucus surnamed Nicator, succeeded [illegible] the sovereignty of Afghanistan and the other [illegible] conquests.

[illegible] B.C. 315 Antigonus had assumed the regal [illegible] of King of Asia. In B.C. 305 Seleucus gained [illegible] great victory over Niconor, a lieutenant of [illegible] Antigonus, and followed it up by seizing and add-[illegible] to his own government the whole of Media, [illegible] Parthia, Bactria, and Aria, and all the [illegible] as far as the Indus. In B.C. 303 he [illegible] sed that river to make war on Chandragupta, [illegible] during these contentions had expelled the [illegible] cian garrisons from the Panjab, and had so [illegible] vered that country for the native sovereigns [illegible] dia. Seleucus, being called to a final struggle [illegible] with Antigonus, made a hasty peace with Chandragupta, ceding the Panjab as far as the Indus. According to Strabo, Arachotia was also ceded, but this seems doubtful. Cutchhi to the Bolan pass, with the valley of the Indus, may have been the region ceded. Seleucus drove Antigonus into Phrygia, where he was defeated and slain in B.C. 301.

Seleucus Nicator subsequently was assassinated in B.C. 280 by Ptolemy Ceraunus, from which date the whole of Asia to the Indus and Jaxartes was under the Syrian king, Antiochus Soter, who from B.C. 280 to 261 reigned undisturbed over the same territory, and left it to his son, Antiochus Theos.

The expedition of Seleucus to the Panjab is related by Justin (lib. xv. c. 4), and by Pliny (Nat. Hist. lib. vi. c. 17). Seleucus Nicator is said to have penetrated to the mouth of the Ganges, and it had been sailed up by the Romans as far as Palibothra, before the time of Strabo. Armandi notices the fact that the elephants figured on the coins of Alexander and the Seleucidæ invariably exhibit the characteristics of the Indian type, whilst those on the Roman medals can at once be pronounced African, from the peculiarities of the convex forehead and expansive ears. He founded 35 cities in Greater and Lesser Asia, 16 of which he named Antioch, from Antiochus, his father; 9 Seleucia, from his own name; 6 Laodicea, from Laodice, his mother; 3 Apamea, from Apama, his first wife (of which the city of Kurnah was the chief); and 1 Stratonicea, from Stratonice, his last wife. According to Dean Prideaux, he was a great protector of the Jews, and the first who gave them settlements in those provinces of Asia which lie on this side of the river Euphrates. As they had been faithful and serviceable to him in his wars and in many other respects, he granted them great privileges in all the cities which he [illegible]

Under his grandson, Afghanistan was taken from the Seleucidæ by the aboriginal chiefs, and soon after formed with Bactria an independent state, which existed during 150 years. After the death of Seleucus Philopater, Antiochus Epiphanes assumed the reins of power in the empire that included Armenia and Parthia. Alexander had been favourable to the Jews, but Antiochus Epiphanes the reverse. The first seven years of his reign were still endurable, but after that every confessor of Jehovah who could not be bribed or seduced over, was subjected to the most cruel forms of martyrdom. But relief came, in the uprise, in B.C. 167, of the valiant Mattathias; and B.C. 165 the temple was purified and the worship of God restored.

Antiochus Epiphanes died B.C. 164, in the year 143 of the era of the Seleucidæ. But there are two eras of the Seleucidæ, the one reckoned from the date of Alexander's death, A.A.C. 323; the second has its epoch 311 years and 4 months B.C., and is used in the Book of Maccabees. These Seleucidæ eras were also called Syro-Macedonian. The people of the Levant and the Jews adopted it, the Jews calling it Tariq-zu'l-karnain, and it is still in use amongst the Arabs.—*Prinsep; Elphinstone; As. Res.* v. 285, ix. 100; *History of the Panjab*, i. p. 55; *Prideaux's Connection of the Old and New Testament; Mignan's Travels*, p. 4.

SELJUK, a Turkoman race, who ruled in Iran A.D. 1037 to 1175; also in Kerman, A.D. 1041 to 1169, and in Rum or Anatolia, the capital of Iconium, A.D. 1077 to 1283. The Seljuk Turks were once masters of nearly all Asia Minor, of Syria, of Mesopotamia, Armenia, part of Persia and Western Turkestan; and their great sultans, Togrul Beg, Alp Arslan, and Malik Shah, are among the most renowned conquerors that stand forth in oriental and in Byzantine history. Long settled in Persia, they adopted the colloquial dialect, and brought it with them on their expul-

sion by the Kharazmian kings, whose unremitting enmity forced vast hordes of them to fly from Persia, after they had been colonized there for many years.

The death of Mahmud, which occurred A.D. 1228, was followed by a period of anarchy, during which Togrul Beg, in the beginning of the 5th century of the Hijira, appeared in Khorasan, and in the short space of ten years wrested that kingdom from the house of Ghazni. It was ceded to Alp Arslan, and constituted a part of the Seljuk dominions until the extinction of that race, about 150 years posterior to Togrul Beg having assumed the title of emperor. By the middle of the 13th century, Ertogrul appeared on the battlefield in Asia Minor, and his more renowned son, Othman, is regarded as the founder of the Ottoman empire.

SELUNG, Salong, or Selones, occupy the islands of the Mergui Archipelago, to the south of Tavoy. They are fishers for the sea slug, Holothuria; reside in their boats, which are good; are decently clad and intelligent; and are inclined to settle in villages and cultivate. They dig up the slug at the low water of spring-tides during the N.E. monsoon. They are supposed by some to be descendants of slaves from the Malay Peninsula.

SELYA, in the south of India, is a sheet or body covering in use amongst the poorer classes, cultivators and labourers, wrapped round their shoulders and body when employed in the fields. Its usual cost is about 1½ to 1¾ rupees. In Dharwar one is always presented to the bridegroom by relations of the bride, together with a turband.

SEM, the ancestor of the Semitic race, dwelt in Arphaxad, the primeval land of the Kasdim or Chaldees, the frontier mountains of Armenia towards Assyria. Of the four branches of this Semitic race,—Elam, Assur, Lud, and Aram,—Helam or Elam, the Elymæi, formed the stem of the Babylonian empire, east of the Tigris, in Susiana (South Babylonia); Assur was the stem of the empire of Ninus on the Upper Tigris; Lud, the Lydi, were the original inhabitants of Asia Minor, Pontus, and Cappadocia, as far as the Halys, where the Lydians of history were seated. Aram, the original highlands S.W. of Armenia (Ar Minn), the country between the sources of the Euphrates and Tigris, Mesopotamia proper, is Aram-Nahrain, and Aram became the latest name for Syria. The Aram race branched into Uz or Huz, which is Nejid or North Arabia. It was to Ur of the Chaldees that Nahor went. His son Terah left it and went to Haran (Karra), a day's journey south of Edessa. According to Bunsen, the Semitic race invented theogony for other peoples, and especially for the Hellenes; and the Hebrews abandoned all mythological religion in the time of the patriarch Abraham.—*Bunsen*, iii., v. pp. 71, 365.

SEMANG is a Malay word, applied by the Muhammadans of Kedah, Perak, Tringanu, and Salangore to the pagan tribes of the interior. The Paya reside on the plains or borders of morasses; the Semang Bukit on the hills; the Semang Bakow frequent the sea-shore, and occasionally in the mangrove jungles; and the Semang Bila have been somewhat reclaimed from their savage habits. According to Mr. Earl, the Semang are a woolly-haired race, and a mere remnant of tribes which, according to native tradition, occupied a considerable portion of the interior of the Peninsula at a comparatively recent period. At the present time the race is only known to exist on the mountain Jerei in the Kedah territory, a little to the north of Penang, in the neighbourhood of the mountain range which lies immediately opposite to the latter settlement, and in the uplands of Tringanu, on the east coast of the Peninsula. The Sakai and Allas tribes of Perak have hitherto been classed with the Semang, or woolly-haired race of the neighbourhood of Penang, have curly but not woolly hair, and they retain the Papuan custom of boring the septum of the nose, and also mark their skins with cicatrices, but their language and leading characteristics would show them to be wild tribes of the Malayan race. The Semang, however, who are identical in every particular with the Pangan of the interior of Tringanu, are Papuans in all their purity, with woolly and tufted hair in every respect similar to other unmixed tribes of the race. The Semang of Kedah have been described by Mr. Anderson in the fourth number of the Journal of the Indian Archipelago. Of the origin of the Semang race, the Malays possess no tradition. Certain it is, however, that the tribes of th which inhabited various parts on both sides the Peninsula were much more numerous bef many of the present Malayan colonies were foun by emigrants from Sumatra. A similar race people are said to have formerly inhabited all islands of the Archipelago, and nations and re nants of them, under the names Aheta, A Negrito, and Papua, occupy, or are still to found on, many of them.

In the remoter portions of Asianesia, som the black tribes possess all the traits of Guinea Negro, but the Semang and the Mincop the Andamans appear, like the greater numbe the Asianesian Negro tribes, to have been parti modified by mixture with other races. This certainly the case with the Semang, some whom are Australo-Tamilian in appearance, w others differ little, save in their frizzled or sp hair and dark complexion, from some of adjacent Binua.

The average height of the adults of a pa of Semang Bukit on the Ijan, a feeder of Krian, was 4 feet 8 inches, the highest 4 feet inches. Head small, ridged, that is, rising abo the forehead in an obtuse wedge shape, the ba rounded and markedly narrower than the zyg matic or middle zone; the face generally narro and smaller than the Malay; eyebrows v prominent, standing out from the forehead projecting over the ocular furrow, which ext across the face, the root of the nose sinking it and forming a deep angle with the base of superciliary ridge. The nose short and some sharp at the point, and often turned up, the alæ spreading. Eyes fine, middle-sized, straight; iris large, piercing; conjunctive membrane yellow; the upper eyelashes, owing to the deep ocular depression or prominent ridges, are compressed or folded, the roots of the hair being hidden. The cheek-bones generally broad, but in some cases not remarkably prominent, save with reference to the narrow forehead. Mouth large or wide, but lips not thick or projecting; the lower part of the face oval or round, but not square. The deep depression at the eyes and

sinking in at the root of the nose give a very remarkable character to the head, compared with the Malay. The projecting brow is in a vertical line [illegible] the nose, mouth, and chin, and the upper [illegible]s not projecting or prognathous. The person [illegible]nder, the belly protuberant, owing to their [illegible]mal life in the jungle and precarious food. This induces them to cram themselves whenever they can, and the skin of the abdomen thus becomes flaccid and expansible like that of an ape. The skin generally is fine and soft, although often disfigured by scurf; and the colour is a dark brown, but in some cases lighter and approaching to the Malay. The more exposed hordes are black. The Semang of Tringanu are not of such a jet-black, glossy colour as the Kedah tribe. The hair is spiral, not woolly, and grows thickly on the head in tufts. They have thick moustaches, the growth being much stronger than in the Malay race. The head is neither Mongolian, nor Negro of the Guinea type; it is Papua-Tamilian. The expression of the face is mild, simple, and stupid. The voice is soft, low, nasal, and hollow or cerebral. A line of tattooing extends from the forehead to the cheek-bones. The adjacent Binua also tattoo. The practice is Indian, among the Konds, higher Abor tribes, etc., also Ultra-Indian and Asianesian. The right ear is pierced, the orifice being large. The hair is cropped, save a ring or fringe round the forehead. The Semang of Perak resembles those of Kedah in personal appearance, but speak a different dialect. They [illegible]sess the same curling black hair, are a little [illegible]ker in colour, and have not the thick lips of African.

The Semang eat elephants, rhinoceros, monkeys, [illegible]d rats. They are very expert with the sumpitan, a blow-pipe for projecting small darts, and poison the darts with ipoh, procured from the juices of various trees. It is seldom they suffer by beasts of prey, as they are extremely sharp-sighted, and as agile in ascending the trees as the monkeys. Elephants descend a hill usually at a slow pace, plucking the branches as they move along, and while the hind legs are lifted up, the Semang, cautiously approaching behind, drives a sharp-pointed bamboo or a piece of nibong, which has been previously well hardened in the fire and [illegible]touched with poison, into the sole of the elephant's [illegible]foot with all his force, which effectually lames the [illegible]mal, and most commonly causes him to fall, when the whole party rush upon him with spears and sharp-pointed sticks, and soon despatch him. 'Badak tapa,' the recluse rhinoceros, towards the close of the rainy season, are said to bury themselves in the marsh, and upon the dry weather setting in, the mud becomes hard and crusted, and the rhinoceros cannot effect its escape without considerable difficulty and exertion. The Semang prepare themselves with large quantities of combustible materials, with which they quietly approach the animal, who is aroused from his reverie by an immense fire over him, which being kept well supplied by the Semang with fresh fuel, soon completes his destruction, and renders him in a fit state to make a meal of. The projecting horn on the snout is carefully preserved, being supposed to be possessed of medicinal properties, and highly prized by the Malays, to whom they barter it for their tobacco, etc.—*Logan, Jour. Ind. Archipelago*, iv. p. 427; *Earl's Indian Archipelago; Newbold's British Settlement*, ii. pp. 369, 370.

SEMAO, also called Savu, an island, 15 miles long, fronting the south-west end of Timor. The village of Oeassa is remarkable for its soap springs, one of which in the village rises like a small volcano. The water contains alkali and iodine. The natives of this Semao Island have been named by Mr. Crawfurd the Negro-Malayan race. The people are like those of Timor, with frizzly or wavy hair, and a coppery-brown colour. Semao Island has abundance of monkeys; one of them is the Macacus cynomolgus, or hare-lipped monkey, which is found all over the western islands of the Archipelago.—*Bikmore*, p. 116; *Wallace*, p. 186.

SEMECARPUS, a genus of plants of the S.E. of Asia, of the sub-order Anacardieæ of the order Anacardiaceæ. The genus Semecarpus comprises moderate-sized or large trees, and many furnish wood and other useful products. S. acuminata, *Wall.*, *Thw.*, is a middle-sized tree in the forests of the Ratnapura, Galle, and Ambagamowa districts of Ceylon at no great elevation, and it grows also in Chittagong. S. cassuvium, *Roxb.*, the Cassuvium sylvestre of Rumphius, is a tree of the Moluccas, where its tender leaves are eaten, and the acrid juice of its stem is employed to varnish shields, canes, etc. S. coriacea, *Thw.*, is a moderate-sized tree of the Central Province of Ceylon, at an elevation of 5000 to 7000 feet. S. Gardneri, *Thw.* (Badulla-gass, SINGH.), is a moderate-sized tree, very common in the Central Province of Ceylon up to an elevation of 3000 feet. S. humilis, *Wall.*, occurs at Prome. S. Moonii, *Thw.*, is a moderate-sized tree of Ceylon, in the south of the island, at no great elevation. S. nigro-viridis, *Thw.*, is a moderate-sized tree in the Central Province of Ceylon, at an elevation of 2000 to 4000 feet. S. odoratus, *Wall.*, in the Royal Garden, Ceylon. The S. oblongifolia, *Thw.*, called Badulla-gass, SINGH., is a moderate-sized tree, common in the hot, drier parts of the island of Ceylon up to an elevation of 3000 feet. S. obovata, *Moon*, is a moderate-sized tree of Ceylon, growing at Caltura, and near Ratnapura. S. obscura, *Thw.*, a moderate-sized tree, growing at Deltotte, in the Central Province of Ceylon, at an elevation of 3000 feet. S. parvifolia, *Thw.* (Hin-badulla-gass, SINGH.), is a small-sized tree of Ceylon, in the Hinidun Corle, in the Galle district. S. pubescens, *Thw.*, is a small-sized tree of the Ratnapura district in Ceylon, at no great elevation. S. subpeltata, *Thw.* (Maha-badulla-gass, SINGH.), is a large tree of Ceylon, 30 to 40 feet high, in the Singhe-raja and other forests between Ratnapura and Galle.—*Roxb.*; *Thw.*; *Voigt.*

SEMECARPUS ANACARDIUM. *Linn.*

A. latifolium, *Lam.*		A. officinarum, *Gært.*	
Beladur,	ARAB.	Bhalataka,	SANSK.
Bhela,	BENG.	Kiri, Badulla,	SINGH.
Chai-bin, Khyæ,	BURM.	Shayng-cottay,	TAM.
Ghera mara, Gheru,	CAN.	Bhallatiki,	TEL.
Bhalawan,	DUKH.	Bhallatamu,	,,
Marking nut tree,	ENG.	Jidi chettu,	,,
Bibua,	MAHR.	Tummeda mamidi,	,,
Kampira,	MALEAL.	Bhalleah,	URIYA.
Arushkara,	SANSK.		

This small tree is common throughout British India, Ceylon, and Burma. As an ornamental tree, either in full foliage or before the fall of the leaf, it merits observation.

The acrid and vesicating oil found between the two laminæ of the pericarp of the marking nut, is collected and used as a preventive against the attacks of white ants, and by native practitioners in rheumatic and leprous affections. By boiling the whole nut not divested of its pericarp, an oil is obtained which acts as a blister. The preparation or collection either of the oil or acrid juice is liable to cause much irritation and inflammation of the hands, face, etc., of those engaged in the work. The nuts are black, shining, and flattened on both sides.

The acrid viscid oil which the nut contains, when used as an escharotic and counter-irritant, creates great pain, leaves often very intractable sores, and a mark for life. It is given in medicine in small doses, and is considered a stimulant and narcotic; is much used in the mesalih of elephants; given in large doses, it renders these animals furious; is considered good in venereal diseases, especially of women. The farina of the anthers of the flowers is very narcotic and irritating; people of a peculiar habit accidentally sleeping under the tree when in blossom, or even going near the flowers, are stupefied, and have their faces and limbs swollen, and the use of the bhalawan nut as a counter-irritant very frequently causes the whole body and face to swell with erythematous inflammation and much constitutional disturbance. The mature corolla and the receptacle are fleshy and sweetish sour, and are eaten roasted or boiled as a vegetable, and are deemed, along with cocoanut and chironji, aphrodisiac. The bhalawan nut is worn on the arm as a charm in guinea-worm.

The acrid, black, resinous juice of the nut is employed by the natives externally to remove rheumatic pains, aches, and sprains, by rubbing a little over the affected part. It is also universally used for marking cotton cloth, whence its name of marking nut, the colour being improved and prevented from running by being mixed with lime-water. The green fruit, well pounded, makes good bird-lime; the fleshy receptacle below the nut is sometimes roasted and eaten, and the kernels are also occasionally eaten. A brown-coloured, tasteless gum exudes from the bark.—*Gen. Med. Top.* p. 127; *Beddome, Fl. Sylv.*

SEMECARPUS TRAVANCORICA. *Bedd.* Natu shengote, TAM. This is a very large tree, and, on account of its shining, dark-green foliage, exceedingly handsome; it is very common in the moist forests on the Tinnevelly and Travancore mountains (elevation 1000 to 3000 feet); it abounds with the same caustic, black juice as S. anacardium; it flowers in August and September, and ripens its fruit in the cold season. Another tree of the Travancore Hills is S. auriculata, *Bedd.*—*Beddome, Fl. Sylv.*

SEMEN CONTRA. Sahibi, HIND. The undeveloped calices of Artemisia Judaica, a much-esteemed anthelmintic, especially in the round and long worm of children (Lumbricus teres). The action is heating and stimulant; dose 10 grs. to half a drachm finely powdered, in electuary with honey, or diffused through milk, and taken when the stomach is empty. In infusion or decoction the bitterness is quite disgusting; cathartics should either follow or accompany its use. The use of moxa, or of actual fire, to the surface of the body, is a favourite practice in all savage and even half-civilised nations. In China, the dow of the Artemisia Chinensis is set on fire, and th burning end applied directly to the part. *I India, a red-hot gul or hookah pastille is usu employed. In Italy a small flame of hyd has been lately tried; and in Germany it common practice to place a particle of phospho on the skin, and then ignite it. The object in a* is to effect counter-irritation, and the usual cases in which it is applied are chronic rheumatism, sciatica, neuralgia, deep-seated diseases of the bones, cartilages, or ligaments. In India, guls are used by the native empirics for almost all diseases, especially for enlargements of the spleen and liver.—*O'Sh.* p. 417.

SEMIRAMIS, a great Assyrian queen, wife of Ninus, who extended her conquests into Bactria, which is now represented by the modern Balkh. Semiramis marched on India B.C. 1230. She fitted out her armament in Bactria. She captured on the Kophen (the Kābul river, the Kubha of the Rig Veda) the city of the same name, but was opposed by Jarasandha of Bagadha, the Barhsatide. Semiramis crossed the Indus with a great strength, but Jarasandha, with a formidable force of archers and elephants, drove back the Assyrians in total disorder to the river, which they re-crossed with immense loss. Semiramis herself wounded; she concluded an armistice, and retreated into Bactria with a third of the army she had brought against India. Semiramis was said to have been changed into a dove; she was afterwards worshipped as a dove. The Roman Juno and Chaldæan D'une were derived from one and the same original, this famed queen. Mr. Maurice thinks that Ninus and Semiramis are Vishnu and Siva. Ctesias and Isadore mention a statue and pillar of Semiramis at Baptane; but the sculptures of Semiramis and the inscription in the Syriac character have wholly disappeared. Baghistan is traditionally described as the pleasure-grounds of the queen. The possibility has been surmised of another queen of this name in the 9th century B.C. She is known in India as Sami-Devi. Others point to Sami Rami, suppose it to be the title Zamorin of Calicut.—*Bunsen*, iv. 417; *Sonnerat's Voyages*, p.

SEMITIC LANGUAGES. Hebrew, Chaldaic, Syriac, Arabic, Ethiopic, and Amharic are all found dialects of one original language, and constitute one family of speech, the Semitic. The following nations form a compact mass, and represent one physiologically and historically connected family, viz. the *Hebrews*, with the other tribes of Canaan or Palestine, inclusive of the Phœnicians, who spread their language, through their colonization, as that of the Carthaginians; the *Aramaic* tribes, or the historical nations of Aram, Syria, Mesopotamia, and Babylonia, speaking Syrian in the west, and the so-called Chaldaic in the east; finally, the *Arabians*, whose language is connected (through the Himyaritic) with the Ethiopic, the ancient (now the sacred) language of Abyssinia. The language spoken by Abraham when he left Mesopotamia closely resembled the Hebrew, and his own name was Semitic. Moreover, a dialect of the same tongue is still spoken by the Kaldi (Chaldæans) of Kurdistan, who, there is good reason to suppose, are the descendants of the ancient Assyrians. The common origin of their languages, is, however, the only connecting bond

which unites the widely-separated Semitic nations, —Hebrews, Babylonians, Phœnicians, Carthaginians, and Arabs. The Arab, the Hebrew, and the Palestine descendants of Terah were nomade tribes. The Phœnician, the Syrian, and the people of Mesopotamia and Yemen formed civilised nationalities. In Semitic words the root remains always distinct and unmistakeable. In Aryan, on the contrary, it soon becomes altered and disguised. Hence Semitic dictionaries are mostly arranged according to the roots, a method which in Aryan languages would be most inconvenient, the root being often obscure, and in many cases doubtful. The *Amharic*, as also the Hebrew and Syriac, is derived from the Western Aramoi. Eichhorn adopted the term Semitic from Shem; the language is the oriental language of some author, the Syro-Arabian of Farrer, and the Arabic of Leibnitz.

The Semitic family of languages is divided by Professor Max Muller into three branches,—the Aramaic, the Hebraic, and the Arabic. The Aramaic occupies the north, including Syria, Mesopotamia, and part of the ancient kingdoms of Babylonia and Assyria. It is known to us chiefly in two dialects, the Syriac and Chaldee. The former name is given to the language which has been preserved to us in a translation of the Bible (the Peshito) ascribed to the 2d century, and in rich Christian literature dating from the fourth. It is still spoken, though in a very corrupt form, by the Nestorians of Kurdistan, near the lakes of Van and Urumia, and by some Christian tribes in Mesopotamia; and an attempt has been made by the American missionaries stationed at Urmia to restore this dialect to some grammatical correctness by publishing translations and a grammar of what they call the Neo-Syriac language. The name of Chaldee has been given to the language adopted by the Jews during the Babylonian captivity. Though the Jews always retained a knowledge of their sacred language, they soon began to adopt the dialect of their conquerors, not for conversation only, but also for literary composition. The book of Ezra contains fragments in Chaldee, contemporaneous with the cuneiform inscriptions of Darius and Xerxes, and several of the apocryphal books, though preserved to us in Greek only, were most likely composed originally in Chaldee, and not in Hebrew. The so-called Targums, again, or translations and paraphrases of the Old Testament, written during the centuries immediately preceding and following the Christian era, give us another specimen of the Aramaic, or the language of Babylonia, as transplanted to Palestine. This Aramaic was the dialect spoken by the Lord Jesus Christ and his disciples. The few authentic words preserved in the New Testament as spoken by our Lord in his own language, such as Talitha-kumi, Maranatha, Abba, are not in Hebrew, but in the Chaldee or Aramaic, as then spoken by the Jews.

The second branch of the Semitic family is the *Hebraic*, with which is connected the Carthaginian, Phœnician, and Arabic. This third or *Arabic* branch sprang from the Arabian peninsula, where it is still spoken by a compact mass of aboriginal inhabitants. Its most ancient documents are the Himyaritic inscriptions. In very early times the Arabic branch was transplanted to Africa, where, south of Egypt and Nubia, on the coast opposite Yemen, an ancient Semitic dialect has maintained itself to the present day. This is the Ethiopic or Abyssinian, or, as it is called by the people themselves, the *Gees* language. Though no longer spoken in its purity by the people of Habesh, it is still preserved in their sacred writings, translations of the Bible, and similar works, which date from the 3d and 4th centuries. The modern language of Abyssinia is called *Amharic*. These three branches, the Aramaic, the Hebraic, and Arabic are closely related to each other. Besides these, Egyptian, Babylonian, Assyrian, and the Berber dialects are now considered to have a Semitic character, by Champollion, Bunsen (Egyptian), Lassen, Eugene Bornouf, Dr. Hincks, Sir H. Rawlinson (Assyrian), and Professor F. Newman (Berber). Their language in one form was that of the Judaic portion of Christianity in the Old Testament, the Talmud, and the Syrian fathers. In another form it was that of the Koran or Muhammadanism. It was the language of the earliest alphabet of Phœnicia and the Punic colonies. It fell into the Aramæan, the Arabic, and the Ethiopic divisions. The Aramæan contained the Hebrew, the Samaritan, and the Syriac of Edessa, Palmyra, Damascus, and other important cities, and the people who spoke it were enterprising merchants, bold mariners, and monotheist priests.

The Arabic language, written in the Koran, is the most developed and richest of the Semitic tongues. It is not now spoken in any part of Arabia, as there written. Probably it never was so, any more than the Latin, the English, the German, or Italian have ever been spoken as written in their respective bounds; and Burton quotes from the Arabic Grammar of Clodius that the dialectus Arabum vulgaris tantum differt ab erudita, quantum Isocrates dictio ab hodierna lingua Græca. Indeed, the Arabs themselves divide their spoken and even written language in two orders, the 'Kalam Wati,' or vulgar tongue, sometimes employed in epistolary correspondence; and the 'Nahwi,' or grammatical or classical language. Every man of education uses the former, and can use the latter. And the Koran is no more a model of Arabic (as it is often assumed to be) than Paradise Lost is of English. Inimitable, no man imitates them.

Terah, the father of Abraham, served other gods. But in the book of Job, it is God who can number the clouds in wisdom, who can stay the bottles of heaven (xxxviii. 37), who hath divided a water-course for the overflowing of waters, and a way for the lightning of thunder (25), who hath begotten the drops of dew (28); and in Proverbs (xxx. 4), who hath bound the waters in a garment, who hath established all the ends of the earth. Abraham, indeed, was inspired with a knowledge of the one true God, but his family had images, the teraphim which Rachel stole from her father Laban (Genesis xxxi. 17–35); and when Jacob fled from Esau into Padan-aram, and dreamed the dream at Bethel, he evidently had belief in many gods, for he endeavoured to make a bargain with the deity, saying, 'If God will be with me, and will keep me in this way that I go, and will give me bread to eat, and raiment to put on, so that I come again to my father's house in peace, then shall the Lord be my God' (Genesis xxviii. 20, 21). Such expressions show a belief that there were other gods,

one of whom might be Jacob's own protector. The same principle is invoked in the commandment later proclaimed by Moses to have none other gods but the Lord God; and even more lately Joshua has to urge the people to put away strange gods (xxiv. 15–23), to put away the gods which their fathers served on the other side of the flood. 'Choose ye this day,' he says, 'whom ye will serve; whether the gods which your fathers served on the other side of the flood, or the gods of the Amorites, amongst whom ye dwell: but as for me and my house, we will serve the Lord.' Later still, the Psalmist says (lxxxvi. 8), 'Amongst the gods there is none like unto thee, O Lord; neither are there any works like unto thy works.'

The early Arab religion was Sabæanism, a worship of the heavenly bodies, mixed with idolatry; but with Mahomed commenced the Arab conquests, the creed, science, and literature. At present the Arabic alphabet is in use amongst the Turks, Persians, Malays, some of the people of India and Africa. It was, however, of Syrian origin. The Arab family is Muhammadan, except the Christian Arabs of Malta.—*Max Muller, Sanskrit Literature; Langues Semitiques, par Ernest Renan*, 1858; *Peuples Semitiques, par E. Renan*, 1859; *Wellsted's Tr.; Walk through Algiers; Fontanier; Latham; Bunsen's Egypt; Burton's Mecca*, p. 41; *Pelly; Rawlinson*, i. p. 36; *Sale's Koran*, p. [illegible]; *Lubbock's Origin [illegible]; Muller's Lectures*, p. 263; *Mignan's Travels; Die Abstammung der Chaldaer, Prof. Eb. Schrader; Semitische Culturentlehung, Dr. A. von Kremer; Della Sida Primitiva, Prof. Ignazio Guidi.*

SEMITIC RACES. The subject of the primeval country of the Semitic races and of their languages has engaged the pens of Bunsen, Professor Ignazio Guidi, Dr. Fritz Hommel, Dr. A. von Kremer, Professor Max Muller, M. E. Renan, Professor Sayce, Professor Eberhard Schrader, Professor Spiegel. The Semitic populations in Asia are the Arabians, Syrians, Samaritans, with about ten millions in British India; in Africa, Abyssinians of Tigre and Amhara, Agow, Falasha, Gafat. During the last 3000 years, conquest and commerce, but chiefly the former, has greatly diffused this race. In various inroads, the Arab Semites have gone northward and eastward into Persia, India, and China, and smaller parties are to be found located in Burma, in Malaya, the Archipelago, and Polynesia. Many of them have likewise conquered and migrated westerly along the north of Africa and into Europe, where, as in Spain, they ruled for 700 years, but were again driven back into Africa. They are now found in Africa, as fetish-worshippers, Christians, Muhammadans, and Jews.

Abyssinia is Christian, being acquainted with the chief truths of the Bible, but all much blended with merely human notions. The latest polemics there have been as to the two or three births of Christ,—born of the Father before all worlds, made man, and in the baptism at Jordan receiving the Holy Spirit. As regards the two natures of Christ, they are extreme monophysists. Monogamy is their church law, but concubinage is universal.

The *Adal*, also said to be a Semitic race, are tribes on the west of the Red Sea, who call themselves Afer, but by the Arabs they are called Danakil, from their chief tribe Ad Alli. Dr. Krapf is of opinion that this Afer is the Ophir of Scripture. He thinks that Ophir, in Job xxviii. 16, simply means gold dust.

The *Galla* race, inhabiting Shoa, and one of the finest in Africa, are strong, well-limbed, and of a dark-brown colour, living in a beautiful country, extending from lat. 3° S. to 8° N., with a climate not surpassed by that of Italy or Greece. Speaking a language as soft and musical as pure Tuscan, cultivating the soil, and rearing cattle. They are from 6 to 8 millions in numbers. Their religion, like that of all African savages, is fetish. They acknowledge a supreme being, whom they call heaven (Mulungu), and have a notion of a future state. There seem to be three natures or attributes in their deity,—Wak or Waka, Supreme; Ogli, a masculine, and Ateti, a feminine embodiment. They have two holy days,—Saturday, which they call Saubatta kenna, or little Sabbath; and Sunday, Saubata gudda, or greater Sabbath.

The *Kabila*, south of Algiers, are Berbers, the old Numidians, and differ in language, form, and habit of mind from the Arabs of the plains, being matter of fact in mind, and but little gifted with the glowing imagination of the Arab. The unsubdued portion dwell in the mountainous tract, with bare precipitous peaks, to the south of the Little Atlas and of Algiers. They are spare but robust; and of smaller stature than the nomade, for the Kabila are dwellers in houses or huts (hence their name), are laborious tillers of the soil, and handicraftsmen clever in winning metals from their hills, and even in forging arms. They are wonderful horsemen, and terrible in a fray as in the days of Sallust, and are always at war with the Arabs. The slopes and valleys of their mountain country are all rich, cultivated land, covered with olive trees and corn-fields, and the rocks are said to contain minerals. Their number is about 700,000, possessing some millions of acres of the very best land of Africa, watered by three rivers, and teeming with rich harvests. They approach to within 120 miles of Algiers, which they separate from Constantine. They are a federal republic, and elect their own chiefs. They are the old Quinquegentes, who gave so much trouble to the Romans, who tried the soldiership of Maximinian, and sixty years afterwards again revolted. Tu ferocissimos Mauritaniæ populos, inaccesis montium jugisset, naturali munitione fidentes, expugnasti, recepisti, transtultisti. By Maximinian's system of transtultsi these five nations were reduced to four. The Kabile have feuds amongst themselves.

The Tonareng is a nomade race, dwelling in the Great Desert, very fair, with long hair, aquiline noses, high foreheads, and thin lips. They say prayers in Arabic, and speak a Semitic tongue. Their arms consist of a long lance with a broad head, javelins 6 or 7 feet long, jagged hooks at the pointed end, a round buckler (Darega) of buffalo or elephant hide from Soudan, a poniard, and a broad-bladed scimitar.

If we proceed west to *Morocco*, we find its entire population, computed at 8 millions, to consist of—

Berber,	2,300,000	Jews,	340,000
Shellok,	1,450,000	Negro and Abd,	120,000
Moor,	3,550,000	Christian,	300
Arab,	740,000	Renegades,	200

The *Berber* and *Shellok* are untamed, fighting

tribes dwelling in the mountains. When possible, rovers of the sea, claiming fanciful origins, but impatient of any subjection. They are the same race whom the French call Kabyle and Zouave.

The *Moors* are lowlanders, traders, and dwellers in cities. They are little idle men, who grow fat from indolence; avaricious, perfidious, cowardly, cringing, and insolent. They are said to be descendants of the Carthaginians.

The *Arabs* of Morocco are the Moors of Spain, the Saracens of France, tall, graceful sons of the Arabian desert, courteous, brave, hospitable, and confiding, descendants of the conquerors who in the first ages of the Hijira propagated the religion of Mahomed, crossed the Straits of Gibraltar, destroyed the Gothic chivalry, reigned in Spain for 700 years, invaded France, devastated Italy, and pillaged the suburbs of imperial Rome. When the last Arab king submitted to Ferdinand and Isabella, and the Moorish palaces of Grenada were surrendered to the Christians, the old conquerors went back to Africa and resumed their nomade life. In Tripoli, the Arab has monopolized the country. In Tunis, the native re-appears in a smaller proportion, and in Morocco he is very scarce.

The *Jews* of Morocco are partly urban, partly mountaineers, the latter dating their arrival prior to the nativity. They live in friendship with the Berber, but at hostility with another strange race, who declare themselves descendants of those Philistines whom Joshua drove out of Syria, and who found a refuge in this remote portion of Africa.

The *Rifs*, dwellers of Kalhiya (Cape Tres Forcas), were formerly much engaged in piratical expeditions, which were put down by Muli Abdur Rahman in 1817. Er Rif means shore or bank (Ripa, Pont.), and so long ago as Leo the African was used to designate all the sea-coast between Tetuan and Melilla. It is the country of the chain of the Atlas, and is about 200 to 300 miles long. The word is synonymous with the Arabic Sahila. Thus the inhabitants of the Algerine coast are called Sahali (plural Suahili); those of Morocco Rifi.

The *Arabs* are spread from Syria to the Indian Ocean, and eastwards into the Archipelago. In Arabia, they are chiefly in tribes, and those who occupy the country around Jerusalem are the Anazeh, Shammar, Mowali, and Salhan.

The *Assir* tribe occupy between Mecca and Medina. They have six Kabyla,—Bin-ul-Asmar, Bin-ul-Akhmar, Charaan, Assir, Roufeida, and Abida—and muster about 44,500 fighting men.

The *Cha'ab Arabs* occupy the lower part of Mesopotamia. They are a tall, martial race, strong-limbed and muscular, active and healthy.

It is necessary, when considering the Arabs, to distinguish between a series of grades towards civilisation, in which they may at present be found.

The *Bedouin* is wandering, pastoral, tent-loving, disdaining to trade, yet avaricious, and willing to sell his ghi, his mutton, or his horse, and always found in wide and open wastes, unpressed upon by adequate exterior power. Yet even the Bedouin bends to circumstances. He accepts the region allotted for his pasture-grounds. Plunder has its laws, and vengeance its chivalry. If he will not trade, he still has wants, and suffers the presence of a Jew or Salebah, as the Afghan suffers that of the Hindu. A little higher in the scale, as with the Cha'ab, is the original wandering pastoral Arab, in a district where he is pressed upon from without, and where boundless plunder and roaming are restrained by exterior force. The Arab then partly turns to agriculture, and for this he must in some degree settle. Society harmonizes to this level. Trade is possible; corn is sold; the abba cloaks are woven and exported; dates are planted. Huts of reeds replace tents; and one sees in their feeble efforts at reed-ornamentation, and in their rough twisting of their reed-rope for their bunds, the possible germ of some architectural efforts. Yet higher in the scale is the Arab flourishing as an experienced and wealthy merchant in a town, or administering a well-ordered and comfortable rural district. Passing among these people, society is seen in its transitional state towards civilisation.

The present *Arabians*, according to their own historians, are sprung from two stocks,—Kahtan, the same with Joktan or Yoktan of the Bible, the son of Eber, whose descendants occupy the south; and Adnan, descended in a direct line from Ishmael, the son of Abraham and Hagar, who occupy the north. Yoktan, according to Ch. Bunsen, was one of the two sons of Nimrud, and was the chief of the first Arabian emigration that proceeded southwards. Tradition points to the mountains of [redacted] as the birthplace of the Arab and Canaanitish races. It is supposed that they travelled along the banks of the Tigris into [redacted]potamia, from which a portion of them commenced a great migration southwards, the result of which was the foundation of the primeval kingdoms of Southern Arabia, the kingdoms of the Adites in Yemen, who believe that they came from the sacred North, and once lived in a glorious garden of the earth which they are to restore.

It has not been unusual to describe the Semites as essentially monotheistic, but their tribes and nations were worshippers of El, Elohim, Jehovah, Sabaoth, Moloch, Nisroch, Rimmon, Nebo, Dagon, Ashtaroth, Baal or Baal-peor, Baal-zebub, Chemosh, Milcom, Adra-Melek, Anna-Melek, Nibhaz, Tartak, Ashima, Nergal, Succoth-benoth, the sun, the moon, the planets, and all the host of heaven. Amongst the nomade branch, there seems early to have been a monotheistic belief, but the great bulk of the Hebrew nation continued to worship idols of their own manufacture; and the prophet, when ordered by inspiration to proceed to the wilderness of Damascus, was told that there were only in Israel 7000 people who believed in the one God. Some branches of the Semitic race, ignorant of science theocratic, have devoted themselves to the expression of religious instincts and intuitions,—in one word, to the establishment of monotheism. The doctrine of a future life and retribution, which in one form or other was inwoven with the religious ideas of Egypt, appears to have been unknown to the Semitic nations. The Assyrians were Semites. The names of the Assyrian gods, as Baal or Belus (the supreme deity amongst many of the Semitic races), Nisroch and Mylitta (known by a nearly similar name to the Arabians), of members of the family of the king, such as Adra-Melek (son of Sennacherib), and of many of the principal officers of state mentioned in Scripture, such as Rabsaris, the chief of the eunuchs, and Rabshakeh, the chief of the cup-bearers, are

purely Semitic. Phœnicians, Carthaginians, Syrians, Assyrians have presented forms of worship as gross and sensuous as those of Greece or India. Until the return of the Jews from Babylon, the people generally were ever prone to fall into a worship of gods many and lords many, like the nations around them, which the few thinking minds amongst them could not prevent. Their entire history shows that the people fell into the lower forms of thought and speech, their very worship of Jehovah became polytheistic, even fetish in its nature, and it was in protest against this that their lawgivers, prophets, and psalmists spoke; and when Mahomed appeared with a monotheism the most rigorous and exclusive that the world had witnessed, he was one of a Semitic race who were polytheists and fetish-worshippers. The Jews' belief had as a basis, not monotheism, the belief in a deity numerically one, but in a living God, the Father and the King of men. But when Mahomed proclaimed that the Lord was One, he did so as reviving the faith of Abraham, who derived his knowledge through a special revelation of God.—*E. H. Plumptre, Review of Max Muller's Science of Religion; Contemporary Review*, January 1868.

SEMNAI, a name by which Clemens of Alexandria designates the Buddhist nuns of his day. He mentions Buddhist pyramids, and the habit of depositing bones in [illegible] their practice of foretelling events; of their continence, and of the Buddhist Semnai or holy virgins, and he names their god Bouta. Porphyry tells us the Brahmans were born to their dignity, while the Semnai were elected. Cyril of Alexandria states that there were Samans in Bactria.

SEMOLINO. It. Semoule, Gruau, Fr.; Soojie, Hind. The fine, hard, inner part of wheat, rounded by attrition in the mill-stones, is used exclusively in India for making loaf-bread. It is imported into England from Italy. The best semolino is obtained from the wheat of the southern parts of Europe. In France the name of semolino is given to the large hard grains of wheat retained in the *bolting-machine* after the finer parts have been pressed through its meshes. Semola, It., is bran, but often employed by grocers and other vendors to designate semolino. See Farina; Soojie.

SEN, in Bengal, a patronymic of persons of the medical caste, as Ram Komal Sen, author of a Bengali and English dictionary.

SENA, a dynasty of kings who ruled in Eastern and Deltaic Bengal, and afterward in all Bengal, from A.D. 986 to 1142. They were of the Hindu faith. Adisur was the founder of the Sen dynasty; he brought from Kanouj five Sagnic Brahmans, of the tribes or gotra Sanhila, Kashyapa, Vatsa, Saverna, and Bharadwaja; also five Sudra families, Ghose, Bhose, Dutt, Guha, and Mittra, accompanied them, and these take the position of Kulin Kayasths. In the reign of Bullal Sen, about 284 years before the Muhammadan invasion, all these Kulin Brahmans and Kulin Sudras had greatly increased, and Bullal Sen ennobled these Brahmans by giving to them the title of Kulin, and though degenerated in learning they arrogated to themselves a position above all the Sapta-sali or prior Brahmans. The Kulin Brahmans subsequently consented to marry the daughters of the aboriginal Brahmans, who now eagerly seek alliances with the Kulin, and the Kulin have taken advantage of this, and have established a scale of premiums for condescending to accept a daughter of an inferior. They marry gold. Of the Kayasths who came from Kanouj, Bhose, Ghose, and Mittra were ennobled by Bullal Sen into Kulin Kayasths. Das, Day, Dutt, Guha, Kar, Paulit, Sen, and Sing hold a second rank. Kulin Brahman women are married with difficulty, and generally to aged men. In A.D. 1868, there were 11 Kulins in Hoogly and 1 in Bardwan, each of whom had contracted 50 to 80 marriages; 24 in Hoogly and 12 in Bardwan, who had contracted from 20 to 50 marriages; and 48 in Hoogly and 20 in Bardwan, who had contracted between 10 and 20 marriages. Kulinism is thus a great polygamic institution, and a few women have become prostitutes. In A.D. 1867, the abolition of this polygamy was contemplated, and will doubtless some day be carried out.—*Calcutta Review*, May 1868.

SENA, the barber disciple of Ramanand, founder of a separate sect; the Sena Panthi, an extinct Hindu sect of Vaishnavas. Sena was barber of the raja of Bandhagurh.—*As. Res.* xvi. p. 85.

SENA. Sansk. An army. Sena-pati and Sena-dhipati, general commanding, lord of the army.

SENAA, a town in the mountains in the S.W. part of Arabia. After the expulsion of the Turks in A.D 1630, the whole of Yemen came under the government of the Imams of Senaa; but at the time of Carsten Niebuhr's visit to Senaa in 1763, the native Arab tribes of the provinces of Aden, Abu Areesh, Taez, and others had thrown off allegiance to the Imams. In 1799, when the British Government took measures to oppose the expected invasion of India by the French, and to revive the lost trade of the Red Sea, Dr. Pringle obtained facilities for trade, but Sir Home Popham subsequently lost these. At the beginning of the 19th century, Imam Ali Mansur suffered severely at the hands of the Wahabee sect, who overran and wrested from him some of the best districts of his dominions. In 1816, Muhammad Ali Pasha, after he destroyed the Wahabee power, restored the districts to Imam Ali. In 1817, in consequence of a dispute in which an Arab had been temporarily detained at the factory at Mocha, the Residency was attacked and plundered, and a British officer was dragged before the Governor, by whom he was subjected to the most brutal insults. In 1840, a commercial treaty was concluded with the Governor of Mocha by Captain Moresby, similar to that concluded in the same year with the chief of Zaila. For some years the country of Senaa fell into absolute anarchy. In 1832, Mocha and all the sea-coast fell under the suzerainty of the Turks. It was afterwards recovered for a time, but again finally lost in 1848. Ali Mansur, who succeeded his father as Imam of Senaa in 1834, was deposed three years after. During the internal revolutions in Senaa and the desultory warfare with the Turks, the Imams repeatedly endeavoured to enlist the aid and advice of the British Government in their cause. A rigid abstinence, however, was maintained from all interference in their affairs.—*Playfair's Yemen; Papers in the Foreign Office; Treaties, Engagements, and Sunnuds.*

SENAN, a Sabæan physician, astronomer, and mathematician of the 10th century. His full name was Abu Said Senan.

SEND'HI. HIND. The tuft of hair or scalp-lock which Hindus leave at the top of their head. In Tamil it is called kurmi, and in Telugu, juttu.

SENDOBAD. This book was, like the Pancha Tantra, originally written in Sanskrit, from which it was translated into Persian, and thence into Arabic. From the Arabic it passed into Syriac, and from the latter arose a Greek version under the title of Syntipas. A Hebrew version, supposed to have been made from the Arabic, was translated into Latin by Dam Jehans, a monk, at the end of the 12th or beginning of the 13th century, and was named Historia Septem Sapientum Romæ. Of this last, various translations appeared in English, French, and other modern languages, under the titles of 'The Seven Wise Masters,' 'Dolopathos,' 'Eurastus,' etc.—*Des Longchamps Essai sur les Fables Indiennes.*

SENGAR-CHAORI. HIND. The nuptial hall, from the purpose to which it is applied. Sengar means ornament; Chaori is the term always applied to the place of nuptials.—*Tod's Rajasthan*, ii. p. 709.

SENG-MUNG, among the Abor an interchange of meat as food; on any engagement so cemented their action is inviolate.

SENJERO, a race of Eastern Central Af[illegible]. Like the old Romans, they elect their king [illegible] flight of birds, and choose the individual on wh[illegible] a vulture alights. They sell their women into slavery, and sacrifice their first-born to secure a propitious harvest.—*Krapf.*

SENNA, Cassia senna.

Sanai, Suna, . . ARAB.	Sunna-muki, GUJ., HIND.
Sana-pat, . . . BENG.	Senne, ... PORT.
Pwa-gœingiu-yet, . BURM.	Aleksandruskii, . RUS.
Sennes-blade, DAN., SW.	Butallapotaka, . SANSK.
Zene-bladen, . . DUT.	Sen, ... SP.
Sene, ... FR.	Nilaverei, ... TAM.
Sennablater, . . GER.	Nayla tungadu, . . TEL.
Senespflanze, . . ,,	Nila ponna, . . . ,,

The leaves of Cassia elongata, C. acutifolia, C. lanceolata, and C. obovata all agree in certain properties,—the odour of the leaves is heavy and peculiar, taste bitter, nauseous, and glutinous, powder yellowish-green, and all yield the purgative senna of commerce. At least eight varieties of senna leaf were known in commerce in Europe. —Senna palthe, Senna of Sennaar or Alexandria, of Tripoli, of Aleppo, of Mocha, of Senegambia, false or Arguel, and the Tinnevelly. The Senna palthe is known to have contained Cynanchum oleæfolium, and in this variety of the drug the poisonous leaves of Coriaria myrtifolia were found by M. Dublanc. The Mocha senna is common in all the bazars of India. The Tinnevelly drug is in species identical with the Mocha. Tinnevelly senna is that most esteemed by the profession, and is known by the size of the leaflets, which are much larger than those of any other variety; they are also less brittle and thinner, and are generally found in a very perfect state; while the other varieties, especially the Alexandrian, are more or less broken. Senna grown in the southern provinces of the Madras Presidency is highly esteemed in Britain, and is preferred by many to all other sorts, as being both cheaper and purer. Senna raised at Dapuri from Tinnevelly seed, has been found equal to the best Arabian senna. The picking of senna leaves in Gujerat of sowings in August, is made in September; and Dr. Burn states that the virtues of the leaf depend greatly on the time of the picking.

SENNACHERIB, king of Assyria, son of Sargon, ruled in Nineveh. He was coeval with the latter years of Hezekiah, and contemporary with Nabonassar. Sennacherib reigned B.C. 705, and was slain by his two sons B.C. 681. His chief wars were with Babylon, with the mountain races north of Elam, against the Chaldæans of Elam, with Hezekiah king of Judah, Lulia king of Tyre, overrunning all Palestine. He was worshipping in a temple when assassinated by his two sons, Adra-Melek and Sharezer.

SENSITIVE PLANTS. The best known is Mimosa pudica. A knock upon the ground at a short distance from the plant is sufficient to produce an influence on its leaves. Bichloride of mercury, sulphuric acid, caustic potash, etc., applied to the knots of the joints set the leaves in motion. The removal of the plant to a higher temperature, as well as exposing it to a lower temperature or a draught of cold air, produce the same result. They are destroyed by the application of chloroform and other anæsthetic agents. Its leaflets rapidly fold together and droop when touched, and its leaf-stalk, to its base, droops downwards. On the approach of evening, the foliage of this plant assumes [illegible] appearance. Besides M. [illegible]lica, the M. sensitiva, M. viva, M. casta, M. [illegible] M. quadrivalvis, M. Pernambucana, M. [illegible] humilis, M. peltata, M. dormiens, possess the same property, though not in so remarkable a degree. Species of other genera of the Leguminosæ exhibiting these movements are Smithia sinsitiva, Æschynomene Indica, Æ. pumila, and Desmanthus stolonifer. The locust tree, when its branches are roughly shaken, closes up its leaves, and the same has been observed of Gleditschia triacantha. Oxalis sensitiva, called by De Candolle, on account of its sensitive properties, Biophytum, has long been known to possess this property. Oxalis stricta, if hit smartly on a warm day, will contract its leaves and assume a position as in the ordinary sleep of the leaves of these plants; and the same movements occur in O. acetosella, O. corniculata, and many other species. The movements in these plants consist in the folding up of their leaves, so that the two halves of the leaf approach each other by their upper surface. The midrib is also slightly bent, so that its inferior surface presents a convexity; and the petioles of the leaflets bend downwards, so that the leaf, when irritated, becomes dependent. Averrhoa bilimbi and A. carambola fold their leaves on the application of a stimulus. The leaves of Dionœa muscipula or Venus fly-trap contract upon insects that may happen to alight upon their surface. The surface of their leaves is covered with long hairs, which secrete a viscous matter. When any insect settles upon the leaf, it is entangled with the viscous secretions, and before it has time to escape, the hairs exhibit a considerable degree of irritability, and, curving round, pin the animal down on the surface of the leaf. Other instances of vegetable irritability occur in the Berberis vulgaris, Mimulus, and Stylidium. In the Desmodium gyrans, one of the Fabaceæ called the telegraph plant, a native of the East Indies, the large terminal leaflet when

exposed to the bright light of the sun, forms a direct and continuous line with its leaf-stock, but is manifestly depressed if placed in the shade for a few minutes. Its position varies with the increase or decrease of light during the day.—*Bulletins de l'Academie Royale de Bruxelles*, vi. *in Eng. Cyc.; Chambers' Journal*, 1863.

SEO-JI, in the Bhaka tongue, is a title of Siva; the Ji is merely an adjunct of respect.

SEONI, in lat. 22° 5′ 30″ N., and long. 79° 35′ E., a town in the Central Provinces of British India which gives its name to a revenue district. The beauty of its scenery, the fertility of its valleys, the elevation of its plateau, its salubrity and moderate temperature, make it attractive. The plateaux of Seoni and Lakhnadon have a varying height of from 1800 to 2200 feet. They are well cultivated, clear of jungle, and their temperature is always moderate. The most numerous of the aboriginal tribes are the Gond (148,183 in 1872), the remainder consisting of Kurku, Bharia; Dher or Mhar (40,207), Ponwar (30,305), Ahir or Gauli (26,907), Mali or Maral (24,873), and other cultivating or inferior castes. The Ponwar supply the most industrious and enterprising agriculturists. Their appearance in Seoni dates from the middle of the 18th century, their first settlements being about Sangarhi and Partabgarh, whence they ultimately spread into Katangi. The pastoral Gauli occupy the fine grazing ground to be found in most parts of the district, and the rocky strip of Don[illegible] the south-west.—*Imp. Gaz.*

SEORI or Siviri, a race in Ghazipur, Gorakhpur, Behar, Benares, and Mirzapore, whom Buchanan thinks distinct from the Kol and the Cheru. The Cheru aborigines in Ghazipur, a part of Gorakhpur, the southern part of Benares and Mirzapore, and of Behar, are sometimes said to be a branch of the Bhar, but Buchanan considers them distinct.

SEPIADÆ, a family of mollusca of the class Cephalopoda, order Dibranchiata, and section Decapoda, including the genera belemnosis, beloptera, helicerus, sepia or cuttle-fish, and spirulirostra. Belemnosis, beloptera, and spirulirostra are fossil, and sepia has 10 fossil and 30 living species, of which the type is the common cuttle-fish, whose bone is so often thrown up by the waves on the beach. The ink (nigræ succus loliginis), common to this and other species of cephalopods, is not only ejected as a defence to colour the water in order to favour the escape of the animal, as was well known to the ancients (Oppian, Halient, iii.; Pliny's Nat. Hist. ix. p. 29), but as a direct means of annoyance. The fluid was used by the ancients as ink, as shown in the lines in the graphic description of the idler by Persius (Sat. iii. lin. 10, et seq). The flesh of the naked cephalopods was rather esteemed of old, as it is, indeed, now in Italy and eastern countries. Mr. F. D. Bennett states that the Fe, or cuttle-fish, is considered a luxury by all classes of the Sandwich islanders, and that when fresh and well cooked it is an excellent food, and in consistence and flavour not unlike the flesh of a lobster's claw. Its shell, called cuttle-fish bone, is sometimes 1½ feet long; it is used for rubbing down paint.—*Bennett, Whaling Voyage*, Lond. 1840; *Woodward*.

SEPOY. Anglo-Hind. Sipahi, Pers. A native soldier of the Indian army.

SEPSIDÆ, the family of sand lizards, one of them, Sphenocephalus tridactylus, *Blyth*, occurs in Afghanistan.

SEPTACANTHIS WALKERI, one of the Acanthacea (quere, Nillhoo of Ceylon), perfumes by its fragrance the jungles, especially around Needuwattum and paths leading to Gudalur.

SEPTARIA. Shih-pieh, Chin. Nodular stony concretions used in Chinese medicine.

SEQUIN, a Venetian coin known in the S. of India as Shanar kassu. The figure of the Pope, with a tall crozier, is supposed to be a Shanar toddy-drawer about to ascend a cocoanut tree.

SEQUOIA GIGANTEA. *Decaisne.* The Wellingtonia gigantea, *Lindley.* A huge tree of California, some of which measured 420 to 470 feet, average height 275 feet. It might be introduced into India. Sequoia sempervirens, discovered by Menzies in 1796, in California, is nearly as tall as the Wellingtonia. One tree, known as the Giant of the Forest, was 270 feet high, and 55 feet in circumference at 6 feet from the ground. This species is interesting as being the nearest living representative of a sequoia which, during the tertiary period, enjoyed a very wide distribution in Europe, where no congener is now indigenous.

SER. Hind. An Indian weight of varying quantities from 25 tolas to 2 lbs. 2 oz.

SERAI. Hind. A lodge for travellers.

SERAJGANJ, Narainganj, and other N.E. [illegible]icts of Bengal, are the chief seats producing [illegible]e fibre. The yield is 2000 to 4000 lbs. of [illegible]bre, and 1000 to 1200 lbs. of seed per acre. The common or desi sort yields only 600 to 1000 lbs. of fibre, but an increase of seed, viz. 1500 to 1600 lbs. Jute is sown broadcast, 22 to 28 lbs. of seed per acre. In the N.E. districts it is planted in February and March, and cut in June and July; the common kind in July and August, and cut in August and September.

SERAMPUR, a town in the Hoogly district of Bengal, lat. 22° 46′ N., long. 88° 24′ E., 13 miles from Calcutta, on the right bank of the river Hoogly. The town gives its name to the Serampur subdivision of the Hoogly. It is famed as the residence of a body of Protestant Baptist missionaries from England who made it the centre of their Christianizing efforts. Amongst them were the celebrated William Carey, Ward, and Marshman. Carey set up his missionary press there, and printed the Bible in 40 different Indian tongues. He founded here a college, which has fallen into decay. Until the middle of the 19th century, Serampur and Negapatam belonged to the Danes. The mission still flourishes, and its founders have established a church, school, college, and noble library in connection with it; there is also a dispensary here.—*Imp. Gaz.*

SEREGIUS, a Manichæan who appeared in the character of Christ and Paraclete.—*As. Res.* ix. pp. 217, 218.

SERES, a term which Horace and the ancients use, seems to have been strictly applicable to some nation in the west of China. The western term China is not traceable, but many authors have surmised that it was given to the country when the Tsin dynasty carried their arms to the west. Whatever may have been its origin, the term China (Cheena) was that early given by the people of the N.W. of India to the race whom Europe now calls the Chinese. There are two mentions of the Seres which may be much earlier.

One is in a passage ascribed to Ctesias, which speaks of the Seres as a people of portentous stature and longevity.—*Yule, Cathay*, i. p. 39.

SERIATOPORA SUBULATA, a coral reef-building polypifer at the Mauritius.

SERINGAPATAM, in lat. 12° 25′ 33″ N., and long. 76° 43′ 8″ E., in Mysore, is built on an island in the Cauvery river, 3 miles long and 1 mile broad. The mean height of the station is 2558 feet; the level of the Cauvery is 2321 feet. The fort is placed at the upper end of the island. It is a large irregular fortification, protected on two sides by the river; the complete Hindu name is Sri-ranga-patana. One canal is carried across the western branch of the river Cauvery 40 feet above its level. The existing fortifications were almost entirely constructed by Tipu. In 1791, Lord Cornwallis, the Governor-General, commanding in person, advanced up to the walls, but was compelled to retire through want of provisions. In the following year, 6th February 1792, he won a decisive victory in the field, and had invested the city on all sides, when Tipu purchased peace by the cession of half his dominions. Finally, the fort was stormed, led by Sir David Baird under General Harris, 4th May 1799, and Tipu fell in the breach. The siége was begun in April of that year with a powerful battering train, and the assault was delivered after a bombardment of nearly one month's duration. The place is malarious, which the natives attribute to the destruction of the sweet flag, a plant to which they assign extraordinary virtue as a febrifuge. The fort stands at the upper or western end of the island. At the eastern end is the Lal Bagh, containing a mausoleum built by Tipu Sultan for his father Hyder Ali, in which Tipu himself also lies. It is a square building, with dome and minarets, surrounded by a corridor, which is supported by pillars of black trap. The double doors, inlaid with ivory, were the gift of Lord Dalhousie. The inscription on the tombstone of Tipu relates how he died a martyr to Islam. Each of the two tombs is covered with a crimson pall, and the expenses of the place are defrayed by the British Indian Government.—*Imp. Gaz.*

SERONCHA, the chief station of the Upper Godavery district of the Central Provinces.

SEROW. HIND. ? Nemorhœdus bubalina, *Jerdon.*

SERPA, a Bhot people in Nepal and Sikkim, who speak a dialect of Tibetan.

SERPENT.

Ifa, Hayyat, . .	ARAB.	Serpe, Serpente, . .	IT.
Oub, ...	CHALDEE.	Anguis, Anguilla, .	LAT.
Shie, ...	CHIN.	Serpens, Python, .	,,
Schlange, . . .	GER.	Mar, ...	PERS.
Erpeton, Ophis, . .	GR.	Sarpa, Ahi, . . .	SANSK.
Egchelus, ...	,,	Nara, ...	SIND.
Aphah, Peten, .	HEB.	Serpiente, Culebra, .	SP.
Nachash, Ouf, .	,,	Pambu, Pamu, TAM., TEL.	
Samp, ...	HIND.	Yilan, ...	TURK.

Serpents or snakes are alluded to in the most ancient of the writings and traditions of the world. They are very numerous in many parts in the south of Asia, admired yet dreaded by many, but protected and worshipped by other, of the races. The colours of the backs of such as creep on the ground are generally of a brownish hue, much resembling the soil on which they move. The colours of the Dendrophidæ, or tree snakes, are of various shades of green, so that, aided by their quiet gliding motion, snakes, though numerous, unless looked for, are seldom seen by any person. But a search in the least promising places will always produce to the naturalist some specimens. The backs of the water-snakes, the Hydridæ, are also usually of a brownish colour, from which in the green sea water, or in that of quiet lakes or tanks, they are detected as readily as the tree and land snakes escape observance. All snakes have a long bifid tongue, which, usually retracted in a sheath below the windpipe, is capable of rapid and vibrating protrusion through a chink in the rostral shield; it is moved by means of two long elastic bones extending along the greater part of its length in the form of a long V, with the tongue rising perpendicularly from the angle of the V; muscles convert these bones into levers, which jerk the tongue up and down with great celerity and freedom of play. This form of tongue is not peculiar to snakes; the large water lizards (Varanus), for instance, have this bifid organ still more developed. Harmless snakes have a row of about six to sixteen teeth in each upper jaw, besides generally two rows of palate teeth. In the venomous kinds the maxillary teeth are generally replaced by a single tubular tooth of variable length, but hardly exceeding a quarter of an inch in an adult cobra, and half an inch in an adult chain-viper (Daboia elegans). The erection of the fang takes place to a very slight extent in the cobra, which is unprovided with any special erective apparatus; the fang is always recurved backwards at an angle of about 45°, and received into a depression in the lower lip. In some of the vipers there is a special erective muscle, but in every case the uncovering of the fang is a passive act as regards the snake, being effected by the gingival envelope being pushed up mechanically by the object bitten. The fang is at the anterior extremity of the upper jaw-bone, while the poison gland is situated on the cheek behind the eye; the poison, on being ejected either by direct muscular action, or by a reflex nervous action similar to that excited in the human mouth by the idea of eating lemon, proceeds along a duct, which passes below the eye over the jawbone, and terminates at the bottom of the gingival envelope of the fang, and just in front of the superior orifice of its canal. There is no continuity between the orifice of the poison duct and that of the poison fang. They are merely in apposition, and the poisonous salivary secretion is directed into the fang by the retraction of the gingival envelope round the fang in the act of biting. Every tooth in the snake's mouth, whether simple tooth or poison fang, is enveloped more or less in a gingival envelope, which contains at its base the matrix of a series of other teeth; these young teeth are constantly growing, and the eldest of them periodically replaces the fixed tooth, and becomes fixed until it is shed in its turn. This shedding is a gradual process compared to the shedding of the epidermis, but the two operations coincide in time, and take place about once in two months. The common exceptions are the cobra and the bungarus. In India the usual snake of the latter genus is Bungarus arcuatus, the white-arched bungarus; it has a white belly, from which pairs

of white arches cross the black back. In Burma this is replaced by Bungarus fasciatus, the yellow and black-banded bungarus; it has alternate complete rings of black and yellow. The Hamadryad, Ophiophagus elaps, a member of the Elapidæ family, is extremely rare; it resembles a huge cobra. This family is also distinguished from the rest of the shield-headed or harmless colubrine snakes, by the absence of the loreal-shield, a small shield usually separating the antocular shield from the posterior nasal, so that there are but two shields instead of three between the eye and the nostril The sea-snakes which have shielded heads are also an exceptional family, being all or nearly all venomous. They are known from other aquatic snakes by their perpendicularly-flattened tail. A scaly head (that is, the crown covered with scales as on the rest of the body) is generally the sign of a poisonous snake. The scaly-headed snakes are usually vipers. The Viperidæ have usually a high flat head, very distinct at the neck, and broad behind the jaws. They have long, more or less erectile fangs, with an erect pupil. The only one fatal to human life is the chain-viper, Daboia elegans, known by a triple chain of oval black links, and an indistinct yellow on its head. The green tree viper, Trimesurus, is a short, stout snake, very different in build from the long, slender green tree snake; it is venomous in a very slight degree. As exceptions to these general remarks, however, the Erycidæ and Acrochordidæ have also scaly heads; a common sand snake, Eryx Johnii, might possibly be mistaken for a viper, but its small head is very different from that of the vipers. It is a popular belief that the male and female cobra are very different in appearance. The origin of this error appears to be as follows: The Ptyas (mucosus or korros), dhaman in Hindustani, sarai or sara pamboo in Tamil, chera pamboo in Malayalam, lem-we in Burmese, is generally supposed by natives of the south of India and of Burma, to unite with the cobra, producing a very venomous hybrid offspring, of doubtful identity; hence it is frequently called the male cobra. Ptyas, the dhaman, is indifferently known as the whip snake, the rat snake, the rock snake in Madras; whilst in Bengal the name rock snake is usually given to the python. Any snake found near or in the water is usually called a water snake, from ignorance of the fact that nearly all snakes can swim, and will readily take to the water if necessary. Indeed, a snake which rejoices in the highly terrestrial name of Psammodynastes pulverulentus, the dusty king of the desert, was captured whilst it was swimming across the Rangoon lake. Also, if any word could be more inappropriate and deceptive than another, it is the term 'hood' as applied to the broad expansion produced by the elevation of the cervical ribs of Naga tripudians and Ophiophagus elaps. The native terms used to describe it, putum in Tamil and Malayalam, meaning a cloth, a picture, a map, and phun in Hindustani, both give an idea of breadth and expansion entirely wanting in the terms capella and hood.

Naturalists arrange the order of snakes into the two sub-orders, innocuous and venomous colubrine snakes, and the names of these will be found detailed under the Reptiles. Though the non-scientific world regard all snakes as poisonous, and though many deaths do occur from snake-bite, the numbers of poisonous snakes are not great, and comprise species of the genera Aipysurus, Acalyptus, Bungarus, Callophis, Daboia, Disteria, Calloselasma, Echis, Hydrophis, Enhydrina, Halys, Hypnale, Megærophis, Naja, Ophiophagus, Platurus, Pelamis, Peltopelor, Trimeresurus, Xenurelaps; 18 genera, and about 80 species. Deaths frequently occur from them in the south and east of Asia, because of the difficulty of avoiding them. In the six years 1875 to 1880, the deaths from snake-bites in British India were as under. In 1861 they were 18,670:

1875, . . .	17,070	1878, . . .	16,812
1876, . . .	15,946	1879, . . .	17,388
1877, . . .	16,777	1880, . . .	19,150

Yet they have many enemies. Mr. Bennett, who resided much in the south-east of Ceylon, ascribed the rarity of serpents in the jungle to the abundance of the wild pea-fowl, whose partiality to young snakes renders them the chief destroyers of these reptiles. It is likely, too, that they are killed by the jungle-fowl, for they are frequently eaten by the common barn-door fowl in Ceylon. This is rendered the more probable, by the fact that in those districts where the extension of cultivation and the visits of sportsmen have reduced the numbers of the jungle-fowl and pea-fowl, snakes have perceptibly increased. The deer also are enemies of the snakes, and the natives who have had opportunities of watching their encounters, assert that they have seen deer rush upon a serpent, and crush it by leaping on it with all its four feet.

Snakes are said to avoid the fennel plant, as well as all places where the fennel seed (Nigella sativa) is strewed.

In some parts of the country are serpents of great length, up to 26 feet long. They feed on all the smaller animals, but they can exist an indefinite time without food.

Snakes cast their skins periodically, and the Chinese and Hindu physicians use the skins medicinally.

Most serpents or snakes can move by springs or leaps, often of considerable extent. The Editor has seen a large snake cross the high-road in the flats at Bombay by two leaps.

Nearly all with a hood are poisonous; the Coluposososoma radiatum and Tropidonotus macrophthalmus are exceptions.

Naja tripudians, cobra, cobra di capello, occurs in several varieties, to each of which the natives give a name. They are all poisonous. The Gokurrah has spectacles on the hood. Those with one ocellus or other mark on the hood, are called Keautiah.

Ophiophagus elaps is the Hamadryad of Gunther, the Sunkerchor of Bengal, and Ai Raj of Orissa. One variety, olive-green above, is found in Bengal, Assam, Malay Peninsula, and S. India. The brownish-olive is found in Bengal, the Philippines, and perhaps in Burma; and the black variety is a Borneo reptile. The genus is widely distributed in Cuttack, Bengal, Sunderbuns, Rangoon, in the Andamans, Philippines, Java, Sumatra, Borneo, N. Guinea. It is the most aggressive of all the Indian poisonous snakes. It lives upon snakes.

Bungarus fasciatus is the Sankni or Raj Samp of Bengal, the Bangaraw pamu of S. India, and

the Koklia Krait of the N.W. Provinces. It is from 4 to 8 feet long. It occurs in Hindustan, S. India, and Burma. Its bite is very dangerous; dogs die in 4 to 28 hours.

Bungarus cæruleus.

Dhomun chiti, . BENG.	Krait, ... HIND.

Gedi Paragoodoo, TEL., of Russell. It occurs throughout India, N.W. Provinces, Rajputana, Gujerat, Dekhan, Madras. It has three varieties, one of them, B. lividus, *Cantor*, is blackish-brown above; another variety has a series of vertebral white spots; and a third, the B. arcuatus, *Dum. and Bib.*, has narrow white streaks in pairs on its upper parts. It is from 2 to 4½ feet. The Lycodon aulicus, an innocent snake, and it, are frequently mistaken. All the species of Bungarus and Hamadryas are fierce snakes.

Callophis M'Clellandia has two varieties from Nepal and Darjiling, and a third variety from Assam.

Daboia Russelli.

D. elegans; Russell's viper; Chain viper.

Jessur, ... BENG.	Tic-polonga . of CEYLON.
Siah-chunder, . ,,	Katuka, Rekula, . TAM.
Amaiter, . . . ,,	Poda-ge . . . . ,,

It is to be found in most parts of India, in the plains and hills, also in Kulu up to 5000 feet, and in Kashmir 2000 to 6000 feet. It is of a greyish-brown colour, 3½ feet long; it is less deadly than the cobra. Its size and nocturnal habits render it more dangerous than the Trimeresures and Hypnales.

Echis carinata.

Afae, ... HIND.	Horatta pamu, . . TAM.
Kuppur, . . . SIND.	

Occurs in most parts of India. It is brown or brownish-grey, 22 inches long; it is very active, is fiercely aggressive, is always ready to attack, and throws itself into a double coil, the folds of which as they rub against each other make a rustling sound. It can dart a foot or more to strike its prey.

Trimeresurus carinatus, one of the Crotalidæ or pit vipers, found in Bengal, Sikkim, and Burma; 36 inches long, and grass-green above.

Trimeresurus Animallensis, 27 inches long, yellowish-green in colour, occurs in the Animallay Hills in S. India.

Trimeresurus erythrurus occurs in the Nicobars, Moulmein, Penang, and Java. It is 33 inches long, and of a grass-green colour.

Trimeresurus monticola occurs in the Sub-Himalaya, Darjiling, Nepal, Sikkim, Khassya, Neilgherries, and Animallay. It is 33 inches long, of various shades of dark-brown.

Mr. Theobald describes two others, viz. Trimeresurus Andersonii, *Theobald*, found in Assam, and Trimeresurus obscurus, *Theobald*, of a uniform black colour, also of Assam.

Trimeresurus strigatus, of a brown colour, is 14½ to 19 inches long, is found in the Dekhan, the Animallays, and Neilgherries.

Halys Himalayanus, 23 inches long, occurs in the Hatu mountain near Kotgurh, is very common in the N.W. Himalayas. It is brownish-green to brownish-black above.

Hypnale nepa, Kara willa, TAM., a much-dreaded snake, 19 inches long, found in Malabar, Animallay, Ceylon; colour brown, or grey, or reddish-olive.

Pelamis bicolor, a sea-snake, with four varieties,—α. black above, sides and belly brownish-olive; β. a second, back black, belly and sides brown; γ. a third, black of back narrow; δ. fourth, yellow, with 50 brown bands. It abounds in all the eastern seas. It is very poisonous.

Enhydrina Bengalensis, a very virulent sea-snake, common in the tidal waters of the Sunderbuns and Bay of Bengal; 36 to 48 inches long. One killed a fowl in seven minutes.

Platurus Fischeri, a sea-snake, 30 to 48 inches long, found in Tollys nullah, a tidal stream near Calcutta.

Hydrophis Jerdonii, *Anderson*, 36 inches long.

H. robusta, *Fischer*, 70 inches, occurs on the coast of India and in the Archipelago.

H. crassicollis, *Anderson*, 51 inches long, is found in the tidal streams near Calcutta.

H. cyanocincta, 69 inches long, is common in the Bay of Bengal, the Archipelago, and China, and Japan seas.

H. Stewartii, *Anderson*, is 38 inches long, occurs at Puri, Cuttack.

H. nigra, *Anderson*, is of a uniform dense black, occurs at Puri, Cuttack.

H. nigrocincta, 23 inches long, colour yellow, with complete rings of a black colour.

H. coronata.

H. chlorosis. See Reptiles, pp. 386, 393.

SERPENT EAGLE, Circaetus gallicus, *Gmel.*

Common serpent eagle.	C. brachydactylus, *Meyer.*
Sap-maril, . . .	Pamula gedda, . . TEL.
Mal-patar, . . CAN.	Rawul . of the WAGRI.
Samp-mar . . . HIND	Kondatelle of the YERKALI.
Pambu pranḍu, . TAM.	

This serpent eagle is found in the south of Europe, North Africa, common all over India and Asia; has been killed in Denmark, but never in the British Islands; prefers the open ground, questing like a harrier. It eats any creature, but snakes and lizards are its chief food. Hovering in the air, and suddenly like a stone pouncing down, it seizes with its talons the snake by the back of the head, and the snake often twines its body around the bird and encumbers it.

Spilornis cheela, *Daud.*, Crested Serpent Eagle.

Falco albidus, *Cuv.*	C. Nepalensis, *Hod.*
F. undulatus, *Vigors.*	Buteo bacha, *Franklin.*
Circaetus undulatus, *Jerd.*	B. melanotus, *Jerd.*
Tilai-baj, . . . BENG.	Botta-genda, . . GOND.
Sab-cheer, Furj-baj, ,,	Murayala, . . . MAHR.
Goom, ... CAN.	Nalla pamula gedda, TEL.

The crested serpent eagle is found all over India, in Assam, and Burma. It lives on snakes, lizards, rats, frogs, and insects.

S. bacha, *Daud.*, from Java and Sumatra; is the Falco bido of Horsfield.

S. spilogaster, *Blainv.*, from Ceylon and Southern India.

S. holospilus, *Vigors*, is from the Philippines.

SERPENTINE is a term which has been applied to diallage, to crystallized and fine-grained greenstone, and also to a magnesian limestone, and when of the latter composition is called verd antique marble. It is found in the form of dykes and thick beds in the schistose rocks of Salem, also near Bezwarah on the Kistna. A serpentine of great beauty occurs at Turivacary in Mysore. It is composed of a dark-grey or black talcose paste imbedding numerous small black crystals of a mineral containing a large proportion of iron, being strongly attracted by the magnet. It takes a high polish, and is said to be the material of the beautiful pillars of the

mausoleum of Hyder Ali at Seringapatam, which Buchanan Hamilton, Benza, and Malcolmson designated basaltic greenstone.

A beautiful serpentinous marble is obtainable in the eastern part of the Cuddapah district, and in the Kurnool district. The serpentine of the Panjab is made into cups.

Precious serpentine exists in the Hukong valley, north-west of Ava, whence it is exported to China, and brought into the southern parts of the empire. It is also found in the country of the Singpho, about 8 or 9 miles to the north of a large lake, the Eng-dan-gyi, over a hilly country of 18 or 20 miles in length. At particular seasons, about a thousand men—Burman, Chinese, Shan, and Singpho—are at work in the serpentine mines.—*Waterston; Faulkner; Mason; Walton's State; Tomlinson.*

SERPENT'S EGG.

Glain naider, . . CELT.	Serpent's gem.
Glaine nan Druidhe, „	Druid's head.
Ovum anguinum, . LAT.	

It was held in high estimation by the Druids.

Serpent Gem is a superstition still lingering in Scotland, and amongst the ruins of Tadmor.

SERPENT STONE. Shi-hwang, CHIN. The bezoar. Tavernier says (Tr. p. 155) some are almost oval, thick in the middle, and thin about the sides. 'The Indians,' he says, 'report that it is bred in the [redacted] of certain serpent[redacted] but I [redacted] supposed it rather to be a story of the idolatr[redacted]riests, and that the stone is rather a composition of certain drugs. Whatever it be, he says it is of excellent virtue to drive any venom out of those that are bit by venomous creatures. If the person bit be not much wounded, the place must be incised, and the stone being applied thereto, will not fall off till it has drawn all the poison to it. To cleanse it, you must steep it in woman's milk, or for want of that, in cow's milk; after the stone has lain ten or twelve hours, the milk will turn to the colour of an apostemated matter.' The Archbishop of Goa, carrying Tavernier to his cabinet of rarities, showed him one of these stones, and after he had assured him of the rare qualities it had, gave it to Tavernier. Once as he crossed a marsh in the island of Salsette, where Goa stands, one of the men that carried his pallequis, being half-naked, was bit by a serpent, and healed at the same time. He bought several, but there were none but the Brahmans that sold them, which made him believe that they compound them. 'There are,' he says, 'two ways to try whether the serpent stone be true or false. The first is by putting the stone in your mouth, for then it will give a leap, and fix to the palate. The other is, by putting it in a glassful of water; for if the stone be true, the water will fall a-boiling, and rise in little bubbles up to the top of the glass. There is another stone, which is called the serpent stone with the hood. This is a kind of serpent that has a kind of hood hanging down behind the head. Behind this hood the stone is found, many times as big as a pullet's egg.' There are some serpents both in Asia and America of a monstrous size, 25 feet long; as was that, the skin whereof is kept in Batavia, which had swallowed a maid of ten years of age. These stones are not found in any of those serpents that are not at least 2 feet long. This stone being rubbed against another stone, yields another flime, which being drunk in water by the person that has the poison in his body, powerfully dr[redacted] against. These serpents are nowhere to be f[redacted]nd but upon the coast of Melinde; but for th[redacted] stones you may buy them of the Portuguese [redacted]rriners and soldiers that come from Mozambi[redacted]—*Tavernier's Tr.* 155.

SERPENT WORSHIP and Spirit Worship are the prevalent cults in the East Indies; and throughout British India, spirits, snakes, stones, shells, trees, and fossils are worshipped. The last is the saligramma of the Hindus, and is found in the river Gandak. Also the ban-lang, or rude lingam of the Hindus, is a stone rounded by attrition, found in the rivers of Rajputana. According to the Earl of Roden, a stone at Mayo was carefully wrapped up in flannel, periodically worshipped, and supplicated to send wrecks on the coast. Stones were till recently worshipped in Fiji, New Hebrides, and related to the lingam worship of other races. The chank shell, species of Turbinella, is found in abundance in the Pambaun Channel, between Ceylon and Tinnevelly; some fetch great prices. 'Psalm lxxxi. 3, says," Blow up the trumpet in the new moon, in the time appointed, on our solemn feast-day.' And Hindus similarly announce some of their festivals by the sound of this sacred shell.

Snakes have been worshipped by many races; the Jews, 2000 years B.C., adopted this worship. At Lanuvium, 16 miles from Rome, was a dark grove sacred to Juno, and near it the abode of a great serpent, the oracle of female chastity.

The naga snake of India, cobra di capello, is revered by all Hindus, and Hindu women resort to the white ant nests in which the cobra generally takes up its home. If a cobra be killed, the Hindus give it a funeral, as if it were a human being; their gods and deified warriors, and the lingam, are figured shadowed by the outspreading hoods of 3, 5, 7, 9, or 11 cobras.

In all mythological language the snake is an emblem of immortality; its endless figure, when its tail is inserted in its mouth, and the repeated renewal of its skin and vigour, afford symbols of continued youth and eternity. In Hindu mythology serpents are of universal occurrence and importance, and the fabulous histories of Egypt and Greece are also decorated with serpentine machinery. The accepted explanation of the traditions of the Garuda, and his victories over the snakes, is that Garuda is the type of the religion of Vishnu, and the snakes alluded to are the naga or snake race who followed the Buddhist faith of Sakya Muni. There is ample proof to show that at one time the ophite or snake worship extended all over India; and everywhere throughout the Peninsula and Ceylon, snakes are to this day worshipped. In the holy books of the Hindus, the destruction of the entire serpent race by the raja Janamejaya, the son of Pariesshit, is chronicled as a historical event, but probably it is merely a typical and emblematical shadowing forth of the actual fact, i.e. that the faith of the Vedas was founded on the ruins of the original and local superstition of the nagas, when Janamejaya subverted the ancient ophite worship. At all events, there is no doubt whatever that this singular superstition existed originally in Kashmir, as snakes and snake deities play an important part in the legendary history of the valley. Abul Fazl (alluding to an epoch about 350 or 400

it as the serpent's Laq, believe that it is most fortunate to witness snakes so engaged, and that if they can throw a cloth at the pair to touch them with it, the cloth becomes a representative form of Lakshmi, of the highest virtue, and is taken home to their houses and preserved as such. The snakes when in congress rise on the tips of their tails and approach each other, not twining as represented in the Esculapian rod, though, at a little distance, they seem to be twining.

Ordinarily no Hindu will kill a snake, but turns aside on seeing it. Young men who have been educated at English schools, however, have no such great reserve, and a Mahratta Brahman so educated, informed the Editor that he had killed three of them. Snakes are kept in houses in Ceylon and Gujerat, partly, seemingly, as objects of worship and partly to destroy rats. In Gujerat no one will kill a snake, but it is taken outside the town and released. Esculapius, amongst the Greeks and Romans, was the god to whom the care of medicine and health pertained. Esmun, the snake-god of the Phœnicians, is identified by Bunsen with the Egyptian Hermes, called Tet and Taautes in Phœnician. Esmun Esculapius is strictly a Phœnician god. He was especially worshipped at Berytus. At Carthage he was called the highest god, together with Astarte and Hercules. At Babylon, Bel corresponded with him. According to [illegible] and the [illegible] books, the Egyptian name of Esculapius was Kameph. The Aswini Kumara, the sons of Surya, amongst the Hindus, correspond with the western Greek and Roman Esculapius, but they do not have the twining snake rod. Mr. Fergusson has expressed his belief that serpent-worship mixed with Buddhism must have prevailed all through the Nizam's country and Berar, from at least the 4th to the 10th or 12th centuries. A great serpent is said to have been worshipped at Sumbulpore on the Mahanadi ever since the world began. The snake-worship of the Takshak travelled from Scythia to Kashmir and thence to Hindustan.

Few subjects have more occupied the notice of the learned world than the mysteries of ophite-worship, which are to be traced wherever there existed a semblance of civilisation, or indeed of humanity; have in general been associated with tree-worship, and attended by human sacrifices. Serpent-worship has been supposed by Mr. Bathurst Deane to have been the only universal idolatry. In Asia evidence of serpent-worship has been found in Africa, Palestine, Chaldæa, Babylon, Persia, Kashmir, Cambodia, Tibet, India, China (traces), Ceylon, and among the Kalmuks. It has been found among the races of Europe, among the tribes in America, and is practised to the present day in Africa. The only part of Asia which seems to have remained free from it is China; but throughout all the S. of British India snake-worship still prevails amongst all classes of Hindus. The naga, or serpent-genii of the Rajputs, have a semi-human structure, precisely as Diodorus describes the snake-mother of the Scythæ; and Olaus Magnus, writing in the sixteenth century, speaks of serpents as still kept as household gods in Sweden. The origin of this form of worship is lost in antiquity. One possible surmise has been obtained from the known love of many races for totems, animal or vegetable gods, after which they

are named. The American Indians all possessed them, as also the Australian tribes. In Central Asia, most of the Kirghiz tribes trace their origin back to some animal which they venerate and worship; and amongst the Tartar races, who designated their septs after some beast, as the naga or snake, the langaha or wolf, the lumri or numri or fox, the sessu or hare, cutchwah or tortoise, etc., the sept reverenced the creature from which they took their name. If the totemic origin of serpent-worship be the correct one, the serpent, like other totemic deities, would, from its origin, have a benevolent character. M. Boudin says, 'Le culte du serpent est independent de toute influence ethnique;' and M. Lajard says, 'Dans la plupart des langues dites Semitique, le mot que signifie la vie, hayy, ou hay, haya, heyo, hayya signifie egalement le serpent.' In several of the ancient religious systems the serpent presides at the creation of the world, and is the god of life or health.

The Chiun mentioned in Amos v. 26 is supposed to be the deity Siva. Professor Sayce thinks it is the planet Saturn. Givun is a Phœnician word signifying serpent. Cabrera thinks Chivun has the same signification as Givun or Hivim, *i.e.* descendant of Heth, son of Canaan. The Giviun or Hivites were descendants of Cadmus and Hermione, his wife, who, according to Ovid's metamorphosis [redacted] changed into serpents and had divine honours paid to them. Tripoli[redacted]rly called Chivun; Votar says, I am a serpent [redacted]e I am a Chivun, which can also be rendered, 'I am a Hivite from Tripoli.' In Egypt, both tree and serpent worship prevailed, as parts only of the general animal and vegetable worship. The serpent was honoured in Tyre from an early period down to the time of Alexander. Solomon says 'they worshipped serpents void of reason.' It seems to have been repressed, but it again cropped up amongst the same people in the Christian sects of Ophites, Nicolaitans, and Gnostics. According to Tertullian, De Præscript. Hereticorum cxlvii., the Ophites even preferred the serpent to Christ. They kept a living serpent in a chest, as, or to represent, the god. Serpent-worship does not seem to have been known in Germany, though the tree was worshipped there, as also in Gaul. In ancient Sarmatia and modern Poland both trees and serpents were worshipped by the peasantry, even to the limits of the 19th century.

The totem cult may explain why with most races the serpent has been regarded as a protecting deity, an agathos demon, and would also explain the claims made by races and individuals to be of snake or naga descent.

Scipio Africanus is said to have believed himself the son of a snake; and Augustus allowed it to be understood that his mother Atia had received him from a serpent. Alexander the Great, before he undertook to prove himself the son of Jupiter-Ammon, was supposed (apparently by Philip himself) to be the son of a serpent, who actually appeared to him in a dream in later years to save the life of his general Ptolemy. In the Turanian form of Buddhism, Sakya and Buddhist kings are invariably represented under the protection of the hooded snake, or of three or more snakes, which are figured as rising behind, and with the hood shadowing the seated image. This form of protection has been transferred to the lingam (phallus, priapus), the emblem of modern Saiva Brahmanism; and everywhere are to be seen, throughout all the south of India, the sculptured figures of one, three, or nine naga heads, overshadowing this symbol of reproduction.

In the earliest records of the Semitic thought, the serpent and the tree take a prominent position. Adam and Eve are taught by the serpent more subtile than any beast of the field, and the tree of knowledge supplies the fruit to enlighten them. Moses' rod was turned into a serpent, but pressure by the thumb on the back of a serpent's neck produces temporary catalepsy, and Moses and Aaron, and afterwards the Egyptian magicians, imitated this. An image of a snake was made for the Jews, and snake-worship continued amongst that race for seven hundred years; and in the days of Hezekiah 'the children of Israel did burn incense' to the self-same brazen serpent, which was actually preserved in the very temple (2 Kings xviii. 4). The reformer king at the same time 'cut down the groves, and brake in pieces the serpent,' thus combining in common ruin the two ever-parallel idolatries.

The serpent was worshipped in Chaldæa, where, as in Egypt, it was called Oub, hence the Greek ὄφις. This word, as Oboth, is translated familar spirit in Leviticus xx. 6, 27. (See also 1 Samuel xxviii. 3, 7, 9; 2 Kings xxi. 6, xxiii. 24; 2 Chron. xxxiii. 6.) The woman of Endor is called a mistress of Ob; and Jotham, king of Israel, built much on the wall of Ophiel, *i.e.* the serpent-god, for the worship of snakes. Obi men and Obi women, the designation of the pretended diviners amongst the negroes of the West India colonies, is the same word, and probably brought with them from Africa. The pethen of the Hebrews, the python of the Greeks, and bæten of the Arabs, from which we have the words python and pythoness, is that form alluded to in Acts xvi. 16, as the damsel with the spirit of divination. In the theology of Zoroaster, Dahaka or Zohak was an evil being created by Ahrimanes. In Persian mythology, Zohak is a king who reigned at Babel for 1000 years, having two serpents growing between his shoulders, and daily devouring men, until his own destruction by Faridun, the servant of Hormazd.

Persius speaks of the custom of painting certain conventional figures of serpents on walls, to indicate the sanctity of the spot, a practice of which there are several examples at Herculaneum and Pompeii. The serpent is seen as 'genius loci' upon the coins of many of the towns of Asia Minor,—Cyzicum, Pergamos, Marcianapolis, in Mysia, Aboniteichos and Amastris in Paphlagonia, Nice and Nicomedia in Bithynia, Tomos in Pontus, and Mindus in Criaa, all exhibit the serpent as their ensign. In Epidaurus, down to the time of Pausanias, serpents were kept and fed in the grove attached to the temple of Esculapius. The Greeks had myths regarding the python and hydra, the echidna and the dragon of the garden of the Hesperides; but in historic times the Athenians kept a serpent in the Erectheum, and its escape warned them to fly from the Persians; and Pausanians tells us that the Epidaurian serpents held their place amongst the gods of Greece till long after the age of Christ. Livy (x. 47), Valerius Maximus (i. 8, 2), Aurelius Victor (xxii. 1), and Ovid (Met. xv. 5) mention

within him, and he shouted out, 'There is no deity save God; Shams-ud-Din is the apostle of God!' One of the market people came forward to cut him down, but Shams uttered so terrific a shout that the man at once fell down dead. The rest of the market people submitted. Shams now took the disciple by the hand and led him away, remarking to him, 'My good friend, my name is Mahomed. Thou shouldst have shouted, "Mahomed is the apostle of God." The rabble will not take gold that is not coined.' Shams-ud-Din's arrogance and violence at length brought him into difficulties, for he was arrested during a tumult which his followers had raised, and removed by the police. All his pupil Jalal's miraculous powers failed to find out his whereabouts after this. He is said to have been flayed alive at Multan, and over his supposed remains a magnificent shrine has been erected. Tradition ascribes the intense heat of Multan to his prayer, from which the sun descended from the heavens to cook his food. Burton says the Multan people slew him in order to have his body among them.

SHAMS-ud-DIN ALTAMSH was purchased by Kutub-ud-Din Aibak for 50,000 pieces of silver. He rose through different offices to be governor of Behar at the time of the revolt, A.D. 1211, A.H. 607. Taj-ud-Din Eldoz gave him investiture unasked, but subsequently made an attempt to establish himself in India, and was defeated and taken prisoner (A.D. 1215, A.H. 612), ending his days in confinement. His reign was marked by the approach of the Moghuls under Chengiz Khan, but after withdrawal he conquered Sind to the south of Tatta (A.D. 1225, A.H. 622), also Behar and Bengal. In the next six years (A.D. 1226, A.H. 623, to A.D. 1232, A.H. 630) he was employed reducing Hindustan, taking Rintambor, Mandu, Gwalior, Bhilsa, and Ujjain. He died at Dehli, April 1236, 20th Shaban 633. He had received investiture from the khalif of Baghdad. The author of the Jama-ul-Hikayat resided at his court. The Kutub Minar near Dehli was completed in his reign. He was succeeded by his son Rukn-ud-Din, and then his daughter, Razzia Begum.—*Elphin.* p. 322.

SHAN. The Shan, or Tai, or Thai, as they call themselves, are the most extensively diffused, and probably the most numerous, of the Indo-Chinese races. Their tribes and clans are distributed from lat. 25½° N. to the Gulf of Siam, in lat. 13½ N., in the valleys of the Munipur river, the Kyendwen river, the Irawadi, the Salwin, and the tributaries of the Menam. Thai is the native name of the Siamese, and their chief divisions are Laos, Shan, Ahom, and Khamti. The race swarm in many tribes over the countries stretching from the valleys between China and Tibet on the north, to the Gulf of Siam in the south. They occupy all the territories between the Irawadi and the mountains of Annam, and if united would form a most formidable state in Eastern Asia.

Lapping the Burmese round, from N.W. by N. and E. to S.W., from Assam and the Brahmaputra to the Gulf of Siam, they are found from the borders of Manipur to the heart of Yunnan, and from the valley of Assam to Bankok and Kamboja, everywhere Buddhist, everywhere to some extent civilised, and everywhere speaking the same language with little variation. Their traditions, as also those of Siam, speak of a great kingdom held by this race in the north of the present Burmese empire, but the race is now split into a great number of unconnected principalities, and the kingdom of Siam is now perhaps the only independent Shan State in existence. All the others are subject or tributary to British India, Ava, China, or Cochin-China. In lat. 24½° to 25½° north-east of the Kakhyen, the Shan tribe occupy the left bank of the Nam Kathe or Munipur river, between the 23d and 24th degree of north latitude, south of the Kathe or Moi tai tribe, and west of the Kubo valley; also, near Bamo on the right bank of the Irawadi, with the Kakhyen on the north and on the east, mixed up with the Pwo and with the Kadu on the south. Shan States are extensive at the forks of the rivers which in lat. 18° N. form the sources of the Menam river; and in lat. 15° N., and between long. 99° and 100° E., they dwell in the mountains on which grow the sappan-wood forests. The Shan, who are tributary to the Burmese empire, consist of twelve petty states, the hereditary chiefs of which, called Tsawbwa, hold from Mandalay. Of the twelve states, seven are on the west and five on the east of the Salwin. Mobye and Mohmo, the states nearest to the Red Karen, pay tribute to them. The other states are named Nyung-yu-we, Myelat, Mone, Legya, Theinne, Mormeit, and Thung-bain, Kaingma-Maing-maing, Maingleng-gye, Kiang[redacted]tung, and [redacted] in the M[redacted]

The S[redacted] Leaving [redacted] interspr[redacted] Burmans *march on the north with rude tribes of their own* family, collectively termed Singpho (properly Sing Phoi), who occupy the Upper Irawadi. On the extreme north, the linguistic boundaries of the Singpho are unknown. It is possible that they march with the Khampa or ruder Tibetans of the S.E., unless the snowy mountains which there form the watershed between the Irawadi and the Tsang-po cut them off, as is more probable, from all intercourse with their northern neighbours. The Shan or Tai, the powerful Siamese, on the extreme south-east, are the youngest, but the most powerful, member of the Shan family. They trace their origin to an offshoot from the Laos, whom they formerly denominated Great Tai, while they called themselves Little Tai. They were originally tributary to Cambodia, but became independent in A.D. 1350.

About the 13th century, the Lau were a powerful and conquering people in the upper portion of the basin of the Irawadi, where their capital was at Mo-gaung (Muang-gaung or Mung Khong), and whence, in A.D. 1224, they sent an expedition which subjugated Assam and established Ahom rule. Their native country was a portion of the basins of the Mei-kong and the Menam, including Yunnan.

The Ahom, on the extreme north-west, came into Assam about the beginning of the 12th century, about the same time that the Siamese went south.

Before the 13th century, the Tai formed a compact body on the east, and perhaps north of Burma, probably pressed on by the Moghuls in China, Kablai Khan having fixed himself in Assam in the time of the first Ahom chief.

The exact position of the Great Tai, the Laos of geographers, is unknown.

In A.D. 1228, Chukupha, king of Pong, assumed for himself and people the title of Ahom, the peerless, now softened to Assam. About the same time, they took possession of a higher portion of the upper basin of the Mili, where their chief seat was at Khamti, whence the name by which this branch is still known.

In the basin of the Irawadi, the Shan are intermixed with the Tibeto-Burman tribes, amongst whom they have intruded; but in large portions of it they are the principal population, and in the N.E. corner of the empire the Khamti may be considered as independent. It is probable that the Siamese, with the tribes of the Upper Menam and of the Mei-kong, are directly connected with those of Yunnan, and are not offshoots from the colony of Muang-gaung. The Siamese have advanced more than half-way down the Malay Peninsula, and but for the check given to them towards the close of the 18th century, by the establishment of Penang as a British settlement, their sway would now have embraced Perak, and probably have extended to the confines of Malacca. The northern clans almost everywhere retain their independence, although owning a nominal allegiance, and in some instances paying tribute, to Burma, to China, or to Siam, those on the frontiers of Yunnan propitiating both the [redacted] n, by an ending a ang river, the Kamjang [redacted] s settlements of the Khamti race, are all colonies of this Shan race, retaining the costume, customs, and religion they brought with them into the Assam valley. Of these the Khamti are the most numerous and important. Whatever may have been the original seat of the Khamti people, they immigrated to Assam, since the middle of the 18th century, from the country known to the British as Bor-Khamti, near the sources of the Irawadi, which was visited by Wilcox in 1826.

At present the Lau, under the names of Shan and Khamti, are found in Upper Assam, and scattered over a large portion of the northern half of the basin of the Irawadi, near to the confluence of the Kyendwen with the principal stream. Scattered villages are even found in Arakan, on the eastern side.

Their general complexion is light-brown, their hair black and abundant, nose not flattened.

Those residing in Burma are generally smaller than the Burmese, from whom they are readily distinguished by their black jackets of glazed calico and short blue breeches. The Siamese may be considered as having a remarkable modification of the Burma-Chinese head, with a peculiar tendency to elongation and verticality. They have large straight faces, flat occiputs, lowness of the hairy scalp, comparatively small and firm mouth, hard staring eye, and a grave expression. Siamese appears by far the most widely-spoken language of Ultra-India. It was at one time the lingua franca of Kidah, almost as much as the Malay, and even that wandering Negro tribe the Semang, spoke it in some places. It was also current in Assam and Yunnan, at the opposite extremities of Ultra-India.

At Bhamo, to the north, east, and south-east of which they are numerous, the language of the Shan corresponds with that of the Siamese.

The Lau, on the borders of China, differ little from the Chinese of Yunnan, and their stock was probably the same. Where they are in contact with the old races they have considerably altered. In the valley of the Menam, their height is about 1½ inches less than the average Chinese, but the average stature of the French is the same, viz. 5 feet 3 inches.

The Lau or Shan race speak a language which was primarily East Himalaic, like Mon, Kambojan, Annam, and Pa-long. Like them, it was carried at some remote period into the Brahmaputra Gangetic province, and received some Dravidian roots. Subsequently it shared in the great eastern movement of Himalaic dialects from the basin of the Ganges into that of the Irawadi, where it was intimately connected with some of the intrusive West Himalaic or Tibeto-Burman dialects. It was then pressed further into the east, into the basin of the Upper Mei-kong and Tonkin, and became the language of Yunnan. During the Han dynasty, Chinese colonies began to occupy the valleys of Yunnan, and from that time Lau was exposed to the influence of Chinese, and began to receive the modified form it possessed when the pressure of that great race on the older tribes of Yunnan caused the Lau to swarm to the westward and southward. When they re-entered the basin of the Irawadi, they had acquired from their partially Chinese civilisation, a superiority over the Tibeto-Burman tribes of northern Ultra-India, which made the Lau clans predominant along the central belt of Ultra-India, from the Himalaya to the mouth of the Menam.

The Shan are great workers in silver, and the art of embossing on different utensils of silver seems to be known to the Kathay Shan, of whom there were in the middle of the 19th century 20,000 or 25,000 between Ava and Amirapura. Tin exists in the Shan States to the south-west of Mandalay, but the mines have never been worked. The tin consumed in the country now is all imported. Iron abounds in the Shan States, and the district of Pagan, to the south of Mandalay, is noted for it. A manufactory exists on a rough-and-ready scale in this district at Ponpah Toung, but the out-turn is inconsiderable. To the west of Sagaing, for miles up the Irawadi river, the ore abounds—a rich hæmatite.—*Yule, Jour. Geog. Soc.* xxvii., 1857; *Mason, Tenasserim; Latham's Ethnology*, pp. 157-257.

SHANAR or Sanan, a race in the south of India, about Tinnevelly, Madura, and Travancore, who are toddy-drawers, merchants, traders, shopkeepers, some of whom have been very successful in business. They are also styled Nadan, and they append to their names the term gramani as a tribal title. They are a dark-skinned race, with low foreheads, sunken eyes, and prominent cheek-bones, timid and superstitious. They are not so good-looking even as the Maravar. They are largely worshippers of evil spirits (see Devil-Worship), but since the middle of the 19th century many have accepted Christianity.

SHANAR CASSOO, a Venetian sequin.

SHAN-BAF, a cotton fabric made at Dacca.

SHAND. HIND. of Kohat. A third quality of

land; it is allowed to be fallow, and is cultivated for paddy.

SHANDUSE, a cotton scarf, coloured border and ends, used in Khyrpur.

SHA-NE. BURM. A bast of Arakan, of a reddish-brown colour, rough and coarse.

SHANG, the second dynasty of China, began B.C. 1559, lasted 509 years to 1050. Twenty-eight reigns in fifteen generations.

SHANGHAI is the most northerly and most important of the Chinese ports that have been opened to foreigners. It is a heen, a district city of Sun-kiang-fu, in the province of Kiang-si, is situate on the right bank of the Woo-sung river, lies in lat. 30° 25′ N., and in long. 120° 32′ E., being distant from Chusan about 100 miles, in a north-westerly direction. The Woo-sung, its river, flows into the Yang-tze-kiang (child of the ocean), which is called by many, and most appropriately, the main artery of China, as it flows through many provinces, and some of the most wealthy cities of China are built upon its banks. The Woo-sung, or Shanghai river, is deep, and easily navigable when the bearings are understood. Cannel coal is found in abundance near Shanghai.

SHANGRI or Sangri. HIND. The seed-pods of the jhand, Prosopis spicigera, one of the common shrubs of the rakh or waste lands of the Panjab.

SHANG-TI. CHIN. A title which some Chinese scholars apply to designate the God of the Christian Scriptures, but which others render supreme ruler, supreme emperor, or ruler or emperor on high, Le Seigneur and Le Souverain Maitre of Gaubil. The discussion on this point has been going on since the 16th century, the Jesuit missionary Matteo Ricci on the one side, and Lingobardi on the other; Drs. Medhurst, Legge, Edkins, and Chalmers on one side, and Bishop Boone, with Drs. Bridgmans and Williams and the Archimandrite Palladius, on the other.

SHAN OIL, used in Burma for mixing with paints; made by the Shan from, it is said, the fruit of the wood-oil tree, a species of Dipterocarpus.

SHAN-SI and Shen-si, two provinces of Northern China, separated by the Hoang-ho or Yellow River. Shan-si is one of the smallest provinces in China. It resembles in form an oblong lozenge, and is bounded on the north by Tartary, on the south and south-west by Ho-nan, on the east by Peh-chi-li, and on the west by Shen-si.

SHAN-TUNG is a long peninsula, extending towards Corea, dividing the Gulf of Peh-chi-li from the Yellow Sea. It is bounded on the north-west by Peh-chi-li, on the south-east by Ho-nan, and on the south by Kiang-si. It means east of the hills. Its surface is estimated at 56,000 square miles, and the population is nearly 29 millions. Besides grain, this province supplies large quantities of fish, a great portion of which, packed in ice, is sent to Pekin by the Imperial Canal. Among the vegetable oils imported into Ningpo and other Chinese ports from Shan-tung, Leatong, and Teisin, are oil of teuss, obtained from green and dried peas, black oil of the fruit of the tree kin (?), and oil from the pea of Suchau. —*Fortune.*

SHA-PHYU, a bast of Arakan; long, thin, smooth layers, light-coloured, tough, and flexible.

SHAPOO, or wild sheep of Ladakh. Moorcroft in his Travels mentions seeing one killed near Lameru.—*Adams.*

SHARBAT. HIND. A beverage made of lime-juice or pomegranate juice, or merely sugar and water, the French Eau-sucré. When a Bedouin prepares coffee, he drinks the first cup; the Sharbat-i-kajari of the Persians, and the Sulaymani of Egypt, render this precaution necessary. The Sharbat-i-kajari is the Acqetta of Persia, and derives its name from the present royal family. It is said to be a mixture of verdigris with milk, more probably a poison of more activity. In Egypt and Mosul, Sulaymani (the common name for an Afghan) is used to signify poison. The banks of the Nile are infamous for these arts, and Muhammad Ali Pacha imported, it is said, professional poisoners from Europe. Sharbat, ARAB., is from Sharb, he did drink. Those esteemed are Sharab-ul-Laimun, lemon sherbet; Banafshah, violet sherbet; Toot, mulberry sherbet; Hommeyd, sorrel sherbet; Zebeed, raisin sherbet. Sherbets are favourite beverages, made with the juice of fruits, mixed with water and sugar, with the addition of rose-water, or some other fragrant ingredient. The Persian sharbets are most esteemed. —*Burton's Mecca*, iii. 43; *Faulkner.*

SHARIF. ARAB., HIND., PERS. Noble; the tribal title of the offspring of a Syud and woman of another Muhammadan tribe; also the title of the hereditary ruler of Mecca.

SHARK.

Kalb-ul-bahr (sea-dog), AR.	Pesce-cane, . . . IT.
Goulu de mer, . . FR.	Jyu, Yu, . . . MALAY.
Hai-fisch, ... GER.	Tiburon, ... SP.
Auwal, ... HIND.	

Sharks belong to the cartilaginous fishes; they abound in numbers and species, and are remarkable for their wide geographical distribution. They enter rivers to a considerable distance from the sea. The name for the shark in Malay and Javanese is Iyu, or, abbreviated, Yu, and is even found in some dialects of the islands of the Pacific. The Carcharodon Rondelettii is the shark of Australia; one of them measured 36½ feet. The great basking shark is the Selache maxima. The shark of the Tigris river, of Indian rivers, and Fiji river is Carcharias Gangeticus.

The hammer-headed shark, shuang-chi-sha, is caught on the coasts of China and Formosa. The fins are considered a great delicacy, and in their dried state sell at 60 dollars a pikul; when skinned, cleaned, and cooked, often as much as 200 dollars a pikul. The fins of species of Carcharias and Zygæna are the most prized. The meat is tolerably good.

The white shark, or sha-mu-lung of the Chinese, grows to 20 feet in length; its fins are of less value.

The lung-men-sha is the shovel-nosed sucker. Its fins and flesh are more esteemed than any other.

The saw-fish of China, also called shark saw-fish or sha-chu-yu, grows to 15 feet in length. Its meat is eaten, and fins are esteemed. The saw is kept as a talisman to ward off evil spirits.

The fishermen of Auping, in Formosa, distinguish sixteen sharks. The most dangerous to man is the ta-yuan-t'ou-sha, or big round-headed shark. Its fins are of second quality, and flesh indifferent. Chinese say that the eat-bird shark, shih-niao-sha, simulates death, and floats on the

surface of the water. Sea birds thinking it dead, alight on it, and are caught by the shark sinking its tail, on which the birds move towards its head.

Shark skin is used by the native workmen for polishing wood and ivory; and shark-fins are largely exported to China. In the Gulf of Manaar they are taken for the sake of their oil, of which they yield such a quantity that shark's oil is a recognised export. A trade also exists in drying their fins, for which, owing to the gelatine contained in them, a ready market is found in China, whither the skin of the basking shark is also sent, to be converted, it is said, into shagreen. Sharks are said to attack the fair-skinned races more frequently than men of darker hues, and the pearl-divers of the Persian Gulf used to blacken their skins with a view to avoid these monsters.

In the South Pacific and Sandwich Islands sharks were formerly worshipped. When the king or the priests of this divinity imagined that the shark wanted food, they sallied forth with attendants, one of whom carried a lasso, which they threw at random amongst any crowd, and whoever was caught was strangled, cut in pieces, and thrown into the sea.

There are many large boats, with crews of twelve men each, constantly employed in the shark fishery in Kurachee. The value of the fins (Paak, DUK., GUJ., HIND.; Iyu sirap, Yu sirap, [illegible]LAY; Soora meen sopputay, TAM.) sent to Bombay varies from Rs. 13,000 to Rs. 18,000 a year. Of this a portion only passes directly into the hands of the fishermen, each boat earning perhaps Rs. 1000 annually, or Rs. 100 for each man. From this falls to be deducted the cost of material and other charges. This trade was noticed by Dr. Royle in 1842. It affords on some occasions to Bombay alone, taking fish-maws and shark-fins together, as much as four lakhs of rupees (£40,000), and furnishes the chief means of support to at least 3000 fishermen, or, including their families, to probably not less than 15,000 human beings. One boat will sometimes capture at a draught as many as a hundred sharks of different sizes, but sometimes they will be a week, sometimes a month, without securing a single fish. The fishermen are very averse to revealing the amount of their captures. Inquiries of this sort are supposed by them to be made exclusively for the purpose of taxation. The great basking shark, or mhor, is always harpooned. It is found floating or asleep near the surface of the water, and is then struck with a harpoon 8 feet long. The fish once struck is allowed to run till tired, and is then pulled in and beaten with clubs till stunned. A large hook is now hooked into its eyes or nostrils, or wherever it can be got most easily attached, and by this the shark is towed in-shore. Several boats are requisite for towing. The mhor is often 40, sometimes 60 feet in length; the mouth is occasionally 4 feet wide. All other varieties of shark are caught in nets in something like the way in which herrings are caught in Europe. The net is made of strong English whip-cord, the mesh about 6 inches; they are generally 6 feet wide, and are from six to eight hundred fathoms, from three-quarters to nearly a mile in length. On the one side are floats of wood about 4 feet in length, at intervals of 6 feet; on the other, pieces of stone. The nuts are sunk in deep water from 80 to 150 feet, well out at sea. They are put in one day and taken out the next, so that they are down two or three times a week, according to the state of the weather and success of the fishing. The lesser sharks are occasionally found dead,—the larger ones much exhausted. On being taken home, the fins are cut off and dried on the sands in the sun; the flesh is cut up in long stripes and salted for food, and the liver is taken out and crushed down for oil. The head, backbone, and entrails are left on the shore to rot, or thrown into the sea, where numberless little sharks are generally on the watch to eat up the remains of their kindred. The fishermen themselves are only concerned in the capture of the sharks. So soon as they are landed they are purchased by Bania merchants, on whose account all the other operasions are performed. The Bania collect them in large quantities, and transmit them to agents in Bombay, by whom they are sold for shipment to China. Not only are the fins of all the ordinary varieties of shark prepared for the market, but those also of the saw-fish, of the cat-fish, and of some varieties of ray or skate,—the latter, indeed, merges almost insensibly into the form of those of the shark. The cat-fish, known in India by the same name as in Britain, has a head very like that of its European congener, from which it differs in all other respects most remarkably. Its skin is of a tawny yellowish-brown, shading from dark-brown on the back to dirty-yellow on the belly. It is beautifully covered all over with spots of the shape and size of those of the leopard, similarly arranged. The value of sharks' fins annually exported from Bombay amounts to betwixt a lakh and a half and two lakhs of rupees. The largest fishery at any given port is probably that of Kurachee, which affords nearly one-tenth of the whole, but the shark fishery is conducted all along the Bombay coast. In Fiji they are said to be caught by means of a curiously-formed piece of wood, about 4 feet long, and in shape very much like a whale boat, but solid. From a hole in the centre descends a strong cord of twisted rattan, forming a running noose.

Sharks of the south of Asia are a regular article of trade for the market of China, where they are prized for their restorative qualities. They are sought for from every maritime country between the Arabian Gulf and the East Indian Islands.

The shark fins of commerce are not exclusively selected from sharks (Squali), but equally from Raiæ. Quantities examined at Penang were composed of fins of the genera Stegostoma, Carcharias, Sphyrna, Pristis, Rhinobatus, Trygon, and Myliobatis. But of all fishes, sharks and rays are the most valued by the Chinese. The fish and entrails of all, not even the electric rays (Torpedinideæ) excepted, are eaten either fresh or dried. The skin is used for polishing, or converted into shagreen. Gelatine is obtained from the larger fins, glue from the smaller. All, except the caudal fins, are cut at the root so as to leave as little flesh as possible. The root is dipped in wetted lime (chunam), in the erroneous belief of preventing attacks of insects, and then the fins are dried in the sun. Those imported in the Straits Settlements are packed promiscuously in gunny bags, each containing from one-half to one pikul. According to the value in the Chinese market, the fishmongers assort the fins in two

kinds, white and black. The white consists exclusively of the dorsal fins, which are on both sides of a uniform light colour, and reputed to yield more gelatine than the other fins. In China, the lovers of gelatinous soups pay from 30 to 40 Spanish dollars per pikul for white fins. The pectoral, ventral, and anal fins pass under the denomination of black fins. The colour, however, varies, according to the species, from buff to grey or brown, and most of them are of two different colours, the upper surface being dark, the lower light. The black fins, for obvious reasons the most numerous, are supposed to yield a comparatively small quantity of gelatine, and sell in China from 15 to 20 Spanish dollars per pikul.—*Montgomery*, i. p. 422; *Tennent's Ceylon*, p. 325; *Keppel's Ind. Arch.* ii. p. 205; *Low's Sarawak*, p. 89; *Bombay Monthly Times; Royle on Isinglass.*

SHARRA. ARAB. Law, equity, the precepts of Mahomed; religion, faith, justice. Written properly Shar'a. In the Muhammadan religion, the law, as the precepts of Mahomed derived from the Koran, is sometimes classed as (1) Itikādat, articles of faith; (2) Ibādat, religious worship; (3) Muamalat, civil law or social transactions; (4) Muzajar, criminal law, punishment; and (5) Adāb, moral conduct.

The fakir or darvesh act in accordance with religion (Ba-sharra) or differently (Be-sharra). The Ba-sharra are family men, and living according to the laws of the Koran.

The Be-sharra, without the law, are majzuh, celibates, whose sanctity places them above the laws of the Koran.

In India, the chief fakirs are—Kadaria or Banawa, whose founder lived at Baghdad; Chistia, followers of Banda nawaz, whose shrine is at Kulburga; Shuturiah; Tabkatia or Madria; Malanej; Rafai or Gurzmar; Jalalia; Sohagia; Nakshbandia; Bawapiari ka Fakir.— *Wilson's Gloss.*

SHART. ARAB. Employed by Muhammadans in Southern India to indicate a horse conveyance, either buggy or palanquin carriage. In Bombay, the Tamil words Sikram-po, literally go quickly, are applied to the latter conveyance.

SHASTHI. HIND. The sixth day of the new moon; in Hindu belief is dugdha, or unpropitious for any good work. (2) A Hindu goddess, protector of children.

SHASTRA. SANSK. The holy books of the Hindus. Of the six Vedanga or bodies of learning, three belong to grammar; one relates to religious ceremonies; a fifth to the whole compass of mathematics; and the sixth to the explanation of obscure words or phrases in the Vedas. Subordinate to these Anga (though the reason of the arrangement is not obvious) are the series of sacred poems, the body of law, and the six philosophical shastras. Shastra, SANSK., is from Shas, to rule.

SHASTREE or Shastri, a Brahman learned in the religious books of the Hindus.

SHATATAPA, a Hindu ascetic mentioned in the Markandeya Purana. He was one of the Smriti writers, and wrote the Karma Vivaka.—*Ward*, iv. p. 27.

SHAT-u-DIJLAH, a name of the Tigris as far as Kut-ul-Amarah, a small town on the left bank nearly midway between Baghdad and Koornah, being about 178 miles by water from the former city, and 97½ miles directly S.S.E. from the latter. Lower down, after passing for about 40 miles through marshes, and coming near the tomb of Ezra, the river resumes it former size and character, as it winds in the general southern direction to Koornah, which place is 232 miles from Kut-ul-Amarah by the windings, and 144½ in direct distance.

SHAT-ul-ARAB is the united stream of the Tigris and Euphrates, the two rivers of Mesopotamia. It is called by British sailors the Basrah or Euphrates. It is a fine river, about 1200 yards wide at its mouth, and is navigable for large vessels drawing 18 feet to beyond Basrah, a distance of 80 miles from its bar, in lat. 29° 46′ N., and long. 48° 40′ E. The rise and fall at spring-tides ranges from 8 to 10 feet. It disembogues into the Persian Gulf.

SHAT-ul-HAI, a canal which leaves the Tigris nearly opposite the town of Kut-ul-Amarah, and runs to the Euphrates about 80 miles above Koornah.—*MacGregor.*

SHAWL GOAT, Capra hircus, *L.*, the shawl goat of Spiti, yields inferior wool to that of Tibet. Shawl goats' hair is called Pashm in Hindi, and Kashmiri lena in Tibetan. The common domestic goat of Ladakh is the well-known shawl goat, of which there are said to be two varieties. One is a large animal with great horns called Rampoo; the other, smaller and with slender horns, is called Tilloo. It thrives only in the most elevated districts. It is bred in Nubra, Zanskar, and Rukchu, but the finest wool is brought from Ruthog and Gnari, which formerly belonged to Ladakh, and from Chang-Thang, or the southern and mountainous districts of Khotan. It is only shorn once a year, and the wool is at once separated from the coarser hair. The hair is pulled out, and is manufactured into blanketing, for tents, coarse sacking, and ropes for home consumption. The wool is shorn, and is exported to Kashmir, and to Nurpur, Amritsar, Lahore, Ludhiana, Ambala, Rampur on the Sutlej, and Nepal. To Rampur and Nepal, the wool is exported direct from Ruthog and Gnari, but Leh is the entrepot between the other shawl marts and the wool-producing countries. The fine shawl-wool is called Lena (Lana, LAT.), the common wool Bal, and the hair Pu. In Kashmir, the wool is sold to the merchants at Kashmiri Rs. 4.8 or Company's Rs. 2.10 per seer. The average quantity of shawl-wool exported from Ladakh to Kashmir and other places is about 16 loads or 6400 maunds of 16 seers each, half of which goes to Kashmir alone. The average price in Ladakh is about two rupees per seer, or £20,400 a ton. Each shawl goat yields about half a seer. The goats are about 80,000 in number, and their value £32,000, each goat being priced at four rupees. The Kashmirian merchants purchase the wool at Leh, at the rate of 80 pul (small handfuls) for a small rupee. Shawl-wool is produced most abundantly and of the finest quality in the steppes between the Shayuk and the main branch of the Indus. About £10,000 worth may be carried down the Sutlej to Ludhiana and Dehli. Mr. Moorcroft estimated the importation into Kashmir alone at £75,000 of value, and the annual value of the shawl manufacture of Kashmir at £300,000.—*Vigne; Cunningham; Hooker's Journal*, ii. p. 88.

SHAWLS.

Chals, Chales, . . . Fr.	Chales, ... Port.
Schalen, ... Ger.	Schavalos, ... Sp.
Shal, Guj., Hind., Pers.	Saluvaigal, ... Tam.
Shavali, ... It.	Saluvalu, ... Tel.
Kayin-rambut, Malay.	

In eastern countries the shawl is considered the most essential and graceful part of ornamental dress, and in India it was by no means unusual to pay 10,000 rupees (£1000) for one of the finest Kashmir shawls, which in all probability had cost the labour of a whole family for a lifetime. Those by far the most valuable are taken by native rulers.

In the 11 years 1850-61, the Kashmir shawls exported from India were valued as under:—

1850-51, £171,709	1854-55, £197,890	1858-59, £310,027
1851-52, 146,270	1855-56, 209,279	1859-60, 252-828
1852-53, 215,659	1856-57, 290,640	1860-61, 351-093
1853-54, 170-153	1857-58, 227,618	

Of the above, 80 per cent. was shipped to the United Kingdom, Suez, the Arabian and Persian Gulfs,—America, France, and China taking the remaining part. The imports and exports in latter years were as under:—

	Imports.		Exports.	
	No.	Rs.	No.	Rs.
1875-76, . .	321,284	10,14,939	30,053	16,12,980
1876-77, . .	255,262	7,55,823	28,385	16,69,132
1877-78, . .	271,466	7,09,037	32,970	15,08,535
1878-79, . .	427,412	9,85,341	26,113	12,40,116
1879-80, . .	446,582	9,23,554	21,498	8,88,432
1880-81, . .	499,896	5,93,818	26,601	15,01,786
1881-82, . .	678,824	7,59,331	16,652	12,41,640
1882-83, . .	813,585	8,19,310	12,090	7,71,718

Although in many branches of textile manufacture Europe has outstripped her oriental teacher, there is still found among the workmen of the east a degree of taste in the adjustment of their designs, an amount of skill applied to the getting up of the fabric and the blending of patterns, and colours so aptly combined, as to leave nothing to be desired, but rather to show that what Europe is now arriving at in arts design by the aid of scientific teachings, has been practised amongst those ancient races during the last thousand years. The correct principle which science has laid down in the schools of the west, that the patterns and colours of woven goods should diversify plain surfaces without disturbing the impression of flatness, has evidently been known to them from the earliest times. Nor is it in this alone that the workmen of the east excel; they are equally celebrated for the rich and varied beauty of their patterns, and the strict appropriateness of these to the colours employed. Foremost amongst the woven fabrics are the world-famed shawls, the finest of which, in spite of many imitations in Europe, are still produced in the vale of Kashmir. From the neck and underpart of the body of the wool goat is taken the fine flossy silk-like wool, which is worked up into those beautiful shawls with an exquisite taste and skill, which all the mechanical ingenuity of Europe has never been able to imitate with more than partial success.

From the Ayin Akbari, written in the 16th century, we gather that the emperor Akbar encouraged the manufacture of these shawls by every means in his power, even designing some himself, and introducing a greater and richer variety of colours in their patterns. The same work informs us of the extension of this manufacture to the State of Lahore, where it is said there were then 1000 manufactories employed on them. A mixture of wool and silk for turbands is also spoken of. Akbar was very fond of woollen stuffs, especially of shawls. He ordered four kinds to be made. First, Toos Assal, which is wool in general grey, inclining to red, though some are perfectly white, and these shawls are incomparable for lightness, warmth, and softness. Formerly they were always made with wool in its original state, but His Majesty had some of them dyed, and it was said that they will not take a red colour. Secondly, Safed Alcheh, which they also called Terehdar. The natural colours of the wool are white and black, and they wove three sorts of them,—white, black, and grey. Formerly there were not above three or four different colours for shawls, but Akbar had them made of various hues. Third, Zerody, Gulabatun, Kishydeh, the Bundhenun, Cheet, Alcheh, and the Purzdar, which were of His Majesty's invention. Fourth, from being short pieces, he had them made long enough for Jamahs. His Majesty introduced the custom of wearing two shawls, one under the other, which is a considerable addition to their beauty. By the attention of Akbar, the manufacture of shawls in Kashmir was in a very flourishing state, and in Lahore there were upwards of 1000 manufacturers of this kind. They also made an imitation of shawls with the warp of silk and the woof of wool, and this kind were called Mayan. Of both kinds were made turbands, etc.

This is now by far the most important manufacture in the Panjab; but it was almost entirely confined to Kashmir, until about 1820; a terrible famine visited Kashmir, and, in consequence, numbers of the shawl-weavers emigrated to the Panjab and settled in Amritsar, Nurpur, Dinanagar, Tilaknath, Jalalpur, and Ludhiana, in all of which places the manufacture continues to flourish. The best shawls of Panjab manufacture are made at Amritsar, which is also an emporium of the shawl trade. But none of the shawls made in the Panjab can compete with the best shawls made in Kashmir itself, —first, because the Panjab manufacturers are unable to obtain the finest kinds of wool; and, secondly, by reason of the inferiority of the dyeing, the excellence of which in Kashmir is attributed to some chemical peculiarity in the water there. On receipt of the raw pashm or shawl-wool, the first operation is that of cleaning it; this is done generally by women. The best kind is cleaned with lime and water, but ordinarily the wool is cleaned by being shaken up with flour. The next operation is that of separating the hair from the pashm; this is a tedious operation, but the value of the cloth subsequently manufactured varies with the amount of care bestowed upon it. The wool thus cleaned and sorted is spun into thread with the common churka or native spinning machine. This is also an operation requiring great care. White pashmina thread of the finest quality will sometimes cost as much as £2, 10s. a pouud. The thread is next dyed, and is then ready for the loom.

Plain shawls are simply woven with a long, narrow, and heavy shuttle, but variegated shawls are worked with wooden needles instead of a

shuttle, there being a separate needle for each colour.

The shawls are made both long and square, the former generally measuring 54 inches wide and 126 long, the latter 63 to 72 inches square. In some parts of Asia these shawls are worn just as they come from the loom; but all those destined for India are carefully washed and packed near Lahore.

About A.D. 1860, the maharaja of Kashmir, to check the deterioration in the quality of shawls manufactured in his dominions, issued the following circular:—

Be it known that in the city of Siree Nugger, alias Kashmir, a paradise on earth, the number of men and women employed in the occupation of shawl-weaving aggregates 70,000, and, in fact, nearly all the inhabitants of this far-famed city are connected with the trade. That owing to the dulness of the market in England and France, caused chiefly by the inferior description of shawls manufactured, many tradesmen and merchants have been subjected to heavy loss and some to bankruptcy, and a large proportion of the weavers have been thrown out of employ. On the maharaja's late tour through Kashmir, the circumstance occupied his chief attention, and from the information he obtained he ordered the following rules to be established in order to serve both manufacturers and traders:—

1. Shawls to be uniform in size as follows:—Ladies' shawls, 3½ yards by 1½; turbands, 2 yards by 2; jamawar, 4½ yards by 3.

2. Any shawl badly wove to be destroyed—the value to be recovered by the proprietor from the weaver. Should the fault lie with the proprietor, he will be punished by the Government.

3. A designer is at liberty to dispose of his designs, but should he attempt to conceal any part of a design which is purchased from him, he will be severely punished.

4. Any person convicted of robbing a firm of a design will be severely punished.

5. One designer is not at liberty to transfer designs to another, and as the Government has now relinquished the tax, it is hoped that there will be considerable improvement in the art.

6. Not more than six shawls are to be wove from one design, or a heavy fine will be inflicted.

7. The seller of a design is not to retain a duplicate or attempt to form another exactly like the one sold; in such case a fine will be levied equal to ¼th its value.

8. In future, duty will be levied by measurement of wool and worsted, and not by weight as heretofore; this will induce spinners to produce a finer description of the material, and will be more profitable to the wearer.

9. His Highness, taking into consideration the distressed condition of all manufactories for want of sufficient funds, and seeing that tradesmen are not disposed to assist them with advances, has placed in the hands of Pandit Hunna Nundjoe and Hajee Mooktiar Shah, a sum of Rs. 1,00,000 for the purchase of raw material, the same to be delivered proportionately to manufacturers, the value of which is to be refunded to Government on the sale of shawls.

10. His Highness the maharaja is greatly indebted to Dewan Kirparam, who, from his experience, had assisted greatly in framing these rules, and encouraging this important branch of manufacture.

A weaving-shop may be occupied with one shawl, provided it be a remarkably fine one, above a year, while other shops make six or eight in the course of that period. Of the best and most worked kinds, not so much as a quarter of an inch is completed in one day by three people, which is the usual number employed at most of the shops. Sometimes, in order to hasten the process, a shawl is made in separate pieces in different looms, and the pieces are afterwards sewed together. This is done with great dexterity, so that it is not immediately detected. It very rarely happens that the pieces, when completed, correspond in size. The shops consist of a framework, at which the persons employed sit on a bench; their number is from two to four. On plain shawls, two people alone are employed, and a long, narrow, but heavy shuttle is used; those of which the pattern is variegated are worked with wooden needles, there being a separate needle for the thread of each colour; for the latter no shuttle is required. The operation of their manufacture is, of course, proportionate to the quantity of work which their patterns may require. The Ustad, or head workman, superintends, while his journeymen are employed near him immediately under his directions. If they have any new pattern in hand, or one with which they are not familiar, he describes to them the figures, colours, and threads which they are to use, while he keeps before him the pattern on which they happen to be employed, drawn upon paper. During the operation of making, the rough side of the shawl is uppermost on the frame, notwithstanding which the Ustad never mistakes the regularity of the most figured patterns. The wages of the Ustad (the employer furnishing materials) are from six to eight pice per day; of the common workmen, from one to four pice in Kashmir may be about three halfpence.

The shawl bafs, or weavers, of the Panjab, according to their means, keep up an establishment of from 300 to 400 Shagird or apprentices of children from five years of age, to old men and women of eighty; or else they supply a certain number of overseers, called Ustad, with yarn, delivering to them at the same time instructions as to the quality, colour, patterns, etc., of the goods, and these men carry on the manufacture at their own houses, with the help of ordinary weavers.

Though the shawl-weavers of Kashmir are thus scantily rewarded, the fabric they produce has often been sold in London at from £100 to £400 the shawl. But it is fair to state that the manufacture of a remarkably fine and elaborate shawl will sometimes occupy a shop for a whole year, two or three or perhaps four persons being constantly engaged on it.

The shawls are divided into two great classes, viz. woven shawls, called Teliwala, and worked shawls. Shawls of the former class are woven in separate pieces, which are, when required, sewn together with such precision that the sewing is imperceptible. These are the more highly prized. In worked shawls, the pattern is worked with the needle upon a piece of plain pashmina or shawl-cloth.

Many shawls are made up of pieces, sewn together by a rafugar with such delicacy that the suture is imperceptible. Merchants take advantage of this. When they buy a shawl which they think only partly good, they cut out of it such parts as displease them. They then draw on paper a design for a new piece to fill up the gap, and give it to a shawl-weaver to execute. As soon as the new piece is completed, it is sewn into the shawl, which is entirely changed in appearance, and often immensely increased in value by the process. Shawls are often purchased with indifferent borders, and improved by putting new ones on. The border is always worked on a web

of silk, as this gives it weight and solidity, and causes the whole fabric to set well.

In Kashmir, when a shawl is about to be made, a small square piece showing the design, by way of pattern, is made and carried to the maharaja's inspector. On approval, the piece is worked into the shawl.

Great complaints have been made by European firms of the adulteration of the texture of Kashmir shawls, and there is no doubt that such adulteration was practised, especially by mixing up Kashmir wool with real pashm. In order to provide some guarantee against this, it was proposed that a guild of respectable traders should be formed, who should be empowered to affix on all genuine shawls a trade-mark, which should be a guarantee to the public that the material of the shawl is genuine pashm. At a meeting of merchants connected with the shawl trade, held at Amritsar in 1861, to consider the then depressed state of the shawl trade in the Panjab, and its causes, taking an average of ten years, the transactions in shawl goods amounted to nearly £500,000 per annum, of which a large proportion belonged to Amritsar and its shawl dependencies, and the proportion of the Panjab trade to that of Kashmir was then stated to be as 3 to 6. The chief shawl-brokers in London and Paris had urgently impressed upon the Amritsar merchants the suicidal policy of sending to the market shawls made of adulterated wool, for unless the manufacturers abstained from mixing sheep's wool with the pashm, or from using inferior pashm, the trade would undoubtedly die out. Adulteration was caused by the fraudulent admixture of coarse sheep's wool, such as Kirmani, Tibet, and even country lamb's wool. The beauty of a Kashmir or Amritsar shawl depends as much on the brilliancy and durability of its unrivalled colours, and their being carefully harmonized, and the material of which it is made, as on the quality of the workmanship. Sheep's wool, however fine, never does assume that permanent brilliancy of colour which is the peculiar character of the pashm. Kirman, the ancient Carmania, has been celebrated from the days of the Persian empire for its woollen shawls, though they never were able to compete with the Kashmir manufactures in softness or brilliancy. The wool obtained from the Kirman sheep is long and somewhat thick and silky, but it does not retain the bright colours which distinguish a genuine Kashmir shawl. It is somewhat cheaper than the best shawl pashm, and, being thicker, is more economical for the manufacture. The merchants, attracted by the apparent advantages of the Kirman wool, and knowing nothing of the hidden dangers in its use, largely adopted this wool as an admixture with the genuine pashm.

Colonies of Kashmiri settled in the Panjab are known by their fair complexion, their peculiar dialect, their way of closely shaving the head, and wearing small skull-caps. These people have emigrated at various times from Kashmir. They are divided among themselves into several gradations, and, like all Musalman races, have no restrictions on marriage, except immediate relations; marriages with first cousins are not only allowable, but frequently occur. They are almost exclusively employed in the shawl trade. There are two classes in the profession, the master workmen or Ustads, and the apprentices or Shagirds. The former supply the capital, and the apprentices earn their livelihood by task-work. The more opulent Kashmiri not only keep large manufactories for shawls, but trade in wool and other produce of Ladakh and Chinese Tartary. The rooms devoted to the workmen are long apartments with looms placed in the centre, and benches ranged parallel for the weavers; they are well lighted and airy; the workmen, all males, sit hard employed the whole day, and sometimes enliven the labour by singing choruses. They are a discontented and quarrelsome race, very deficient in personal courage, but so litigious, that their disposition for law has become a proverb.

They speak a dialect intelligible only to themselves, though they are also conversant with the vernacular. The shawls of Nurpur and Tilaknath are not much prized; the work is inferior, but the great cause of inferiority is the hardness of the water, which communicates a roughness to the shawls, greatly detracting from their marketable value. The Kashmiri themselves say that there is no water like the river Jhelum, and that the superiority of the shawls of the valley is mainly ascribable to the virtue of the water. The weavers of Kashmir possess also greater artistic qualifications, since none but the worst, who fail to get a livelihood in their native country, would consent to leave the charming valley for the heats of the Panjab and the discomforts of a strange country. The present population consists almost entirely of the descendants of original emigrants, and are now acclimated. They still retain the dress and dialect of Kashmir, and are constantly reinforced by new arrivals from the valley. In the cold winter months, the women adopt a peculiar custom of carrying under their frocks little pans of heated charcoal, over which they warm their hands, and maintain the circulation, like English ladies with their muffs.

The shawls of Nurpur are scarcely ever found in the foreign market, while those of Amritsar and Gujerat are sold in London and in France in considerable numbers.

The Deputy Commissioner of Gujerat, writing in August 1864, reported that at the last sale in London, the Gujerat shawls had sold at a loss of four annas in the rupee, and those of Amritsar at a loss of eight annas, or 50 per cent., the Kashmiri genuine shawls realizing a profit of 25 per cent.

In Ludhiana there are as many as 500 shops of pashmina workers, giving occupation to more than 1000 persons; the regular pattern shawl is much less woven than plain pashmina alwan, gloves, and stockings, etc., of pashmina thread. Of these fabrics about Rs. 70,000 worth are annually exported, but by far the largest manufacture is that of the shawls and chadars made of soft Rampuri wool, and which is often passed off as pashmina or genuine shawl-wool. Of these fabrics no less than Rs. 1, 30,000 worth are annually made and exported. The import of real pashmina wool from Rampur amounts to about Rs. 30,000 or 40,000 a year, that of Rampuri wool about Rs. 20,000. A number of Rampur chadars are, however, made of real Kashmir pashm.

The Amritsar shawl-weaving approaches nearest in excellence to the Kashmir valley. In this city several European merchants and agents have been supervising the manufacture and furnishing designs. In the Amritsar district, according to

Mr. Cust, the total number of houses of Kashmiri shal baf is 6493, of which 5111 are in the city itself.

Amritsar, besides being the seat of manufacture, is also an emporium of the Kashmir shawl trade. At one time the shawl manufacture of Amritsar had so deteriorated, from the use of mixed or adulterated pashm, that the trade was threatened with extinction in Europe, and in 1861 large meetings were held at Amritsar with a view to the adoption of measures to prevent adulteration, — a considerable and fraudulent admixture of coarse sheep's wool. On the other hand, it was maintained that the difficulty of ascertaining, by the most experienced judges, before shawl goods are washed and exposed for a while to the action of the air, the amount of admixture, if any, that may have taken place in the weaving of shawls ;—and it may be here mentioned that the length of the staples of sheep's wool offering great facilities in spinning the thread is the chief inducement to its being used, the pashm being very short, and consequently more difficult to spin ; secondly, the total indifference of the manufacturers to the frequent and urgent remonstrance of the dealers against practices which they were assured would lead to the discovery of frauds that must affect all interested in the trade and manufacture of shawl-wool goods.

The principal kind of wool used in adulteration was a soft white wool imported from Kirman. A shawl even of adulterated pashm still sells for double what a shawl of sheep's wool would, though the work would otherwise be the same.

The shawls designated in India are—

Shal-kitani-kar, a shawl woven of twisted thread, giving it a peculiar, regular, serrated texture.

Shal-sada, a plain woollen shawl without embroidery.

Shal-doridar, a shawl having a dori or edging.

Do-shala is a double shawl.

Formerly, Kashmir shawls were exquisitely woven, with an elegance and chasteness of design, softness and finish in quality, arrangement of colours and use of dyes, which the finest Paisley and French shawls do not approach. These exquisite shawls of Kashmir became rarer, and their place was usurped by hand-embroidered fabrics of lower value, with more showy and more vulgar patterns. In the Panjab and in Dehli, also, workmen commenced to embroider Kashmir cloths and net with floss silk and braid, for sale to Europeans, who wear them as tunics, jackets, scarfs, and the like. In the hand-worked Kashmir shawls, as also in the Dehli work, wooden needles of hard wood are used, slightly charred, with a hole in the centre of the needle to receive the yarn. The scarfs of brocaded gold and silver, laid upon red, white, and green grounds, and worked in and interspersed with beetles' wings and other ornaments, are admired by Europeans. One of the causes of deterioration in this manufacture has been in Europeans inducing the weavers to produce fabrics of a style far inferior to the artistic articles of the Kashmiri.

Paris shawls are principally of the kind known as French Kashmir, in which, by the aid of the draw-loom and of the jacquard, a surface appearance is given precisely similar to that of the oriental shawls. The figures and colours of Indian shawls are faithfully copied, and the yarns of the weft are not only equal in number to the colours of the pattern, but there are also as many little shuttles or pirns filled with these yarns as there are colours to be repeated in the breadth of the piece. Each of these small pirns or bobbins passes through only that portion of the flower in which the colour of its yarn is to appear, and stops on the one side and the other of the cloth exactly at its limit; it then returns upon itself, after having crossed the thread of the adjoining shuttle. From this reciprocal interweaving of the various yarns of the shuttles, it happens that, although the weft is made up of a great number of different threads, yet they form a continuous line in the whole breadth of the web, upon which the lay or batten acts in the usual manner. The great art consists in avoiding confusion of the shuttles, and in not striking up the lay till all have done their part. A woman, assisted by two girls, is able to conduct the whole operation. But this close imitation of the oriental shawl is a very slow process, and therefore the shawls must be necessarily costly. Lyons is famous for its 'Tibet' shawls, the weft of which is yarn, with a mixture of spun silk. The shawls of Nismes are celebrated for their low price, and the ingenuity with which spun silk, Tibet down, and cotton are all worked up together.—*Powell, Panjab; Moorcroft, Tr.; Watson & Kaye; Hinlinson; M'Culloch; Cal. Cat.*, 1862; *Kashmir and its Shawls; Times of India.*

SHAYUK, a valley and river in the N.W. Himalaya. The river rises near Kara-korum pass, runs S.E. to N.W. into Indus near Iskardo; length 300 miles. It receives the Chang-chen-mo 58, and Nubra river 66 miles. Floods have at different periods devastated the whole course of the Shayuk valley, from the glaciers of Sassar. These floods appear to be due to the blocking up of the upper course of the river by the ice, and have been most destructive to the prosperity of the valley. An encamping-ground on the plain of the Shayuk river is called by the Turki merchants Murgai, by the Tibetans Murgo-chumik.—*Thomson's Tr.*

SHEA BUTTER is a solid oil obtained from the nuts of Bassia Parkii or Pentadisma butyracea, a tree of the interior of W. Africa. The nuts are allowed to ripen on the tree, and are gathered from the ground in the morning by women and children. The pulp surrounding the nuts is rubbed off, and generally eaten. As a fruit it resembles an over-ripe pear; but it is too sweet to be much relished by Europeans. The nut is next dried by exposing it to a slow heat in large clay caldrons with perforated bottoms. This, besides carrying off moisture, causes the nut to shrink in its shell, of which it is divested in the next operation, viz. threshing. This is done on floors, or sometimes it is done in large wooden mortars instead. The nut, now free, is next thoroughly pounded with pestle and mortar, then ground between stones; at this stage it looks just like black mud in paste. This mass is washed in cold water, then boiled till the butter rises white, and is skimmed from the surface. Shea butter remains hard at a high temperature when well prepared, and does not become rancid with age. It has a slightly smoky taste, acquired during its preparation. Some people dislike it. It has been used in cooking; and Mr. Barter lived on it and yams without inconvenience. It is also called Galam

butter.—*Letter from Mr. Barter to Sir William Hooker.*

SHEBA, mentioned in Ezekiel xxxviii. 13. 'The merchants of Sheba and Raamah,' etc.; 'Haran and Canneh and Eden, the merchants of Sheba, Asshur, and Chilmad,' etc., Ezekiel xxvii. 22, 23. The Balad-ul-Jahaf, a district of Yemen, is the land of Sheba, the Ard-us-Shaba, so called to the present day by the Arabs. There are two hills of Balak in the district, 600 paces apart, between which a queen of Sheba built a masonry dam, which burst, and the bursting is famed as the Sail-ul-Arun. Balkees, queen of Sheba, was stated to Soliman to have hairy legs; the Koran (ch. xxii.) mentions the plan he adopted to ascertain the fact.—*Ouseley's Tr.* i. p. 336.

SHECHEM, the modern Nablus, has in its neighbourhood the two mountains, Gerizim and Ebal, each about 2500 feet high, with Joseph's tomb and Jacob's well at the eastern end of the valley, the former near the foot of Ebal, and the latter near the foot of Gerizim. One Tur is the mountain mass near Sinai. Another Tur, the Et Tur, is Mount Gerizim near Nablus. Shechem was made the metropolis of the conquering Israelites. Jerusalem only became of importance after the vision of David in 2 Chronicles iii. 1. It was from Gerizim and Ebal that Moses ordered the law to be read. It [redacted] here that the field was bought by [redacted] (Genes[redacted]). Shechem of Samaria (Josh. xx. 7) was a refuge city. See Bast.

SHEEP.

Faar, ...	DAN.	Casneiro, ...	PORT.
Schaap, ...	DUT.	Owzi, ...	RUS.
Brebis, Mouton, . .	FR.	Avi, ...	SANSK.
Schafe, ...	GER.	Pecora, Ovejas, . . .	SP.
Ois, ...	GR.	Far, ...	SW.
Bhera, M'henda, .	HIND.	Luk, ...	TIBET.
Gosfand, ...	PERS.	Koyun, ...	TURK.

The shawl goat, and a dwarf variety (black, with short horn), also a race of blackfaced sheep, and the dumba or broad-tail, are reared in Ladakh in great numbers. Four-horned varieties of this sheep are not uncommon. The blackface, or hunniah, stands high, and is a handsome animal. Moorcroft says (Tr. R. As. Soc. i. p. 51) the Purik sheep of Ladakh gives two lambs in a twelvemonth, and is twice shorn in that period. Good ewes appear to be obtained in Coimbatore and Baramahal; but Jalna and Beder used to be the best places whence to obtain the white-woolled breed. The results obtained both at Bangalore and on the Neilgherry Hills, from crossing the white-woolled sheep of the country with Saxon, Merino, and Southdown rams, have been satisfactory, both as to quantity and quality of wool, and size of carcase. At the Madras Exhibition of 1855, of specimens of woollen manufactures, the most remarkable were those from Hoonsoor, comprising white and coloured blankets of various textures made in the native loom, some being imitations of English articles, and a decided improvement upon the country cumbli, and cheap in price. In Mysore, the wool is largely used in carpet manufacturing. In the Mysore country sheep thrive well. About the year 1840, General Cubbon collected a flock at a farm about 60 miles west of Bangalore, and imported three or four rams annually from Sydney; these amalgamate so well with the country sheep, both in figure and size, that in the fourth cross it was not possible to distinguish farm-bred from the imported ram. (See Ovis.) Sheep skins are employed for purposes for which a thin cheap leather is required, such as for common bookbinding, leathering for common bellows, whip-lashes, bags, aprons, etc. Sheep skins also form the cheaper kinds of wash-leather for breeches, gloves, and under-waistcoats; as also coloured and dyed leathers and mock morocco, used for women's shoes, for covering writing-tables, stools, chairs, and sofas, lining carriages, etc.

SHEETALA. SANSK. Cold. In Hindu mythology the goddess who cools the body when afflicted with the smallpox; she receives many honours from the lower orders of Hindus.

SHEETALA-PATI, from Sheetala, cold, and Pati, a mat, from Pat, to move. The mat is from the Maranta dichotoma.—*Ward's Hindoos.*

SHEFTAH or Shafta, called in Syriac Agal, is a skein of camel's wool thread, about nine feet long, bound at distances of about twelve inches with silk and gold thread. It is wound round the kufia, forming a large turband, and is principally worn by the Anazeh.—*Hamilton's Sinai*, 183

SHEKHAWATTI. This province extends about 80 miles from north to south, and less from east to west. It has the extensive dominions of the raja of Jeypore on the south, on the east the dependencies of the British Government, on the west the territories of Bikanir, and on the north-west it has the barren country of the Batti clan, formerly a plundering tribe, remarkable for carrying on their depredations on foot and still more so for the length and rapidity of the incursions thus made. On the north is Hurriana, the scene of the exploits of George Thomas.—*Elphinstone's Caubul*, p. 3.

SHEK-U. CHIN. A mineral substance used in China as a dentifrice, also as a tisan in fever. It is brought from the north of China, and is said to be gypsum or alabaster.—*Bennett.*

SHELL.

Sadaf, ...	ARAB.	Sipi, ...	HIND.
Ecaille, ...	FR.	Conchiglia, ...	IT.
Coquille, ...	,,	Cascara, ...	SP.
Schale, ...	GER.	Kabuk, ...	TURK.

The ordinary shell is the protective covering of the molluscous class of animals, in most cases large enough to enclose the whole body of the mollusc, but in some cases it is interior, and only of sufficient size to protect the heart and lungs. The snail affords a familiar instance of an external shell. Shells are called univalve or bivalve, according as they consist of one part, or of two parts joined together by a hinge. The snail is univalve, the oyster is bivalve. The generality of the bivalve shells, including various oysters, mussels, etc., are termed nacreous shells, from Nacre, the French for mother-of-pearl. The so-called shell of the tortoise is a horny covering, and it is obtained from Ceylon, the Eastern Archipelago, France, Trinidad, etc. The glistening lining of oyster shells, known as mother-of-pearl, is manufactured into articles of great beauty. Most of the univalve shells are of the character called porcelanous, from their brittleness, translucence, and the resemblance of their fracture to that of porcelain.

The trade in shells is one of extreme antiquity in Ceylon. The Gulf of Manaar has been fished from the earliest times for the large chank shell, Turbinella rapa, to be exported to India, where it

is sawn into rings, and worn as anklets and bracelets by the women of Hindustan, Dacca being the chief place of manufacture. Another use for those shells is their conversion into trumpets, which are sounded in the Hindu temples on all ritual occasions. A chank, in which the whorls, instead of running from left to right, as in the ordinary shells, are reversed, and run from right to left, is regarded with such reverence that a specimen formerly sold for its weight in gold, but one may now be had for £4 or £5. Abu Zaid, an Arab, who wrote an account of the trade and productions of India, speaks of these shells by the name they still bear, which he states to be Schenek. In general, shells are more prized for their beauty than valued for their rarity, though Argus cowries have been sold as high as four guineas a pair.

One of the principal sources whence the Ceylon supplies of shells are derived is the beautiful Bay of Venloos, to the north of Batticaloa, formed by the embouchure of the Natoor river. The scenery at this spot is enchanting.

Shells are used as a flux in the furnaces instead of lime, and along the coast, near Madras, the finest plaster is made from calcined shells. The Placuna placenta or window shell is still used as a substitute for glass.

The chanks and large ornamental shells imported into India are between 7 and 8 millions annually, valued from about two to four lakhs, and from 21 to over 28 million cwt. of cowries, valued about a lakh.

Shell middens occur at the mouth of one of the [illegible] of Perak.—*M'Nair*, p. 23 ; *Tomlinson ; J. [illegible] Asiat.* 1847 ; *Tennent's Ceylon ; Cosmas [illegible], in Thevenot*, i. p. 21.

SHELLAC or Shell-lac, Chapta-lac, HIND., is the most common form in which lac is generally known ; it is the substance liquefied, strained, and formed into thin transparent laminæ.—*Faulkner.*

SHEMSAN, an inferior deity of the Kuki. A large block of wood put up in every quarter of the village ; to it a goat is offered, and they place before it the heads of the slain in battle, or the heads of animals killed in the chase.

SHEN, SANSK., TAM. Meaning fine, beautiful, [illegible] Schöne of the Germans. It is applied in several ways. The Shen Tamil (Sen Damir) is that in which Tamil classical poetry is written, and differs considerably from what is termed Kodun Tamil, or common Tamil, the spoken language of the people.

SHENDOO, a Burmese tribe, who call themselves Heu-ma, and dwell in the mountains north of Arakan. The Khyoung-tha, or children of the river, are of Arakanese origin, speak the old Arakan dialect, and conform to Buddhist customs. The Toung-tha, or children of the hills, are of mixed origin, if indeed they are not aborigines of the country. They speak numerous dialects, and worship the deities of the elements and spirits of the hills and streams. The Shendoo occupy the very remote mountainous country at the heads of the several rivers. They are said to comprise twelve powerful clans, whose habitations extend from the Blue Mountain to Cachar and Burma proper. They are much feared, but little or nothing is known respecting them. Captain Lewin describes them as much taller than ordinary hillmen, and of much fairer complexion ; and the faces of those he saw bore no signs of that Mongolian type of physiognomy which generally prevails amongst the Toung-tha tribes. Both males and females are more decorous in their dress than the other hill tribes, and field labour as a general rule is performed only by the men, and never by the women, excepting in the case of poverty. The Shendoo possess muskets which do not appear to be of European manufacture ; the stocks are painted red, black, and yellow, and are highly varnished. Their powder-flasks are made of gyal horns, and are polished and beautifully inlaid with silver and ivory. Captain Hughes, in charge of the Arakan hill tribes, writing in 1872, mentioned that they have no Ka-mi, or Koo-mee, or Quay-mee ; Koon, or Mru. The Shendoo tribe divides itself into five or six branches, who each speak a different dialect, the most powerful of whom are the Shaing Tee and Tna-krai-mi, the latter approaching Burma proper, Chyn or Khyn. Dr. Mason never before A.D. 1872 heard of the Tee and Tna-krai-mi, but thought it probable the names only are new.—*Dr. Mason in literis.*

SHENG-KWANG, a Chinese pupil of Ta-mo, the Indian patriarch Bodhidharma. At the town of Yu-hwang he is represented standing before Ta-mo, holding his own left arm in his right hand, which he had just cut off near the shoulder as a sign of his devotion and dominion over the body. This is said to have taken place in the 5th century. —*Dr. Edkin.*

SHEN-SI, one of the most extensive Chinese provinces, but the western part of it has been erected into a province under the name of Kan-su.

SHENSOY. The Parsees in India have two sects, the Shensoy and Kudmi, whose only dissimilarity arises from their different mode of computing, since 1746, the era of Yezdejird, which occasions a difference amongst the two sects as to the time of celebrating their festivals. The numbers of the Shensoy ten times exceed those of the Kudmi.

SHEORANEE HILLS, a little south of the Goomul river, stretch from the latitude of Dehra Ismail Khan, downwards to nearly the latitude of Dehra Futteh Khan, a distance of fifty miles. In these hills is the lofty square-shaped mountain, Takht-i-Suliman, which gives its name to the Sulimani range, running parallel for 300 miles to the Indus, and forming the western frontier of British India. At the base of this mountain runs the important Zerkunni pass, the high-road for caravans to and from Kandahar. The Sheoranee tribe are of Pathan lineage, are of inferior stature to the Waziri ; they are warlike and predatory, and quite independent. The number of their fighting men has been set down at 10,000 ; but this is high. They can muster 1000 men within a day's notice ; in the course of three or four days they will muster 3000 more. They adjoin the British tracts of Tak (partially) in the north, then Kolachee, then Durrabund, and lastly Choudwan, —all in the Dehra Ismail Khan district, and forming the border plains of the Upper Dehrajat. With all the above tracts, the Sheoranee, up to A.D. 1850, had been at feud.

SHEPHERD. Most of the nomade races of Asia are shepherds. The Israelites largely herded sheep. Moses herded the flock of his father-in-law Jethro, a priest of Midian. David tended his father's sheep. The chief shepherds of the S. of India are the Kurumbar race, their name being from Kuru, a sheep. Oree golla wanloo, Koraba galla wanloo,

Hunde koraba wanloo, are divisions. In the Tamil country, shepherds are divided into many classes, as Manyakarar, Kuruku, Pavalangattee, Sambar, the Sival Idyar, etc. They are called Pillay and Kouar. The Dhangar shepherd race are a very numerous body. There are 55,947 Dhangar in the Berars, a quiet race, who wander in search of pasture for their herds and flocks, but often return to their settled homes on the plains or mountains. The temples in which they worship their deities are piles of large unhewn stones, resembling the places of worship of the old Druids. These people render great service to cultivators, who invite them with an offer of a reward to pen their flocks in their fields, so that they may leave behind them valuable manure. The founder of the Holkar family of Malwa sprang from this race. The shepherds of India have a custom, which is purely Asiatic, of preceding their flocks to pasture. 'He shall feed me in a green pasture, and lead me forth beside the waters of comfort,' said the Psalmist; and the daily custom of the shepherd tribe of Hindustan proves that this poetical and beautiful simile was drawn from the practice of common life. The Ahir of Northern India now rear cattle, though seemingly in former times shepherds. Near Benares there are sixteen clans. The Ahar of Moradabad and Rohilkhand seem identical with the Ahir. The Gadariya of [illegible] sheep and goats. The Rewari of the Rajputana oases rear camels.

SHEPHERD'S PURSE, Capsella Bursa Pastoris. Tsai-tsai, Ti-mi-tsai, CHIN. In China the plant is largely eaten as food by the poor. The root is used in ophthalmia.—*Smith.*

SHER. PERS. A lion, a tiger. The title Sherwa-Khurshid (lion and sun) was devised in 1808 by Fat'h Ali Shah, to decorate foreign envoys and Europeans who had rendered important service to Persia. It is never conferred on any Persian officials.

SHER AFKUN, a famous athlete. His victory over a tiger is a recorded fact in Moghul history. He lies buried in old Bardwan, far away from the place of his birth in Turkomania.—*Tr. of Hind.* i. p. 157.

SHER-DALA, in Hindu sculpture, conventional lions, the emblems of the Hoisala Bellala dynasty.

SHERIF. ARAB. Noble; in British India, a lineage social title of a Muhammadan whose father was a Shaikh and mother a Syudani; also the title of the ruler of Mecca. Hamilton, an old writer, describes the Sherif of Mecca of this day as having three slashes on each side of the face, called masha-ly, which though then falling into disuse, had been the mark of all persons born within the sacred territory. In his hand he carried the mashab, the camel-stick of almond-wood, which is undoubtedly the original of the jackal-headed wand with which some of the Egyptian deities are represented, and which is here almost regarded as the symbol of royal power. In his Kashmir waistband was stuck a poniard with a gold and jewel-studded handle.—*Hamilton, Sinai*, p. 116.

SHER KHAN, an Afghan who raised a large force in Bengal and drove the emperor Humayun from the throne. He reigned about five years, and was killed by the explosion of a magazine. He was an able soldier. He was succeeded by his son Selim, who reigned nine years.

SHERKI. ARAB. The east wind of Scripture. Rich notices an exclamation, 'The sherki is come!' As soon as this wind came on, the thermometer rose ten degrees, from 80° to 90°. The so-much-dreaded sherki seems to blow from any quarter from E. to N.E. It resembles the Italian sirocco, pronounced scirocco, and no doubt the same word as sherki, *i.e.* easterly. The Kurds calls it Baya Rish, or black wind.—*Rich's Kurdistan*, i. p. 125.

SHERKIST. HIND. A sort of manna found on the Hedysarum alhagi, one of the Leguminosæ, produced principally in Kābul. It occurs in unequal, dark-brown pieces, of a bitter-sweetish taste, and is mixed with the stalks of the plant on which it is produced. It is used by the natives as a laxative and refrigerant in fever, in doses of ʒj. It is imported into India from Kābul and Khorasan.

SHERKUN, a six-pointed diagram, for which the Brahmans have several mysterious names; but it is generally called sherkun, which means little else than six-pointed. If it have five points, it is also replete with mythological allusions; Siva and Brahma have, or had, five heads. The diagrams have also mathematical properties of a mysterious description; and they serve, like the fox and goose or solitaire boards, for a game, played with cowries or with dice, guiding the movements of the men. It is a popular game, and the instruments of play are always at hand; the lines drawn in the dust with the finger, and a few stones picked up, can furnish the means of gaming. Cowries being used as money, two or three of them are rarely wanting to a party disposed to play. The triangle is called trikun, which it literally means, and has been explained by a Brahman as the symbol *of* ce[illegible] deities or powers, and the type of triune equality; and hence applied by some to the [illegible] great deities conjointly. A point, called p[illegible] represents the deity, having neither length breadth, self-existing, containing nothing. circle is Brahm, eternity; having neither begin[illegible] nor end; unity, perfection.—*Moor*, p. 404.

SHERLEY. Three brothers of this name, Thomas, Sir Anthony, and Sir Robert, who trave[illegible] in Persia, Russia, Turkey, and Spain, in the la[illegible] part of the 16th and beginning of the 1[illegible] centuries.

SHERRY, a wine, principally produced in vicinity of Xeres in Spain, of a deep or light am[illegible] colour, and fine aromatic odour; its taste is wa[illegible] with some degree of the agreeable bitterness the peach kernel. It is extensively used as a dinner wine.—*Faulkner.*

SHER SHAH. His tomb is on a square terrace in the middle of a large tank near Sasseram in Shahabad.

SHERWATTY, a river on the western side of India, in the Dharwar collectorate, which falls 1000 feet, near the village of Garsipa.

SHEVA GANGA, a large zamindari in the Madura district, 1460 square miles. It contains 2070 villages and 1265 hamlets. It formed part of the Ramnad chiefship until 1729.

SHEVAROY HILLS, Survarayar Malai, a hill range in Salem district, Madras, situated between lat. 11° 43′ and 11° 55′ N., and between long. 78° 13′ and 78° 24′ 30″ E., are a mass of densely-wooded flat-topped hills, the mean height being 4600 feet, and the highest peak 5260 feet. These hills are an irregular mass of mountains, separated by deep valleys. Their entire length from north

Notices of the various kinds of ships will be found under the head of Boats. On the eastern side of the Peninsula of India, the ship is built with her keel parallel to the shore, and, as it may happen, from 200 to 300 feet from low-water mark. When completed, she is placed on two strong pieces of timber, called dogs (in the nature of a sledge of enormous dimensions), and on these a sort of moveable cradle is constructed to keep the vessel upright. Two long palmyra trees, a lever of the second kind, are then applied to the ends of the dogs, and by means of these powers, they, together with the vessel that rests on them, are gradually pushed forward over a platform of logs until they arrive at the lowest pitch of low water, or as far beyond it as the levers can be used. Tackles are applied to the ends of the levers to increase the power; the fulcrums are wreaths of rope, fastened to the logs on which the vessel slides, and are removed forwards as she advances. Two cables from the land side are fastened to the vessel to prevent her from sliding too rapidly, and these are gradually let out as she advances. It is commonly the work of two days to transport the vessel to the margin of low water. If the tide does not rise high enough to float her from thence (which it seldom does if the vessel be of any considerable burden), part of the cradle is taken away, and the ship left chiefly to the support of the cradles till high water, when they are suddenly let go, and the vessel falls on her side, and with the fall disengages herself from the remains of the cradle, and at the same time plunges into deeper water. A ship of 500 tons has been launched in this manner. — *Rennell's Memoir*, p. 245.

SHIRÁR, the inspissated juice of grapes.

SHIRAZ, the capital of the province of Fars, founded A.D. 622. It was taken by Timur 1380. It is in lat. 29° 37′ 56″ N., and long. 40′ 22″ E.; is 4850 feet above the sea, in the centre of a plain 25 miles long and 10 or 12 miles broad, amidst mountains. It has a low wall of mud and six gates, surrounded by gardens, some of them, as the Jahan Numa, beautiful. It has 30 houses. The tomb of the poet Hafiz is in a garden 1½ miles from the city. The climate is agreeable, but not favourable to Europeans in the summer months. The tomb of Sadi stands by itself in a recess, but that of Hafiz requires to be pointed out from a multitude of others around it. The wine of Shiraz is a fine, powerful, dry wine, not so dark as brown sherry. Near the Jahan Numa in Shiraz is a building called Chahal Tan, 'the forty bodies or persons.' Another, the Haft Tan, or 'seven persons,' so named from the number of holy men there buried. At Shiraz, Hassa, and in India, African slaves are distinguished by flowery names or epithets, expressing beauty and fragrance, in proportion to their natural ugliness or offensive smell, — as Yasmin, the jasmine; Sumbul, the hyacinth; Jauhar, the jewel; and Makbul, the pleasing or agreeable.— *Vigne; Ouseley's Tr.; Morier; Fraser; Chesney; Abbott; Rich; Henell; Taylor; Clerk; Pelly; Kinneir.*

SHIRHAWTI RIVER falls into the Arabian Sea; at its embouchure it is about 400 yards in width, and in the rainy season some 30 feet in depth. This immense body of water rushes down a rocky slope for 300 feet at an angle of 45°, at the bottom of which it makes a perpendicular plunge of 850 feet into a black and dismal abyss, with noise like the loudest thunder. The whole descent is therefore 1150 feet, or several times that of Niagara, but the volume of water in the latter is somewhat larger than in the former.

SHIR KHISHT. HIND. Manna from Fraxinus, *sp.* Khorasan manna, from Khorasan, is supposed to be the produce from an olive.

SHIRNA. HIND. Shinaz, PUSHTU. The inflated large buffalo or bullock skin used for crossing streams in the Himalaya hills. In Kashmir these large skins are not used, but small ones tied two together. See Shina.

SHIRWAN, in lat. 38° 31′ to 40° 44′ N., a province of Georgia, about 135 miles long and 20 to 40 miles broad, with an area of 10,386 square miles. It was the finest province of Persia, but was ceded to Russia in 1724, and again in 1826. Its people are Armenians, Muhammadans, and Tartars.—*MacGregor.*

SHIRZY RAO GHATGAY, a Mahratta leader and minister of great notoriety. He was the father of Baiza Bai, who married Dowlat Rao Sindia.

SHISHAK. According to Professor Duncker, the first fixed starting-point in Egyptian chronology is the invasion of Palestine by Shishak, who appears as Sesonchis, the first king of the 22d dynasty of Manetho, and [illegible] reign begins in the year B.C. 934. But according to the Hebrew chronology this date would be too late by perhaps a generation. In his belief, five centuries had passed from the expulsion of the Hyksos before Shishak began to reign. If we allow, as he thinks we ought to allow, another five centuries for the occupation of these nomadic intruders, the end of the old monarchy will be synchronous with the beginning of the second millennium B.C. Calculations of a like kind would lead to the conclusion that the pyramids of Memphis were built about B.C. 2500; nor can a less period than that of five more centuries be allowed for the growth of a civilisation which should render the erection of such stupendous monuments possible. In support of this conclusion, we have the indubitable fact 'that the oldest monuments of Egypt—and they are also the oldest in the world—exhibit the Egyptians in possession of the art of writing;' and when we remember that all writing must proceed from pictures, we may well be staggered at the length of time which must pass while the first actual imitative drawings were being rubbed down until they were reduced to a form approaching that of mere phonetic characters.

SHITTIM TREE, mentioned by Isaiah and also in Exodus, is supposed to have been an acacia. Hippocrates speaks of the Egyptian acacia and of the white acacia, distinguished, he says, by its white bark, white wood, and white flowers; and from this tree his 'white fragrant ointment' was probably made.

SHIVE-u-DOUNG, a great mass of mountains which runs parallel to the Irawadi as far as Amarapura; one peak is estimated to be 6000 feet in height.

SHOA. In 1840, Sahela Selassie, king of Shoa, in Southern Abyssinia, expressed a desire to cultivate the friendship of the British Government, and wrote to the Government of Bombay

asking to be furnished with guns and warlike stores. Shoa was then one of the most powerful and important provinces in Abyssinia. It is inhabited by the Galla tribe. At the time when Sahela Selassie made these advances, the steam navigation of the Red Sea had given an exaggerated importance to the tribes of Abyssinia, and a mission was sent to Shoa, with which country the French also appeared anxious to establish friendly connections. A commercial treaty was concluded with the king on 15th November 1841. —*Treaties*, vii. p. 310.

SHOES.

Markub, Hida,	ARAB.	Baschmaki,	RUS.
Schœnen,	DUT.	Zapatos,	SP.
Soulier,	FR.	Cherupu, Chapatu,	TAM.
Schuhe,	GER.	Cheppu,	TEL.
Jora, Juti,	GUJ., HIND.	Kundura,	TURK.
Scarpe,	IT.	Pabuch,	,,
Kasut, Sapatu,	MALAY.		

The sandal was doubtless the foot-clothing of all ancient times, and the flinging of one on a territory was a symbol of taking possession. The Psalmist says, 'Upon the land of Edom do I cast my shoe.' In Ireland, after the chief took the white rod, the sub-chieftain placed sandals on his chief's feet, retained one as an honourable perquisite, and threw the other over his chief's head as an augury of good luck. The sandal is still worn by the Hindu and Muhammadan nations in the south of Asia. Shoes, as articles of covering for the feet, are generally made of leather, but cloth of kinds is also used, and in the Panjab Himalaya, straw and grass. The shoes, or rather slippers, worn by the natives of Southern India are generally of red leather if for men. The patterns are called Appa-shahee, Chandduru, Chappal, and Nokdar. The rich natives use a buff-coloured cloth. The slippers of females are ornamented with spangles. Their price is from four annas to a rupee. Thunberg says that in his time the shoes of Japan were always the shabbiest part of the dress of the Japanese, and being of straw they [illegible] but a little time. But they were made in [illegible]ense numbers, and cost but a trifle. Dignies sometimes wore slippers made of fine rattan s neatly plaited. In Exodus iii. 5, the Lord mmanded Moses, saying, 'Put off thy shoes from f thy feet; for the place whereon thou standest is holy ground.' The natives of British India never go into their own houses, nor into the houses of others, with their shoes on, but always leave them at the door. It is a great affront not to attend to this mark of respect in visiting; and to enter a temple, mosque, or kyoung without pulling off the shoes would be an unpardonable offence. A shoe-bearer is a very humble office; and in Matthew iii. 11, John says of Christ, 'He that cometh after me is mightier than I, whose shoes I am not worthy to bear.' Luke xv. 22 says, 'And put shoes on his feet.' In Bengal, shoes of a superior quality make one of the distinguishing parts of a person's dress. Some of these shoes cost as much as a hundred rupees a pair, but are put off the feet before entering a room.—*Faulkner; Herklots; American Expedition to Japan*, p. 65; *Thunberg*.

SHO-GUN or Tycoon, in Japan, until the revolution of 1868, was the chief noble of the Mikado, and was called by foreigners the Temporal Emperor. The full title was Sei-i-Tai Sho-gun, *i.e.* barbarian-quelling generalissimo, and it was bestowed by the Mikado on his son Ya-ma-to Da-ke-no-mi-ka-to, who B.C. 86 conquered the aborigines of the N. and W. of the main island. The first hereditary Sho-gun was Mi-no-mo-to Yo-ri-to-mo, A.D. 1190. The greatest of all the Sho-gun was Iye-ya-su, the founder of the To-ku-ga-wa dynasty of the 17th century. The last of these temporal sovereigns was Kei-ki, who was set aside in 1868, when the Mikado assumed direct rule, and he was still living at Shid-zu-o-ka in A.D. 1883.

SHO-JIN. CHIN. Pigmies, fabulous beings.

SHOLA or Sola, HIND., is the root of the Æschynomene aspera. It is made into toys, artificial flowers, birds, garlands, floats for nets, or in bundles for crossing rivers. When charred it answers for tinder. Phool-sola or Bhendi is Æ. aspera, Æ. Roxburghii is the Bhat-sola, Æ. paludosa is the Kat-sola. The skill of the Indian carver is conspicuously shown in the beauty of the figures and buildings in the pith-like Æ. aspera.

SHOLA, in the S. of Peninsular India, a grove, a copse, a small forest in a valley or on the slope of the hills; in Wynad, a ravine filled with tree thickets. The whole of the sholas or woods in the reserved woods at the neighbourhood of the Ootacamund station are absolutely reserved, not only for their beauty, but also from fear of injuring the water-springs. Their limits are marked; no private cutters are allowed inside; old trees to be felled are brought outside, and sold by public auction. Trees to be planted where required in vacant places.—*Madras Conservator of Forests*, 1859-60.

SHOLAGUR, a hill race who lived in the jungles of the Kollegol taluk of Coimbatore.

SHOLAPUR, a town and fortress in the Dekhan part of the Bombay Presidency. It is in lat. 17° 40′ 18″ N., and long. 75° 56′ 38″ E., in the valley of Seena river; and the surrounding land have been formed into a revenue district, with an area of 3925 square miles, and a population in 1872 of 662,986 souls, that of the town being 53,403. The people are largely Mahrattas, and on its east, south, and west are the estates of the Akalkot, Patwardhan, Phaltan, and Panth Pradhadhi chiefs. In 1818, on the downfall of the Peshwa, it fell to the British. In 1877 it suffered from famine.

SHOLASAGAMANY. Fine rubies have from time to time been discovered in many of the corundum localities, particularly in the gneiss at Viralimodos and Sholasigamany; also in the Trichingode taluk, and at Mallapollye, but are comparatively speaking, rare.

SHOMIYO, in Japan, a territorial noble, with an annual revenue of less than 10,000 koku of rice. The words mean small name.

SHOOAY-DAGON, a great Buddhist pagoda at Rangoon in Burma, and the most venerated object of worship in all the Indo-Chinese countries. It is in lat. 16° 46′ 40″ N., and long. 96° 13′ 50″ E., and stands upon a mound, partly natural and in part artificial, in the angle formed by the junction of the Rangoon and Pegu rivers. This mound has been cut into two terraces, the upper of which is 166 feet above the level of the ground, and 900 feet long by 685 wide. On the east side is a bell, 7 feet 7½ inches in diameter at the mouth, which was presented by Bhodaw Bhura. The legend concerning its erection assigns it to the year 588 B.C. The pagoda has been several times

added to and regilt,—the last time in 1871, when, with the sanction of the British Government, the king of Burma sent a new H'tee from Mandalay, valued at £62,000. The name Shooay-dagon is derived from the Talaing word Takun, meaning a tree or log lying athwart, which has been corrupted in Burmese into Dagon or Dagun. The Burmese word Shooay or Shwe means golden. The hill on which it stands has been strongly fortified. It is said to contain relics of all the four Buddhas of the present kalpa (Buddha-gabba), viz. the staff of Kakusanda, the water-dipper of Konagamma, the bathing garment of Kasyapa, and eight hairs from the head of Sakya Sinha, Gautama Buddha.—*Hough's Great Bell at Rangoon; Imp. Gaz.*

SHOOAY-GYENG, the chief town and headquarters of Shooay-gyen district, Tenasserim division, British Burma, in lat. 17° 55′ N., and long. 96° 57′ 30″ E., on the left bank of the Sitang (Tsit-toung) river. The Poung-loung range, at the Tsik-le Hill, opposite Shooay-gyeng, attains a height of about 4000 feet, and terminates above Keng-rwa in Ke-la-tha, a peak crowned by a conspicuous pagoda. The Sitang river rises in Independent Burma. It enters Shooay-gyeng at its northern end, and, after an exceedingly tortuous course, falls into the Gulf of Martaban by a funnel-shaped mouth seven or eight miles wide, up which the spring-tides rush with great violence. A chopping sea follows the rolling crest of the bore, and sometimes wrecks a boat in a few minutes. The population in 1872 was 120,485. Karens, 43,475; Burmese, 41,562; ing, 35,401; Toungthu, 4887; Shans, 3189; hammadans, 421; Hindus, 291; Chinese, 157. e Karens are most numerous in the tract of the Sitang, and belong to two great ilies, Sgaw and Pwo. Many of them have been verted to Christianity by the American Baptist sionaries. The Talaings chiefly inhabit the ns; the Burmese, the country lying north of Sitang. The Yabaings, who are engaged in rearing of silk-worms, are found mainly on eastern slopes of the Pegu Yomas in Bhawni.

SHOOAY-HMAW-DAW, literally golden great l, a pagoda in the old fortified town of Pegu, ngoon district, British Burma. It is a pyral, solid brick building, rising to a height of feet from an octagonal base, each side of which is 162 feet long. It stands upon two terraces, the lower one being a parallelogram, with its sides 1390 feet long. The pagoda is surrounded by two tiers of smaller temples; the lower tier contains 75, and the upper 53. Shooay-hmaw-daw, in common with most of the sacred edifices in Burma, is connected with a visit of Gautama, though there can be no doubt that he never came so far as Burma. In June 1852, on the outbreak of the second Burmese war, the pagoda was the scene of some sharp fighting previous to the capture of the town of Pegu by the British.—*Imp. Gaz.*

SHOOAY-TSHAN-DAW, a pagoda in Prome town, Prome district, Pegu division, British Burma. It is situated on a hill about half a mile from the bank of the Irawadi, and gives its name to a quarter of the town. The building is gilt all over, and is solid. Its height is 180 feet, and it occupies an area of 11,025 square feet. It is surrounded by 83 small gilt niches, called Zedi-yan, each containing an image of Gautama. Tradition alleges that when Gautama arrived near Prome, and was walking on the island of Zengyan, he was accosted by a naga or dragon, who begged for some sacred hairs to enshrine in a temple.—*Imp. Gaz.*

SHOONDOAH is a tiny ship which Hindus launch on the Ganges, ornamented with garlands of flowers, and illuminated with lamps. It is a ceremony performed by Hindu mothers to propitiate the goddess in behalf of their sons. The goddess resembles Amphitrite. It is supposed to be a propitiatory rite handed down from times when the Hindus were engaged in maritime avocations. It is held on the day on which, according to Hindu astronomy, the sun turns back from Capricornus to resume his northern ascension, and when the steady N.W. wind blows favourably for outward bound voyages. Feastings are held on that day, and farewell entertainments are given to the voyagers.

SHORABAK lies due east of Seistan, on the banks of the Lora, and is occupied by the Baraich Afghans, great camel-breeders, and acknowledging the supremacy of the amir of Kābul.

SHORAPUR, a tributary state of the Nizam, situated on the south-west corner of the Hyderabad territory. Its chief and their people are of the Beder race, parties of whom are scattered southwards into Mysore, and eastwards Bellary. Their race name is the source of the word Pindara.—*Imp. Gaz.* viii.

SHORE, Sir JOHN, afterwards Lord Teignmouth. He arrived in Calcutta on the (12?) 14th September 1786, along with Lord Cornwallis. He succeeded Lord Cornwallis as Governor-General on the 28th October 1793, and retained the office till he embarked for England on the 12th March 1798. On the death of Sir William Jones he was nominated President of the Royal Asiatic Society of Bengal. He wrote an account of Nepal in the Bengal Asiatic Researches.

SHOREA, a genus of plants of the order Dipterocarpeæ, which many botanists arran under the genus Vatica, *q.v.* The species n are Assamica, floribunda, gratissima, lacci obtusa, robusta, Siamensis, stellata, talura, tumbuggaia. S. robusta is the sal tree; S. lac fera, *Heyne*, is a timber tree of Madura; S. obtus *Wallich*, is of Prome; and S. stipularis, *Thw.*, is a great tree of Ceylon, between Ratnapura and Galle.—*Thw.* i. p. 36.

SHORTT. Deputy Surgeon-General John Shortt, a Madras medical officer, a voluminous writer, and original investigator; author of a Report on the Medical Topography of the South-West Political Districts, 1853; Essay on Indigo, 1860, for which he received from Government a prize of Rs. 800; Essay on Cotton Culture, prize Rs. 1000, and gold medal from the Manchester Cotton Supply Association; Handbook to Coffee Planting, 1864; Treatise on Vaccination, 1865-66, translated into Canarese, Hindustani, Tamil, Telugu, Uriya; on the Hill Ranges of S. India. He wrote also on the Medical History of Women, 1864; on the Leaf-Wearing Rite; and on the Hanging Festivals of the Hindus.

SHOTRIANDAR. Tam. A person holding land on easy rent, or for a number of lives; generally as a reward to Brahmans only for public services; also written Shrotriyandar.

SHOUNG, a tributary of the Sitang, on the northern boundary of Tounghoo. It is occupied by a tribe who call themselves Shoun-khi-pho, or sons of the headwaters of Shoung.—*Mason, Burma*, p. 92.

SHOWERS OF FISH. Prinsep on, Journal, 1833, p. 34: Grant on, Trans. of Civil Engineers; Naut. Mag. 1838; Bombay Times, 1840, p. 652. Showers of Blood in Kandesh in 1828, Rep. Brit. As. 1839. Showers of Grain, Ibid. Showers of Pearls, Bombay Times, Jan. 1847. Showers of Sand in China, Dr. MacGowan, in Chinese Rep. Bl. As. Trans., 1851, p. 172. See Sand.

SHRADDHA, SANSK., from Shraddha, firm faith. It is the Latin Credo and English Creed. The Shraddha is a Hindu ceremonial for the repose of the dead. The oblation consists of rice, flowers, water to the manes of the deceased. There are three shraddha for the dead,—one eleven days after death, another every month, and another at the close of the year after a person's decease. During the ten days of mourning the relations hold a family council, and consult on the means of performing the shraddha. On the last of these days, after making an offering for the dead by the side of the river, they are shaved. This offering consists of boiled rice, sugar, curds, sweetmeats, milk, plantains, etc., made into ten balls, and presented with prayers. [redacted] tion given duly to [redacted] for a long [redacted] says, 'What sort of oblat[redacted] the manes is capable of satisfying the[redacted] time, or for eternity, I will now declare, without omission. Brahmans are unclean for ten days after the death of a relation; Kshatriyas, twelve; Vaisyas, fifteen; and Sudras, thirty.' The next day, after bathing, the family prepare an open place for the ceremonies. If it be the shraddha of a rich man, all the learned Hindus and respectable people of the neighbouring villages are invited. The company being seated under an awning, the sons and other relations of the deceased, dressed in new garments, place themselves in the midst of the company with their faces eastward, having [redacted]ar them sixteen different gifts, as brass cups, [redacted]llesticks, umbrellas, shoes, etc. Next are [redacted]ught seeds of sesamum, a small piece of gold, [redacted]d another of a different metal, wrapped up in new [redacted]oths. The son of the deceased now puts a piece of new cloth across his neck, and offers an atonement for the sin of having killed insects, in sweeping the room, in cooking, grinding spices, and in moving the water jar; then follows an offering to the sun; then, rising and bringing his hands forward in a supplicating posture, he solicits leave from the company to make the offering, after which he offers the sesamum, gold, and metal for the happiness of the deceased; takes the kosha, and sprinkles the sixteen gifts with water; then, placing a flower on each, and repeating prayers, he offers them in the presence of the shalgrama or saligrama, one by one, in the name of the deceased, that he may obtain heaven. The son after this, if in circumstances sufficiently affluent, presents large gifts to the Brahmans, as elephants, horses, palanquins, boats, etc., the receiving of which, however, is not honourable. A Brahman then marks the foreheads of all present with sandal powder, and puts round the neck of each a garland of flowers. To the Ugrudanee Brahmans and others are now given, amidst much confusion among the receivers, the sesamum, the morsel of gold, the metal, a large basin full of cowries, and a conch or two, as well as the sixteen different gifts; after which the assembly breaks up. The son then goes into the house, and, placing a Brahman and his wife on a seat, covers them with ornaments, worships them, and, adding a large present of money, dismisses them. After this the son of the deceased requests five Brahmans, of some note for learning, to offer a male calf; in doing which they take two cloths each, four poita, four betel-nuts, and some cowries provided for the purpose, and go with the company to a spot where an altar has been prepared one cubit high and four cubits square. Four of the Brahmans sit on the four sides of the altar and then worship certain gods, and offer a burnt sacrifice. Near the altar are placed the saligrama, four female calves, a male calf, and a vilva post. The fifth Brahman reads certain parts of a Purana, to drive away evil spirits. The female calves are tied to four vilva posts, and the male calf to a vrisha post. To the necks of the female calves four small slender baskets are suspended, in which are placed, among other things, a comb, and the iron stilette with which the Hindu women paint their eyebrows black. A sheet of metal is placed under the belly of the male calf; on the back a sheet of copper; the hoofs are covered with silver, and the horns with gold, if the shraddha be performed by a rich man. On the hips of [redacted] marks of Siva's trident are [redacted] son of [redacted] f, and [redacted] impressed with a hot iron. After this the [redacted] the deceased washes the tail of the male cal[redacted] with the same water presents a drink-offeri[redacted] his deceased ancestors, and afterwards marries [redacted] male calf to the four female calves, repeat[redacted] many formulas, in which they are recommen[redacted] to cultivate love and mutual sympathy. The [redacted] next liberates the female calves, forbidding [redacted] one to detain them, or partake of their milk[redacted] future. In liberating the male calf, he says, [redacted] have given thee these four wives to live [redacted] them. Thou art the living image of Yama; [redacted] goest upon four legs. Devour not the cor[redacted] others, go not near a cow in calf,' etc. [redacted] female calves are generally taken by Brahma[redacted] the male calf is let loose, to go where he plea[redacted] To this succeeds what is peculiarly termed [redacted] shraddha. The river side, or the cow-house, [redacted] some retired place, is chosen; after cleans[redacted] which, they collect all kinds of eatables, cloth[redacted] sesamum, flowers, etc., and place them into [redacted] dishes made of the excavated trunks of th[redacted] plantain tree. The son then washes his feet, and sits with his face towards the east, with a sali[redacted] grama before him, and repeats many prayers to purify himself. He then worships the sali[redacted] grama, presents to his deceased parent the seven dishes placed to the east, repeating various prayers, and worships Ganga, Vishnu, and th[redacted] household gods, adding an offering to the ancestors of the king as an acknowledgment fo[redacted] using the king's land at worship.

SHRAVAN or Purnima, a Hindu feast which occurs about the middle of August, on the 15th of Shravan Shukla. It is attended, on the western coast of India, about Bombay, with much ceremonial. The S.W. monsoon is supposed to be ended. Cocoanuts and flowers are thrown into the sea to obtain favour for those who are to trust themselves on the ocean.

SILK-WORM.

nble Chinese paper, as a material for

—The only cocoons at present utilized
des those of the several species of
ding worms of the genus Bombyx,
ild ones of five species of Attacus, viz.
nthia, Edwardsia, and Ricini, and
selene, with eight species of Antheræa,
Assama, Frithii, Helferi, mezankooria,
paphia, and Perotteti, and Cricula

wild silk insects of British India are found
following trees:—Artemisia, *sp.*, Bauhinia
Boswellia thurifera, Careya sphærica,
carandas, Cassia lanceolata, Celastrus mon-
Chloroxylon Swietenia, Conocarpus latifolia,
speciosa, Ficus Benjamina, F. t'siela,
Lagerstræmia Indica, L. parviflora,
sp., Nauclea cadamba, Osbeckia, *sp.*,
communis, Salmalia Malabarica, Syzigium
num, Tectona grandis, Terminalia glabra,
catappa, Ter. tomentosa, Ter. arjuna,
lanceæfolia, Tet. monopetala, Vatica
Zizyphus jujuba, Z. xylopyrus. In
Antheræa mylitta, *Drury*, feeds on the
almond (Terminalia catappa) and the
mmunis or castor-oil plant.

ld moth most commonly met with in
India appears to be S. paphia. The
feeds on the leaves of the country
tree (Terminalia catappa), whence it is
alled the almond moth. It is also found
the leaves of the ber tree, Zizyphus jujuba,
casuarina, etc. The cocoons are ingeniously
to the twiggy branches of the ber
jujuba) by a long stalk, terminating in
encircling the branch. In the thicker
of the casuarina, the silk is woven among
leaves without the above provision. It has
obtained in any quantity from this source
Madras Presidency.

ch silk cloth is much used for ladies' and
's dresses, and in most parts in India for
use, being worn by Hindus for certain
ceremonies, and while bathing.

madabad has long held a prominent place
silk-manufacturing city. Its kimkhabs and
, though not quite so rich as those of
are much sought after in consequence of
bility and non-fading qualities of their
ues. Its mushroos are supposed to be
in India, and its ordinary silk cloths are
good demand.

rbes Watson's Textile Fabrics of India
silk piece-goods, and loongees and sarees
and silk used conjointly, from Surat;
ery of gold and silver on silk from
silk piece-goods from Ahmadnaggur;
-goods and silk and cotton sarees from
; silk and cotton loongees from Bombay;
and cotton sarees from Dharwar. Ber-
near Kandesh, also manufactures silk,
there are small colonies of weavers at Jin-
ola, Tanna, and Revdanda (in Colaba).
lishment of the manufacture at the two
places seems to be due to the Portuguese.

In Europe, the silk-worm is the caterpillar of
Bombyx mori. The eggs are smaller than
mustard seed, very numerous, slightly
yellowish at first, but changing in a few
to a blue or slate colour. In temperate
climates they can be preserved through the winter
without hatching until the time when the mul-
berry tree puts forth its leaves in the following
spring. The silk-worm, when first hatched, is
about a quarter of an inch long, and of a dark
colour. If supplied with appropriate food, it
remains contentedly in one spot; this is the case
throughout its changes, so that there is no trouble
in retaining it within bounds, as there would be
with some other caterpillars. After eight days'
feeding and rapid increase of size, it prepares to
change its skin, the first skin having become too
small for its body. It remains three days without
food, during which time a secretion forms on the
surface of the new skin, which helps the cater-
pillar to cast off the old one; but the operation
is further facilitated by silken lines which the
insect casts off and fixes to the adjacent objects;
these hold the old skin tightly, while the cater-
pillar creeps out of it. The whole covering of
the body is thus cast off, including that of the
feet, and of the teeth and jaws; but it is done with
difficulty, and sometimes the skin breaks, and a
portion of it remains attached to the hinder part
of the body, compressing it, and usually causing
death. The newly moulted worm is pale in colour,
and wrinkled; but it immediately recovers its
appetite, and grows so rapidly that the new skin
is soon filled out, and in five days another moult
becomes necessary. Four of these moultings and
renewals of the skin bring the caterpillar to its
full size, when its appetite becomes voracious, and
the succulent parts of the mulberry leaves dis-
appear with extraordinary rapidity. The insect
is now nearly 3 inches long; its structure con-
sists of 12 membranous rings, which contract
and elongate as the body moves. There are 8
pairs of legs, the first 3 pairs being covered with
a shelly or scaly substance, which also invests the
head. The mandibles are strong, and indented
like a saw. Beneath the jaw are two small orifices
through which the insect draws its silken lines.
The silk is a fine yellow transparent gum, secreted
in slender vessels, which are described as being
wound, as it were, on two spindles in the stomach;
these vessels, if unfolded, would be about 10
inches long. The insect breathes through 9 pairs
of spiracles distributed along the sides of the
body. The caterpillar has 7 small eyes near the
mouth; the two spots higher up are not eyes, but
portions of the skull. Arrived at maturity, the
caterpillar is of a rich golden hue; it leaves off
eating, and selects a corner in which to spin its
cocoon. It first forms a loose structure of floss
silk, and then within it the closer texture of its
nest, of an oval shape. Here the caterpillar remains
working until it is gradually lost sight of within
its own beautiful winding-sheet. Taking no food,
and emitting this large quantity of silk, its body
diminishes one-half, and on the completion of the
cocoon it changes its skin once more, but the
becomes an apparently inanimate chrysalis
aurelia, with a smooth brown skin, and pota
at one end. It remains in this corpse-like
for a fortnight or three weeks, when it
forth a perfect winged insect,—the silk moth
escaping from the cocoon, it pushes aside the
first moistening the interior of the coc
tasteless fluid from its mouth to dissolv
which holds the fibres together. The
no teeth, therefore it cannot gnaw it

generally supposed. In the perfect form, the insect takes no food, and only lives two or three days. The female dies soon after laying her eggs, and the male does not long survive her.

The domestic treatment of the silk-worm has been brought to great perfection in Italy. Formerly the eggs were hatched at uncertain periods, depending on the natural warmth of the season, or they were put in manure-beds, or were worn in little bags about the person next the skin. They are now hatched in an apartment heated to the proper degree by a stove; but they are first washed in water, and afterwards in wine, to separate light eggs, as well as dirt, and the gummy envelope which surrounds the heavy ones. The temperature of the hatching-room is at first 64°, but is gradually raised 1 or 2 degrees daily, until it reaches 82°, which it is not to exceed. Pieces of coarse muslin, or of white paper pierced with holes, are placed over the eggs when they are about to be hatched. Through these the worms creep to the upper surface, and are removed as soon as possible to a cooler place. Young leaves and sprigs of mulberry are laid upon the muslin or paper, when the worms eagerly settle on the leaves, and can thus be transferred to trays, and removed to the nursery. This is a dry room of regulated warmth, with windows on both sides, so that free ventilation may be attainable. Chloride of lime should be in use to purify the air, and a thermometer and hygrometer to regulate the heat and moisture; the latter is apt to abound where silk-worms are kept, and is very prejudicial to them. Moist exhalations arise from the leaves and from their bodies. Fermentation, also, soon takes place if litter and dung be not speedily removed from their trays; these are fertile sources of disease among the worms, and may carry off thousands in a day. 80 lbs. French (=88 lbs. English) of cocoons are the average produce from one ounce of eggs.

Diseases.—One of those to which silk-worms are liable consists of the formation of a minute cryptogamous plant of mildew within the body of the living insect. Damp and fermenting food and litter produce, in the first place, among the fatty matter of the body of the caterpillar, an infinite number of sporules supported by minute stems. These increase to such a degree that the vegetation soon pierces the skin, gives a general mealy appearance to the body of the caterpillar, ripens its seed, which is borne by the winds to every part of the nursery, carrying contagion with it, and at length causes the death of the worms. The dead bodies of worms or moths (for the insect is infected in all stages) are sources of contagion, unless immediately destroyed. This disease is called muscardine in France, calcinetto in Italy. The French name arises from the resemblance of the diseased caterpillar to a mealy kind of sugar-plum made in Provence, and sold under the name of muscardine; the Italian name refers to the chalky or mealy surface of the

Various fumigations and washes have been [illegible] in order to purify infected nurseries, and to [illegible] others from the ravages of this malady; [illegible] of blue vitriol, the sulphate of copper [illegible] to the wood-work, frames, etc., of the [illegible] of great use in destroying the seeds of [illegible] but nothing is so good a preservative [illegible] to cleanliness and good ventilation. The improved [illegible] Italy, for preserving the health of [illegible] insects, are due to [illegible] particular and scientific attention to [illegible] and superseded by an absurd [illegible] rearing of silk-worms. According to [illegible] wicker shelves are arranged in a room [illegible] venient distances, and are lined with paper [illegible] which the worms are placed. Such worms [illegible] are placed together as have been hatched [illegible] same time, the space allowed them being [illegible] ounce of egg, 8 square feet during the first age, 15 feet for the second age, 35 feet for the third age, 82½ feet for the fourth, and about [illegible] for the fifth age. The mulberry leaves are [illegible] in order to present a large number of fresh edges to the young insect. Four meals a day, a regular rule, and luncheons between when the worms are particularly voracious, is the [illegible] allowance for their subsistence. The temperature at which silk-worms are healthiest and [illegible] from 68° to 75°, though they are also [illegible] much higher temperature. Alternations of heat and cold are exceedingly injurious to them.

The muscardine disease is produced by *Botrytis Bassiana*; the still more terrible pebrine or [illegible] is caused by a minute vibrio-like organism.

In *Madagascar*, there is said to be an indigenous silk-worm of great size, fed in the open woods on the pigeon-pea (*Ambira vatry*), and yielding very large cocoons. Little attention, however, is paid to it by the natives. This is probably the silk of which Mr. Consul Pakenham writes, 11th August 1869, 'There is another silk in Madagascar much esteemed on account of its strength, which is said to be collected in a state of floss in the interior and afterwards treated much the same as cotton.' Mr. Pakenham states that M. de Lastelle procured Bombyx eggs from China, introduced the mulberry, and set up a regular establishment at Tamatave, which produced several thousand pounds of fine silk.—*Von Mueller; Four Reports on Indian Silk, by F. O. Adams*, 1870-1871; *Mr. Consul Gower's Tour in Japan*, 1870; *China Imperial Customs, Silk Report*, 1881; *Ure's Dictionary*; *Trade Accounts, Statistical Abstract, and Accounts of Trade of Great Britain and British India*; *Wild Silks of India, by Thomas Wardle*, 1880; *Collection of Papers regarding Tasar Silk*, 1879; *Wm. C. Wyckoff, The Silk Goods of America*, 1879; *Williams' Middle Kingdom*; *Sir J. Sheil, in Markham's Embassy*; *Royle's Arts and Manufactures and Productive Resources of India*, p. 497; *Morrison's Compendious Description*; *Geoghegan, Silk in India, Calcutta*, 1872; *Capt. Huttim*; *Dr. Horsfield and Mr. Moore's Lepidopterous Insects*; *Harris' Nat Hist. of the Bible*; *Chinese Repository*; *Juries' Reports and Catalogues of Exhibitions*; *Davies' Chinese*; *Fortune's Residence*; *Tennent's Ceylon*; *Dr. Walker in Madras J. Lit. and Science*; *Yule's Cathay*; *Huc's Chinese Empire*; *Powell's Handbook*.

SILK-WORM GUT. The substance which is secreted through the mouth of the silk-worm, while in the body of the animal appears as a viscous liquid, which becomes solid when in contact with the air. If a silk-worm be taken when about to spin its cocoon, and immersed for twelve hours in vinegar, on opening the reservoir which contains the liquid silk, this may be drawn out in the form of threads as thick as a common-sized [illegible]

in all countries in historic
in the value of silver com-
old. In British India, in the
h century, a tola (180 grains)
rchased for 15 or 16 tolas of
iod between 1870 and 1883,
sting even 23 tolas of silver.
n selected as a medium of
l of value; but at certain
purchasing power has under-
great alterations. Between the reign
and the accession of Elizabeth,
steadily in value, at the end of that
purchasing power being double what it
the beginning. In other words, one ounce
at the accession of Elizabeth would buy
as much as two ounces in the time of
The causes of this extraordinary
seem to have been the gradual exhaustion of
mines and the growth of wealth and trade
The discovery of the mines of Mexico
caused a great and rapid fall, so that at
of Charles I. the purchasing power
was only about one-third of what it had
the accession of Elizabeth. During the
two centuries and a half there was little
The working of the Spanish American
so reduced the value of silver that it
ounces to buy what one ounce previ-
would have bought.' Silver thus became
cheap as in the middle of the Tudor
and fifty per cent. cheaper than at the
Crecy. The mines of Mexico and Peru
gold as well as silver, but the latter far
abundantly. Gold therefore also fell in
but not so much as silver. In the middle
ounce of gold exchanged for ten of
In 1792, when the United States adopted
coinage, they fixed the proportion at
fifteen. In other words, the silver dollar
weigh as much as fifteen gold dollars. By
silver was overvalued, and accordingly,
when France adopted the franc system,
Minister Gaudin fixed the proportion at one
and a half. Gaudin undervalued as
overvalued silver, and the consequences
curious. Fifteen dollars' weight of
the open market and as bullion would
dollar's weight of gold, but when
Consequently it was profitable
who had silver to get it coined.
was profitable to every person
to pay money to pay it in silver, for the
more than it was intrinsically
therefore, was alone sent to the
only passed from hand to hand.
of the gold? It was legal tender
was, for the United States adopted
system. Either gold or silver,
discharge debts to any amount.
would be to incur loss. Con-
disappeared from the American
was exported to France. France
metallism, but as she undervalued
have been a loss to send it to
ingly, silver was exported from
United States in return for the
The United States find-
decided upon getting it back;
evalued the metals, fixing the
one to sixteen. They thus

passed from one error to another. As they had previously over-estimated silver, they now under-estimated it, and the result was precisely the reverse of what had before occurred. The whole of the silver was exported, and gold took its place. So complete was the substitution, indeed, that since 1854 not a single silver dollar had been coined by the American mints, although the law making silver a legal tender equally with gold remained upon the Statute Book until 1873. Here we have a double illustration, as complete as if it had been intended for verification, of the influence of mere coinage laws on the movement of the precious metals. In the course of half a century we find gold expelled from the United States and silver from France, and then silver swept away from the former and gold from the latter. Notwithstanding previous experience, Germany has recently demonetized a silver coinage, substituting for it a gold one.

The discovery of gold in California and Australia had a considerable effect upon the monetary systems of the world, but to a far less extent than the discoveries of the 16th century. M. Juglar compiled a series of tables which show what that effect was. From 1850 to 1864 the excess of gold imported into France over that exported amounted to the enormous sum of £136,000,000 sterling. On the other hand, the exports of silver exceeded the imports by as much as £63,000,000. While, therefore, the amount of the precious metals in France was increased by £73,000,000, not only was the total augmentation in gold, but also a not much smaller value of silver was displaced by that metal. The first effects of the gold discoveries was thus to undo what had taken place between 1834 and 1854, and to replace gold in the French circulation. But the exported silver was sent, not to the United States, but to the east. The Public Works policy initiated by Lord Dalhousie, the Mutiny, and the demand for Indian cotton caused by the American Civil War, the opening up of China, and subsequently of Japan, all created an extraordinary demand for silver, which the abundance of gold enabled Europe to spare. In the period 1864–74 a change took place. The excess of the imports of gold over the exports in this period was less than £68,000,000, or about half the former excess. But in the case of silver, instead of an excess of exports, we now find an excess of imports amounting to £49,000,000. Thus in the latter period there was an excess of imports of both metals, but the imports of gold had greatly fallen off, whereas those of silver had taken the place of a much larger deficit. And this occurred in spite of the large sums of silver exported to Germany to pay the indemnity! Another fact to be borne in mind is that the change set in before the war, consequently before the demonetization of silver in Germany, before the depreciation of silver showed itself, and before the increased production of the American silver mines. In the spring of 1865 the American Civil War came to a close. The Southern ports were then opened, American cotton began to arrive in Liverpool, and the demand for the Indian article fell off.

In London, between the years 1833 and 1872, the price of a standard ounce of bar silver ranged between $59\frac{3}{16}$d. and $62\frac{1}{16}$d. In 1873, the price of silver began to decline, and since then it has been selling as under:—

1873,	59 1/16 d.	1877,	54 13/16 d.	1881,	51 1/16 d.
1874,	58 5/16 d.	1878,	52 7/16 d.	1882,	51 1/16 d.
1875,	56 1/16 d.	1879,	51 7/16 d.	1883,	50 15/16 d.
1876,	52 13/16 d.	1880,	52 1/16 d.		

In 1871 peace was declared between France and Germany; in 1873 the German Government announced the demonetizing of silver; in 1874 there was an enormous increase of bullion, £32,000,000, mostly gold. In 1876 there were remarkable fluctuations in rates of Indian exchanges and bar silver, and the latter touched the lowest price on record.

Value of gold and silver imported from, and exported to, foreign countries at ports in British India:—

	Gold—Imports.	Silver—Imports.
1847–48, . . .	£1,048,778	£922,185
1857–58, . . .	2,830,084	12,985,332
1867–68, . . .	4,775,924	6,999,450
1877–78, . . .	Rs. 1,57,89,273	Rs. 15,77,65,323
1879–80, . . .	2,05,03,929	9,60,50,019
1880–81, . . .	3,67,20,576	5,31,61,563
1881–82, . . .	4,85,63,920	6,46,63,889
1882–83, . . .	5,09,51,324	6,37,21,250
	Exports.	Exports.
1847–48, . . .	£9,662	£1,416,376
1857–58, . . .	47,011	766,384
1867–68, . . .	166,457	1,405,489
1877–78, . . .	Rs. 1,11,07,983	Rs. 1,00,01,973
1879–80, . . .	29,98,893	1,73,52,586
1880–81, . . .	1,68,586	1,42,35,822
1881–82, . . .	1,24,078	1,08,73,390
1882–83, . . .	16,42,639	17,53,094

—*Mason; Ball; M. Exh.; Oldham; Yule's Embassy.*

SILVER COINAGE. Silver is the legally constituted medium of exchange in all money transactions throughout the British Indian possessions. The extent to which the Hindu, Muhammadan, and British rulers of India have issued coins, may be shown by mentioning that in 1868 Surgeon-Major Shekhton in a pamphlet gave the assays of 102 gold mohurs, 62 hun or pagodas, and 1 half pagoda, 24 gold fanams of from 2·6 to 5·9 grains, and 21 foreign cold coins; but of silver coins he gave 456 rupees, 23 half rupees, 6 fanams, and a damri.

The English East India Company kept up mints at several of the large towns, but since the 31st August 1869, when that at Madras was closed, minting has been continued only at Calcutta and Bombay, and that chiefly for silver; for in the ten years 1873 to 1882, the total of gold coined was £156,253; for silver, £60,153,158; and of copper, £679,171.

	Silver.	Copper.		Silver.	Copper.
1873,	£3,980,914	£11,012	1878,	£16,180,326	£148,591
1874,	2,370,006	14,461	1879,	7,210,770	66,648
1875,	4,896,884	111,024	1880,	10,256,967	70,790
1876,	2,550,218	105,660	1881,	4,249,676	18,560
1877,	6,271,122	123,429	1882,	2,186,275	8,996

Indian System of Coinage and Currency.—The *silver rupee* was introduced, according to Abul Fazl, by Sher Shah, who took the throne of Dehli from Humayun in the year 1542. Previous to his time, the Arabic dirham (silver drachma), the gold dinar (denarius auri), and the copper fulus (follis), formed the currency of the Moghul dominions. Sher Shah's rupee had on one side the Muhammadan creed, on the other the emperor's name and the date in Persian, both encircled in an annular Hindi inscription. Since the same coin was revised and made more pure in Akbar's reign, we may assume the original weight of the rupee from Abul Fazl's statement to have been 11¼ masha. Akbar's square rupee, called from its [illegible] was of the same weight and [illegible] called char-yari, from the names [illegible] successors of Mahomed, Abubakr, Omar, Ga[illegible] and Ali, being inscribed on the [illegible] rupee is supposed by the vulgar to have talismanic power.

Masha.—Concerning the weight of the [illegible] of the Muhammadans, some difficulty prevail[illegible] this unit now varies in different parts of [illegible] Mr. Colebrooke makes it 17⅞ grains nearly; [illegible] the average of several gold and silver jalali[illegible] Akbar's reign, found in good preservation, gives [illegible] 15·5 grains, which also agrees better with the actual masha of many parts of Hindustan. By this calculation the rupee originally weighed 172·4 grains troy, and was of pure silver, or such as was esteemed to be pure. The same standard was adopted by the emperor Akbar, and according[illegible] we find coins of Akbar's reign dug up at various places weighing from 170 to 175 grains. Cabinet specimens of Jahangir, Shah Jahan, and Aurangzeb have also an average weight of 175 grains pure, and the same prevails with little variation up to the time of Muhammad Shah, in the coins of opposite extremities of the empire, or struck in the subahs of Surat, Ahmadabad, Dehli, and Bengal as in the Akbari, Jahangiri, Shah Jahani, Dehli Sonat, Old Surat rupee, Murshidabad, Persian rupee of 1745, Old Dehli Muhammad Shahi, Ahmad Shahi, and Shah Alam of 1772. The Moghul emperors thus maintained a great uniformity in the currency of their empire, and they were very tenacious of the privilege of coining. On the breaking up of the empire in the reigns succeeding Muhammad Shah numerous mints were established by mutsaddis or by the viceroys of the principal subahs who, assuming independence, and the coin was gradually debased as the confusion and exigencies of the time increased. The Mahratta and other Hindu states also established mints of their own, retaining, for form sake, however, the emperor's name and superscription, as a titular avowal of Delhi supremacy. As the British dominion spread, the differences gave rise to the difference in the currencies of the British provinces, and by a happy chance brought those of Madras, Bombay, Tarakhabad to a close approximation. Regulation xxxv. of 1793 was the first of those of the East India Company which treats of mint matters. At this time the differences in the values of the currencies were very great, but the dates of the coins on each coin facilitated the work of the sirafs or money-changers in applying the batta to allow for the known debasement of each coin entering. In 1793, the E.I. Company resolved to remedy the inconveniences which had thus arisen, by declaring that all rupees coined for the future should bear the impression of the 19th year of Shah Alam, and thus by its adoption at that early date it happened that the Sicca rupee was the purest of the Company's coins which retained the full value of the original Dehli rupee. At the same time, the Surat rupee of the Moghul emperors, weighing 178·314 grains, was adopted as the currency of the Bombay Presidency. It was 172·4 pure, and was thus nearly equal to the Dehli rupee. From depreciations made in the coin by the nawab, the coinage at Bombay was [illegible] for twenty years; but in 1800 the Surat [illegible]

SILVER COINAGE.

e struck at Bombay, and from that
e fixed at 179 grains weight, 164·74
he mohur was equalized in weight
1829, under orders from the Court of
currency of the Bombay Presidency
with that of Madras by the adoption
grain rupee and mohur. The Arcot
88 still retained 170 grains of pure
subsequently, when coined at the mint
eorge, it had a weight of 176·4 grains,
rains pure, until the new system was
n 1818, and the Madras 180 grain
tablished.

inscriptions upon the E.I. Company's
er coins were in Persian as follow:—
of the Sicca rupee struck at the Cal-
mint:—'Hami-i-din-i-Mahomed, Sayah-i-
sikkah zad bar haft Kishwur Shah
hadshah.'—'Defender of the Muhammadan
reflection of divine excellence, the king
has struck this coin to be current
the seven climes.'
—'Struck at Murshidabad in the year
unate reign.'
pee of the Western Provinces, coined
formerly of Farrakhabad and Benares,
agar mint, the obverse had the same
ut on the reverse the date and place
as different,—'Struck at Farrakhabad
15 of his prosperous reign.'
dras rupee had a dotted rim on the face,
nted cord milling; that coined in Cal-
had an upright milled ridge; it has the
ol of a rose on the obverse. The inscriptions
follow:—
The auspicious coin of the warrior king Aziz-
Din Mahomed, Alamgir (the father of Shah
m).' 'Struck at Arcot in the 20th year of his
icious reign.'
he Bombay coin had a plain edge and the
wing legend:—
The auspicious coin of the warrior king Shah
m, 1215.'
Struck at Surat in the 46th year of his pro-
us reign.'
before explained, the Bombay, the Madras,
the Farrakhabad or Sonat rupee, had fortuit-
happened to be of nearly the same intrinsic

	upee, pure contents,	165 grains.
	rupee, ,,	164·7 ,,
	bad rupee, ,,	165·2 ,,

ation of the standard of purity in 1818
ect the proportion of pure metal, and
agar mint was established in 1825, it
to coin the new Farrakhabad rupee
grains weight, the same as the standard of
or containing 165 grains pure.
iptions on the last of the Company's,
adopted as Her Majesty Queen Vic-
rupee are as follow:—
—'Victoria Queen.' Reverse—'East
any, 1840. One Rupee; Ek-Roopiah.'
upright on the edge. The rupee of
oria, after annexing India to the crown,
—'Victoria Queen,' with crowned bust.
One Rupee. India, 1862.'
is the sixteenth part of a rupee; there
piece in British India, but the last
E.I. Company and the first of Queen
e a quarter anna and a half anna and
a one-twelfth anna or one pai coin. That of the E.I. Company had—obverse—A shield supported by a lion and a unicorn rampant, surrounded with a lion rampant, and the words 'Auspicio regis et Senatus Angliæ.' Reverse of half anna of the East India Company—'Half anna, Do Pai.' Reverse of quarter anna—East India Company. 'One quarter anna, Ek-Pai.' The Pai or one-twelfth anna has,—obverse—'Victoria Queen.' Reverse—'One-twelfth anna. India, 1862.'

On the 31st August 1835, five rupees, viz. the Sicca, the Farrakhabad, the Surat, the Bombay, and the Arcot or Madras, were the only legal tender in British India, within their specified local limits. On the following day, 1st September 1835, Act xvii. of 1835 took effect; it directed the coinage of a Company's rupee weighing 180 grains, of a standard $\frac{11}{12}$ths or 165 grains of pure silver, and $\frac{1}{12}$th or 15 grains of alloy, and declared it equivalent to the Bombay, Madras, Farrakhabad, and Surat rupees, and to $\frac{175}{176}$ths of the Calcutta Sicca rupee.

In 1836, an Act discontinued the Sicca rupee as legal tender in discharge of any debt, but permitted its receipt by collectors of land revenue, or by weight, and subject to a charge of 1 per cent. for re-coinage.

In 1862, after the E.I. Company was deprived of their power to rule India, and its government was assumed by the Queen of the United Kingdom of Great Britain and Ireland, Act xiii. of 1862 continued the weight and fineness of the coin of 1835, but changed its designation from 'Company's' to 'Government.'

At present the following British Indian coins are current:—

a. Legal tender in satisfaction of all engagements, viz.:—Silver coins—A Government rupee (weight, 180 grains; touch, 916·6). A half rupee (weight, 90 grains; touch, 916·6).

b. Legal tender for fractions of a rupee only, viz.:—A quarter of a rupee or four-anna piece (weight, 45 grains; touch, 916·6). An eighth of a rupee or two-anna piece (weight, 22½ grains; touch, 916·6).

Copper Coins.	Weight.
A double pice or ½ anna, . . .	200 grains troy.
A pice or ¼ anna, ...	100 ,, ,,
A half pice or ⅛ anna, ...	50 ,, ,,
A pie, 1/3 of a pice, or 1/12 anna, .	33⅓ ,, ,,

Gold.—The old standard for gold coinage in Bengal was 99¼ parts of pure gold to ¾ of a part of alloy. This was altered by Regulation xiv. of 1818 to $\frac{11}{12}$ths of pure gold to $\frac{1}{12}$th of alloy; but the law having become inoperative, the old standard was reverted to for a time, until Act xvii. of 1835 re-established the standard of $\frac{11}{12}$ths fine (*i.e.* = 916·6 touch), but declared that no gold coin should thenceforth be legal tender in India.

Under the Act xvii. of 1835, the following were the coins:—A double gold mohur, 30 rupees piece; a gold mohur (weight, 180 grains), 15 rupees piece; two-thirds of a gold mohur, 10 rupees piece; one-third of a gold mohur, 5 rupees piece.

By a financial notification of October 1868, sovereigns and half-sovereigns coined at any royal mint in England or Australia, of current weight, may be received in all the treasuries of British India and its dependencies, in payment of sums due to Government, as the equivalent of 10 rupees 4 annas and 5 rupees 2 annas respectively; and whenever available at any Government treasury, they may be paid at the same rates to any person

willing to receive them in payment of claims against the Government.

An Indian Coinage Act (xxiii. of 1870) became law on 6th September 1870. It provides that the under-mentioned (as a matter of fact, gold coinage is confined as yet to the Calcutta mint) gold coins only shall be coined at the mints, viz. at Calcutta and Bombay, and at such other places, if any, as the Governor-General in Council may by notification direct, viz. :—A gold mohur or 15 rupees piece, a 5 rupees piece, a 10 rupees piece, a 32 rupees piece or double gold. The respective weights and fineness as before, *i.e.* relatively to 180 grains for the mohur; touch, 916·666.

Silver.—1 rupee, ½ rupee, ¼ rupee, ⅛ rupee. Weight of rupee, 180 grains.

Copper.—1 double pice, 1 pice, ½ pice or one-eighth of an anna, a pie or one-twelfth of an anna. The weight of the double pice to be 200 grains. The other copper coins to be of proportionate weight.

Remedy on copper coins not to exceed one-fortieth in weight.

Device.—The coins struck under this Act bear on the obverse the likeness of H.M. Queen Victoria, and the inscription 'Victoria Queen.' On the reverse, the designation of the coin in English, filled by the word 'India;' with such date and embellishments on each coin as the Governor-General in Council may from time to time determine.

Legal Tender.—No gold coin shall be a legal tender in payment or on account. The said rupee and half rupee shall be a legal tender, provided that the coin has not lost more than 2 per cent. in weight, and has not been defaced or diminished otherwise than by use. The ¼ and ⅛ rupee shall be legal tender only for the fractions of a rupee. None of the copper coins shall be legal tender except for the fraction of a rupee.

Coinage of Bullion.—Subject to the mint rules for the time being in force, the mint-master shall receive all gold and silver bullion and coin brought to the mint, provided it be fit for coinage, and that the quantity so brought at one time by one person is not less, in the case of gold, than fifty tolas, and in the case of silver, than one thousand tolas.

All silver bullion or coin brought for coinage shall be subject to a duty of 2 per cent. on the produce of such bullion; and this duty shall be deducted from the return to be made to the proprietor.

The charge levied for premelting or for cutting such bullion, shall be, in the case of gold, ¼th per mille, and in the case of silver, 1 per mille.

The mint-master, on the delivery of gold or silver bullion or coin into the mint for coinage, shall grant to the proprietor a receipt, which shall entitle him to a certificate from the assay-master for the net produce of such bullion or coin, payable at the general treasury. Assay certificates in case of silver are payable on demand; in case of gold, are payable in gold twenty days after date of mint-master's receipt. When bullion is brought to the mints in the shape of foreign or of uncurrent coin, it is always melted prior to assay.

The following table exhibits the scheme of the British Indian monetary system :—

Rupee.	Anna.	Paisa.	Pai.
1	16	64	192
...	1	4	12
...	...	1	3

Small cowrie or kauri shells are also made of for fractional payments, and are reckoned follows :—

4 kauri make 1 ganda.
20 ganda make 1 pan.
5 pan make 1 anna.

but their value is subject to considerable fluctuati

The maharajas Sindia of Gwalior and Hol of Indore use the Ujjain rupee. In the Hyderal State, ruled by the Asof Jahi dynasty, the Sha shiri and Hali Sikka silver rupees are current, a many rude copper coins. In the Travancore Stat fanams and chakrams.

The following notes on the names of the coins and the schemes of the coinage of Eastern and Southern Asia may be interesting :—

Annam people have one silver coin weighing 569 grains, and another of 5895 grains, possibly the largest silver coin.

Ashrafi, Murshidabad gold mohur, has a weight of 190·895 grains troy.

Adhela, from Adha, HIND., half, signifies the half of a paisa.

Burma has a coinage of 1, ½, and ¼ rupees; device, a peacock; weight of Ava rupee of 1866 = 180 grains; touch, 898.

The expressions employed by the Burmese goldsmiths in declaring the quality of bullion, requir a knowledge of the Burmese numerals, and a fe other words.

Numerals.		Metals.	Assay Term
1. Ta.	6. Khyouk.	Shew, gold.	Det, better, above.
2. Nhect.	7. Khwon.	Shwenee, red or pure gold.	Mee, diffe
3. Thoun,	8. Sheet.	Nguee, silver.	or—
		Ge or khle, lead or alloy.	Meedet, bet in assay.
4. Le.	9. Ko.	Nee, copper.	Meeshyouk, worse, do.
5. Nga.	10. Tshay.	Byoo, tin.	Ma, adulterat

The usual weight of the small lumps of silv current in the place of coin, is from twenty t thirty tikals (thirty or forty tolas); they bear variety of names from their quality and appearance, the figures given by the action of the fire upon a thick brown coating of glaze (of the oxides of lead and antimony) answering in some degree the purpose of a die impression.

Ban signifies pure or touch, and is the purest obtainable of the Burmese process of refinage. The word ban is synonymous with the bani of the Ayin-i-Akbari. Banwari is the Indian name of the touch-needles used in roughly valuing the precious metals.

Kharoobat, shelly or spiral circled, is applied to a silver cake, with marks upon its surface, produced by the crystallization of the lead-scoria in the process of refinement. It is supposed to denote a particular fineness, which by Burmese law ought to be ten-ninths yowet-nee in value, *i.e.* nine tikals of kharoobat pass for ten of yowet-nee silver, or it should contain nineteen and a quarter ban and three-quarter copper.

Yowet-nee, red-leafed flowers, or star silver, is so named from the starry appearance of the melted litharge on its surface. Yowet is a corruption of Rowek, leaf, and the word is sometimes written by Europeans, rowanee, rouni, rougahnee, etc. Yowet-nee is the Government standard of Ava, and contains by law eighty-five ban and fifteen alloy per cent. Taking it at nine-tenths of purity of kharoobat, which last is 94·6 touch, its quality

be 85·2 fine; which closely accord with the al value. The average of 60,000 tolas of yowet- in an Ava remittance, turned out two dwt. se (90·8); but there was a loss of more than er cent. in melting, from the exterior scoria.

Dain, the most common form of Ava bullion with in circulation, is so called from an assess- nt levied, during the king's reign, upon villages horses; dain signifying a stage or distance of o miles. These cakes weigh from twenty to rty tikals each. Their prescribed legal quality 10 per cent. better than yowet-nee, which puts is species of silver on a par with kharoobat. In actice, however, the quality varies from 1 to 0 per cent. better (five better to thirteen and a lf worse) than Calcutta standard. The average fifty-two lakhs of dain turned out three penny- eights better.

The following will serve as examples of the ode of valuing bullion:—

Dain ko-moo-det is dain 9 per cent. better. Nga-moo-det, 5 per cent. better. Yowet-nee, standard (85 touch).

Kyat-ge or *ta-tshay-ge*, one tikal or tenth of alloy (meaning one-tenth weight of alloy added to standard).

Kyouk-tshay nga-kyat ge, six tens, five tikals lloy (meaning 60 per cent. of alloy added). Gyan, alf yowet-nee (and half alloy).

Gold.—The purity of gold is expressed by moss ... only; ten moss, tshay moo (100 touch), ng esteemed pure gold.

King's gold, or standard, is called ka-moo-ta e-yowe (nine moss, one pe, four seeds), or nine three-quarter moss fine.

Merchant's gold is ko-moo-ta-be, nine and a half s fine. Gold mohurs are called eight and a half ss fine by the Ava assayers.

Bactria.—In the reign of Antiochus II., the d of the Seleucidæ, Theodotus, the governor Bactria, revolted and established an independent monarchy; his capital was the modern Balkh, and is extensive kingdom included parts of Kābul, horasan, and Bokhara. By aid of their coins, he names of nine of their princes have been rought down to us. Their coins have been dis- vered at Surapura and Mathura, between Agra d Etawa, and others in the Panjab. Indeed, th Grecian and Persian coins are met with equently in India. General Ventura and Sir Alexander Burnes collected many Greek coins in ncient Bactria and the Panjab. Major Tod dis- covered one of Apollodotus and one of Menander t Mathura.

Kashmir has the Pookta rupee.

Cash or *Kas*, was a small coin current in South- rn India till early in the 19th century; twenty cash being equal in value to four fulus. Kas may be a corruption of the Sanskrit word karsha, which is mentioned in Colebrooke's Essay on Indian Weights, as the same with the word pan. A karsha, or eighty raktika (rati) of copper is called a pana or karsha-pana. It is now the eightieth part of a pan, but the simple word is all that can be identified as having survived the changes of systems. According to the old Madras system, accounts were kept in star pagodas, fanams, and kas,—8 kas = 1 fanam, 336 kas = 42 (silver) fanams = 1 pagoda.

Pagoda. The E. I. Co. reckoned twelve fanams to the rupee, and three and a half rupees to the pagoda. But the bazar exchange fluctuated between thirty-five and forty-five silver fanams per pagoda. Fanams were also coined in a base gold. Copper one, five, ten, and twenty kas pieces were coined in England, by contract, for Madras, so early as 1797. The twenty kas was also called dodo and fulus.

The star pagoda weighed 52·56 grains; touch, 812 per 1000. It was commonly valued at 3½ Madras rupees. Many varieties of the pagoda used to circulate on the Coromandel coast; but since 1833 they have been only obtainable when sought for.

In 1811, a coinage from Spanish dollars took place, consisting of double rupees, rupees, halves, and quarters; and pieces one, two, three, and five fanams; the rupee weighed 186·7 grains. A silver coinage of half and quarter pagodas, of dollar fineness, also then took place; the half pagoda weighed 326·73 grains troy, and was equal to 1¾ Arcot rupees. By a proclamation of 7th January 1818, the silver rupee of 180 grains was constituted the standard coin, and all accounts and public engagements were ordered to be converted at the exchange of 350 rupees per hundred pagodas. The proportion between the old and new currency then became 3½ rupees per pagoda, and in copper 75 kas old currency = 14 paisa new currency.

Chinese Currency.—Sycee silver, in Chinese Wan yin, is the only approach to a silver currency among the Chinese. In it the Government taxes and duties, and the salaries of officers, are paid; and it is also current among merchants in general. The term Sycee is derived from two Chinese words, Se-sze, fine floss silk, which expression is synonymous with the signification of the term Wan. This silver is formed into ingots (by the Chinese called shoes, and by the natives of India, khuri, or hoofs), which are stamped with the mark of the office that issues them, and the date of their issue. The ingots are of various weights, but most commonly of ten taels each. Sycee silver is divided into several classes, according to its fineness and freedom from alloy. The kinds most current at Canton are the five following:—

(*a*) *Kwan-heang*, the hoppo's duties, or the silver which is forwarded to the imperial treasury at Pekin. This is 97 to 99 touch. On all the imperial duties, a certain percentage is levied for the purpose of turning them into Sycee of this high standard, and of conveying them to Pekin without any loss in the full amount.

(*b*) *Fan-koo* or *Fan-foo*, the treasurer's receipts, or that in which the land-tax is paid. This is also of a high standard, but inferior to that of the hoppo's duties, and being intended for use in the province, not for conveyance to Pekin, no percentage is levied on the taxes for it.

(*c*) *Yuen-paou* or *Une-po*, literally chief in value. This kind is usually imported from Soochow, in large pieces of fifty taels each. It does not appear to belong to any particular Government tax.

(*d*) *Yen* or *Eem-heang*, salt duties. This class is superior only to

(*e*) *Mut-tae* or *Wuh-tae*, signifying uncleansed or unpurified, designated the worst of all. It is seldom used, except for the purpose of plating, or rather washing, baser metals.

The tael of Sycee in the East India Company's accounts was reckoned at 6s. 8d. sterling. When

assayed in London, this metal was frequently found to contain a small admixture of gold.

Copper Coins of India.—Throughout Central India, until long past the middle of the 19th century, in the Nizam's territories, much perplexity existed in the varieties of paisa, and in the great range of their value, as also, indeed, in the coins of the more precious metals; so that every town and village almost had its separate currency and its established nirkh or rate of exchange with the rupee, to the great inconvenience of the traveller and of the poorer classes. In weight they varied from 280 grains (the Jeyporei, etc.) to 34 grains (the Maiwari); the former passing at about 35, the latter at 378, paisa for a rupee; but the paisa also differs in each district. From the small advantage of melting up copper money, it happens that part of the circulation in this metal is of very great antiquity; and not only many ancient Hindu coins are met with, but Bactrian and Roman copper coins are also at times procurable at fairs, and in the neighbourhood of old towns in Upper India.

The paisa was in some cases adopted as the unit for determining the larger weights of the bazars, as the Gorakhpur paisa, of which 530 were held equal to a passeri (five seers) at Ghazipur; and generally through the Benares province, 2881 'chalāns' of Futtehghur in like manner were assumed as the weight of a mān in that district. The Delhi paisa, coined till 1818, was twelve masha or one tola in weight.

Most of the paisa of Native States contained more copper in proportion to their value than the E.I. Company's coin, which was, however, originally one tola in weight, and was gradually reduced to 100 grains. The Sagar mint was for several years employed in converting the native copper money into Benares or trisuli paisa of 100 grains weight, and 64 to the rupee. At Bombay, the old paisa were bought up by Government, for the purpose of removing them entirely from circulation, and substituting the new coin. The Bengal Government also adopted a measure to withdraw the trisuli paisa from circulation, in consequence of their becoming much depreciated in public estimation from a large admixture of spurious coin and other causes; the Calcutta mint being ordered to grant 64 new paisa for 72 trisuli, for an amount not under twenty rupees in value brought for exchange.

The *Cowrie shell*, Cypræa moneta, has greatly fallen in value, in consequence of the facilities of commerce. In 1740, a rupee exchanged for 2400 cowries; in 1756, for 2500; but latterly in Calcutta, so many as 6500 cowries could be obtained for a rupee. In Madras, from 1850, cowries had ceased to be used as money; but in Hyderabad of the Dekhan, in 1856, 2688 cowries were to be had for a rupee. Cowrie, in Persian, is simply khar-mohra, literally donkey or mule-shell, because mules are ornamented in that country with trappings of shells, as a gosain's bullock and riding horses are in India. In Arabic, it is known by Wuda, which Ibn Batuta says were carried in large quantities from the Maldive Islands to Bengal, where it was used as a coin, and therefore no doubt can be entertained that the Cypræa moneta was meant. It is employed throughout all Southern Asia as an amulet in sickness and to avert the evil eye, provided the neck-shell be split or broken. Among Europ nations, these shells, on account of the fan resemblance of their shape to that of the bac a little pig, are known by the names of porc porcellian, porcellanen, and porcelaine, wh we have porcelain, the glaze or varnish on China-ware being similar to that of the cow The English phrases, 'not a cowrie, and no cash,' would seem to be derived from these t minute Indian monies.

Dam.—A copper coin of India, now obsol In Akbar's time, 40 dam of copper were equival in account to one rupee, and the dam of copp is itself defined at 5 tank, or 1 tola 8 masha a 7 rati in weight, which, at 186 grains per tola, equal to 323·5625 grains. There seem to ha been 9·29 chital in each dam, and in the Sh Shahi rupee 371·8 chital, instead of the old 3 divisional coins of that name and value, whi went to the lighter silver piece of former da In the Ayin-i-Akbari, and in most revenue accounts, the dam is considered the fortieth part of a rupee; but to the common people it is known as the fiftieth of a tuka; 25 therefore go to a paisa, and 12½ to an adhela.

Denar, a Persian gold coin, from the Lati denarius.

Dirham, an Arabo-Persian silver coin, from th Latin drachma.

Dilli-all or *Dili-wal*, in A.H. 614, A.D. 1217, w the ordinary coin of the country about Del The original currency, it is supposed, correspond with the bullion money of Prithi raja and othe which was imitatively adopted by the Muha madans in the early days of their occupation Hindustan.

Dumree or *Damree* is commonly known as nominal coin, equal to 3⅛ or 3¼ dam, or betwe 2 and 3 gandas; so that a damree varies fro 8 to 12 cowries, according to the goodwill an pleasure of the money-changers.

Fulus or *fals*, an ancient Arabic copper coin named from the Roman follis, the modern fulu of the Persian Gulf.

Ganda, HIND., is four pice.

Japan has the silver ichibu, 132·5 grains; n shoo, 25·3 grains. The gold koban or koba of Japan, A.D. 1783 and 1796, 240 grains, w coined by the Dutch E.I. Company.

Japan, in 1877, imported 2,072,673 dollar but exported 10,079,200.

The Osaco mint coined 690,602 gold yen, 3,895,136½ silver sen, and 1,115,817¼ copper se and rin; total, 5,701,555¾.

The silver yen is identical in size with th Mexican dollar. The ichibu silver coin is n longer current. Since 1875, the new Japanes trade silver dollar is four grains heavier than the silver yen, and is identical with the American dollar.

Masha, a weight in India varying from 14·687 to 18·5 grains troy, the average being 15½ grains. The rupee of Akbar, which was based upon that of Sher Shah, weighed eleven and a half masha.

Mohur, from Muhr, HIND., a seal, is a gold coin of value 15 or 16 rupees, now uncurrent in India.

Nepal coins.—Nepal was conquered by the Gurkhas in the Newar year 888, corresponding with A.D. 1768. Prior to this epoch, the valley of Khatmandu was divided into three sovereignties, Patan, Bhatgaon, and Khatmandu, each governed

by a raja. Hence, on the Newar coins, three series of rajas' names are found, those of Bhatgaon being generally distinguished by a shell, those of Patan by a trisul, and those of Khatmandu by a sword.

The old coins of the Mal or Newar rajas are much valued for their purity, and are worn by the women, strung to necklaces or armlets, as tokens in memory of their ancestors. The gold mohur of Nepal is 83 to 85 grains. The damree is current in Nepal.

The Nepalese procure all their silver from China, in the form of stamped lumps, as they are current in Lhassa; for the Tibetans generally follow the Chinese custom in their money transactions, of paying and receiving by weight, and the merchants carry scales with them for the purpose. Since the Gurkha conquest the Vikrama era has superseded that of Newar for ordinary purposes, and the Saka, commonly used in Hindustan, has been introduced upon the Nepalese coins.

Netherland India has the silver gulden of 166 grains, also its half and quarter.

Pagoda, a Portuguese appellation of a gold the hoon, derived from the pyramidal ple depicted on one side of the coin. The per Hindu name is Varaha, wild boar, and ibtless originated in a device of the boar inrnation or avatar of Vishnu upon the ancient nage of the Carnatic, for the same figure ears as the signet of the rajas of that country some old copper grants of lands in the Maczie collection. The Hindu name probably ied according to the image of the coin; thus find the Rama Tanka having the device of ma and his attendants; and the Matsya Hun Vijayanagar with four fishes on the obverse. ther pagodas have Vishnu, Jaganath, Vencatesar, etc., on them; those with three Swami or gures are of the best gold, and are valued 10 per ent. higher than the common pagoda. Hun is the ommon term used by the Muhammadan writers, nd, indeed, generally by the natives, for the agoda. It signifies gold in the old Carnatic nguage.

The hun was subdivided into fanams and kas. anam, or more properly panam, is identical with the word pan, known in Bengal as one of the divisions of the Hindu metrical system, now applied chiefly to a certain measure of cowries and copper money. The old fanam was of gold only, and was the one-sixteenth of a hun. In the Lilavati we find,—16 para = 1 dharan, 16 dharan = 1 nishk, where the dharan (or dharam) seems accord with the hun, which is identical in ight with the Greek drachma. The Ikkeri goda contains sixteen fanams; that of Varari d Anandrui, fourteen; and the Kalyan pagoda, enty-eight. The division adopted by the itish was forty-two.

Panna.—The standard of panna under the shwa was called the Ankusi rupee, from kus, the instrument used by the mahout to guide the elephant; probably a symbol marked on the coin.

The *Parthian* or *Arsacian* monarchy was erected by Arsaces, who filled the office of satrap in Bactria, in the year B.C. 256. Vaillant wrote a history of this powerful dynasty, and endeavoured to classify the coins of the twenty-nine Arsacidæ kings. It was subsequently absorbed in the Persian empire in the reign of Alexander Severus, A.D. 226. Their coins have often been found in Southern Asia, the greater number having the Greek word Arsacoy, with different epithets.

Persian ancient coins.—According to Marsden, it was not until the khalifat of Abdul Malik, in the year of the Hijira 76 (A.D. 695), that a distinct coinage was instituted with a view of superseding the currency of Greek or Byzantine and Persian gold and silver.

Persian modern coins.—The Futteh Ali Shah rupee of Shiraz and Hamadan weighs 105 grains; the Karan of Muhammad Shah, 82 grains, minted at several places of 79 to 82 grains; the Huzur dinar, 106 grains; the Larin of Persia, 74·5 grains. Of gold coins, Persia has one of A.H. 1127, weight 166·48 grains, and the Toman, A.H. 1240 and 1248, weighing 68·9 to 73 grains.

Piastre.—The gold piastre of Turkey, A.H. 1115-1171, weight, 53·35 grains.

Pool, PEHLAVI, or Phool, PARSEE. Obolus et res quævis obolo similis ut squama piscis simil (fulus), Borhani Katiu, inde. Be Poolee; Abdul Malik, n. c. Pecuniæ defectus. Abul Fazl says that the pool of olden days was equal to four tolas; Ferishta, again, gives 1 or $1\frac{3}{4}$ tolas.

Rati. — Colonel Anderson considers the rati may be assumed as high as 1·93 grains, and the masha at 15·44 grains.

Sanat, ARAB., year, generally used in coinage of Muhammadan rulers, as the year of their reign, also as the Hijira year.

Sikka, HIND., a coining die, applied to a coin formerly current in India.

Tibet. — M. Csoma de Koros states that the English rupee circulates freely through Western Tibet. The common Chinese brass money, with a square hole in the centre, is likewise current in Lhassa, as generally through the whole of the Chinese empire. The Lhassa (silver) of Tibet is 58 grains.

Tola, HIND., a weight in India, equal to 180 grains troy, the weight of the present rupee.

The gold zecchino or sequin, A.D. 1797, of Ludovico Manin, the last doge of Venice, was current in many parts of India under the names sultani, putli, and putli dukkun; it weighs 53·5 grains.

SILVER FISH. The bodies of the genus Chanda are more or less diaphanous. The name Chanda is from the Hindi word Chandi, silver. They are much prized by the Chinese.

SILVER SKIN of the coffee bean enwraps the bean. See Parchment.

SIMANTONYANA, a Hindu household ceremony of parting the hair of an enceinte woman, on the fourth, sixth, and eighth months.

SIMBUL, an umbellifer, resembling the 'jira' or cummin seed; it has an edible bulbous root, said to be much relished by bears.—*Cleghorn's Panjab Report*, p. 100.

SIMEON SETH, at the command of Alexis Comnenis, made a Greek translation of the fables of Badpai.

SIMIADÆ, or monkeys, a family of the mammalia of the order Primates, viz.:

Order. Primates.
Fam. Simiadæ, Monkeys.

Quadrumana.	Catarrhinæ, *Geoffrey.*
Heopitheci, *van Hœven.*	

Sub-Fam. Siminæ, Apes.

Troglodytes niger, chimpanzee, Africa.
Tr. gorilla, gorilla, Africa.
Simia satyrus, orang-utang of Borneo.
S. morio, orang-utang of Sumatra.
Simanga syndactyla, *Raffles*, Sumatra.

Sub-Fam. Hybolatinæ, Gibbons of Indo-Chinese countries and Malayana.

Hylobates hoolook, hoolook of Assam, Cachar, Khassya, and Sylhet.
H. lar, gibbon of Tenasserim.
H. agilis, gibbon of Malay Peninsula; others from the Malay Islands.

Sub-Fam. Colobinæ, Entellus Monkeys.

Gen. Presbytis, *Illiger.* Semnopithecus, *F. Cuvier.* Hunuman, Langur, HIND.

Presbytis entellus, Bengal langur.

Simia, *Dufresn.*	P. anchises, *Ell.*
Musya, ... CAN.	Hanuman, . . . HIND.
Langur, ... HIND.	Wanur, Makur, . MAHR.

Common in Bengal and Central India.

Pr. schistaceus, *Hodgs.*, *Horsf.*

Kubup, ... BHOT.	Langur, . . . HIND.
Himalayan langur, ENG.	Kamba Suhu, . LEPCH.

Occurs throughout the Himalaya.

Pr. priamus, *Ell.*, *Bly.*, *Horsf.*

Madras langur, . ENG.	Gandangi, . . . TEL.

Inhabits the eastern side of the Peninsula and the north of Ceylon.

Pr. Johnii, *Jerdon.*

Simia Johnii, *Fisher.*	S. Johnii, *var.*, *Martin.*
Semnopithecus Dussumierii, *Schinz.*	S. cucullatus, *Is. Geoff.* S. hypoleucos, *Blyth*, *Horsf.*

The Malabar langur of Travancore, Cochin, Malabar, and South Canara.

Pr. jubatus, *Jerdon.* Semnopithecus Johnii, *Blyth*, *Martin.* The Neilgherry langur of Neilgherries, Animallay, Pulney, and Wynad, not below 2500 and 3000 feet.

Pr. pileatus, *Blyth*, Sylhet, Cachar, Chittagong.
Pr. barbei, *Blyth*, interior of Tiperah Hills.
Pr. obscurus, *Reid*, Mergui.
Pr. phayrei, *Blyth*, Arakan.
Pr. albo-cinereus, Malayan Peninsula.
Pr. cephalopterus, *Blyth*, Ceylon.
Pr. ursinus, *Blyth*, Ceylon.

Sub-Fam. Papioninæ, Baboons.

The true baboons of Africa and monkey-like baboons of India.

Inuus silenus, *Jerdon*, lion-monkey.

Simia leonina, *Linn.*	Silenus veter, *Gray*, *Blyth.*
Nil-bandar, . . BENG.	Nella-manthi, . MALEAL.
Siah bandar, . . HIND.	

Western Ghats, Cochin, Travancore.

I. rhesus, *Jerdon*, Bengal monkey.

I. erythræus, *Schreb.*	Pithex oinops, *Hodg.*, *Hors.*, *Blyth.*
Morkot, ... BENG.	Marcut banur, . LEPCH.
Piyu, ... BHOT.	Banur, ... ,,
Bandar, ... HIND.	Suhu, ... ,,

Inhabits nearly all India.

I. pelops, *Jerdon.*
Macacus Assamensis, *M'Cl.* Inuus Sikkimensis, *Jer.?* Macacus Sikkimensis, *Hodg.?*
The hill monkey, high up in the Mussoori Hills.
Inuus nemestrinus, *Jerdon*, Tenasserim, Malayana.
I. leoninus, *Blyth*, Arakan.
I. arctoides, *Is. Geoffrey*, Arakan.
Gen. Macacus radiatus, *Jerdon.*
Simia sinica, *Linn.*, *Ell.*, *Blyth.*, *Horsf.*

Munga, ... CAN.	Wanur, MAHR. of Sykes.
Madras monkey, . ENG.	Kerda, MAHR. of Ghats.
Bandar, ... HIND.	Vella Munthi, . . TAM.
Makadu, . . . MAHR.	Koti, ... TEL.

All over Southern India.

Macacus pileatus, *Shaw*, of Ceylon.
M. carbonarius, *F. Cuvier*, of Burma.
M. cynomolgos, *Linn.*, of Burma.

Mr. A. Russell Wallace tells us that, with the exception of the orang-utang, the siamang, the Tarsius spectrum, and the Galeopithecus, all the Malayan genera of quadrumana are represented in India by closely-allied species. The Indo-Malay islands have 170 species of mammalia. Of these 24 are quadrumana. The orang-utang species occur in Sumatra and Borneo; the siamang, next to them in size, in Malacca and Sumatra; the long-nosed monkey in Borneo, and gibbons, long-armed apes and monkeys. In Timor, there are 15 bats and 7 land mammals; amongst them the Macacus cynomolgos, the common monkey of all the Indo-Malay islands. Hylobates, the wa-wa or long-armed ape, is the most beautiful of all the monkey tribe. The fur of this gentle little animal is grey, its face, hands and feet are jet-black; in features it more resembl those of the human race than the orang-utang. *Jerdon; Blyth, Cat.; Horsfield; Wallace.*

SIMLA, a sanatorium in the Simla district o British India, situated on a transverse spur o the Central Himalayan system, in lat. 31° 6′ N and long. 77° 11′ E. Mean elevation above sea level, 7084 feet. The Simla district is under Lieutenant-Governor of the Panjab, and sists of several detached plots of terri among the hills of the Lower Himalayan syst Area, 18 square miles; population in 1868, 33,9 The mountains of Simla district and the surrou ing Native States compose the southern out of the great central chain of the Eastern Hi layas. The climate of Simla Hills is admira adapted to the European constitution, and district has therefore been selected as the site numerous sanatoria and cantonments. The pl at the foot of the Simla Hills attain 1000 f elevation, and the outer ranges are lower th those of Garhwal and Kamaon. Rupar, close the Sutlej amongst the outer hills, is under 10 feet, but Subathu, a little farther in, is 4200; a Kussowlee, 6500 feet. The name is the Hind Shyea Malay. Simla was taken from the Jun raj in 1815, and given to the Patiala raja, but agai obtained from him as a sanatorium; the hous are scattered over an extent of about 7 miles, a series of heights varying from 6500 to 8000 fee which is the highest elevation. The portion o the Himalaya visible from Simla is a depressed continuation of the chain, extending from the emergence of the Sutlej through the snow, to an abrupt limit bordering close upon the plain of the Panjab near the debouche of the Ravi; few, if any, of the detached peaks rise beyond 20,000 feet.

The range bears wild thyme, wild strawberri various oaks, pines, the deodar, and all the for of Europe. Pinus excelsa is a very common tree Simla, particularly on the southern face of Mou Jako, which is the highest part of the ridge. Abi Smithiana is rare, while the deodar is common the southern and western slopes of Jako, abo 7000 feet; and again in shady groves at t bottom of the valleys on both sides of the ridg as low as 5000 feet. Pinus longifolia is common at the western or lower extremity of the Simla station, and prevails, to the exclusion of any other tree, on the dry, sunny spurs which run towards the south, at elevations from 5000 to 7000 feet. The trees furnishing the supply of firewood at Simla are chiefly Quercus incana, Rhododendron arboreum, Andromeda ovalifolia, Pinus excelsa,

and Cedrus deodara. The fruit of the trimal, or Ficus macrophylla, is sold in the bazar at Simla.

Koli is the name given to the lower class of cultivators in the Simla Hills. The Kanait are an agricultural race in the Simla Hills and east of the Sutlej, holding most of the land in the Simla Hills. They are inferior in position to Rajputs, but they are often educated, and are generally ministers to the Rajput chiefs. Their women are nice-looking, and all the tribe who are not (in the upper hills) in contact with Tartars are quite Aryan, though not very large. In certain places there is a partial and local practice of polyandry among them, but it is not the general custom of the tribe. The hillmen of Simla are offspring of the dark Kayasth races and Rajputs who have for eight centuries been flying to the mountains to escape Muhammadan invasions. They are filthy in their persons; they have clear, almost Anglo-Saxon, complexion; many have goitres, and they hate Muhammadans. Their chiefs, as the ranas Dati and Kat, are of Rajput origin, and they have municipal system, with shamilik or commons, and a lombardar or mukhia, *i.e.* chief. Polyandry prevails among the hillmen beyond Kotghur, but is on the decline, polygamy often taking its place. In the winter the men almost hybernate, spending months in eating and sleeping.

Simla district produces iron-ore, plumbago, fire-clay, red ochre, limestone, sandstone, and tiles. — *Imp. Gaz.* viii.; *Cal. Review*, 1867; *Thomson's Trs.* p. 22; *Mrs. Hervey, Adventures in Tartary; Hooker and Thomson, Flora Indica*, 202; *Ann. Ind. Adm.*

SIMON JANUENSIS, physician to Pope Nicholas IV. (A.D. 1288-92), mentions meconium as the inspissated juice of the pounded capsules and leaves of the poppy.

SIMOOM. Arab., a hurtful hot wind. One blows in the hot season on the Dasht or plain of Dattekotee between Hazar-nao and Jalalabad, where the mountains on both sides are covered with perpetual snow. It is said to be generally fatal to all men, horses, and cattle who encounter it, and as severe in its effects in the night as in the day. The simoom, samiel, or samm of Arabia, the khamsin of Egypt, and the harmattan of the coast of Guinea, is described as being hot and pestiferous, sweeping over the country with such speed, that travellers might be stifled in a moment, unless they throw themselves close to the burning sand and cover their faces with their cloths. Mr. Werry, Consul-General for Syria in 1838, had a meeting of the chief Aghel and of the Anazeh Shaikhs, who stated that the simoom is hot and suffocating, and has frequently caused the death of persons who have been unable to shelter themselves from its deleterious influence. Ferrier says this hot blast, called Sirocco in the south of Europe, is the Sharkia or East Wind of Scripture. In Egypt, Damascus, Arabia, and Baghdad, it blows by sudden squalls, the approach of which is indicated by a certain perturbed state of the atmosphere. The real samm or simoom, if it actually occur, seems a current of air, probably electric, of rare occurrence, and causing instant death, and peculiar to the deserts. It has no injurious effect on vegetation, perhaps because it does not come in contact with it, as it rarely approaches within one or two feet of the ground. The camel, being aware of its approach, instinctively kneels down, and lays its head close to the ground, thus escaping its effects. Where the hot winds or simoom blow, they often become, above Sehwan, dangerous in their effects. The natives, aware of their power, avoid travelling at the season of their occurrence. There is probably great exaggeration. — *Col. Chesney, Euphrates*, i. p. 578; *Ferrier's Journ.*; *Postan.*

SIMURG, Pers., a fabulous bird of the Persians.

SIN. Chin. The gods. Among existing religions of Japan, the Sin-tu (Sin, the gods, and Tu, faith) and the Buddhist are the most extended. The Sin-tu embraces a cosmogony hero-worship, the Ten-sio-dai-siu, the Sin goddess, being the principal object of worship. The religion has a trace of Buddhism. See Japan.

SIN. Five great sins in the Hindu code are,—stealing gold, drinking spirituous liquors, murder of a Brahman, adultery with the wife of a spiritual teacher, and association with a person guilty of any of these crimes. To kill a Brahman is one of their greatest sins; to kill a cow is also very heinous, as also to kill a woman or an infant. Most of the sins of the Brahmanical Hindus are, however, breaches of ceremonial observances.— *Hindoo Theatre*, p. 30.

SIN or Aba-Sin, a name of the river Indus. Sin is a Scythic word for river, so applied by the Hindus. Aba-Sin is the river Indus, and h and s being interchangeable along the line of the Indus, the Hafta Hindu are the seven rivers, Sat-sind of the Panjab. In classical-Persian literature, siah (black) is synonymous with hind, and Hindu is identical with siah-fam, dark-complexioned. Thus hind-hanna is the equivalent of siahi-hanna, the darkening colour of hanna. Sadi of Shiraz sang that he would give Samarcand and Bokhara for the black (Hindu) mole on a Turkish girl's cheek.

SINAI, a mountain in Arabia, celebrated amongst the followers of the Hebrew, Christian, and Muhammadan religions as that near which the Israelites encamped in their route from Egypt to Palestine. It was from Sinai that Moses proclaimed the Ten Commandments. The Arabs indicate Jabl Tur as the site. The peninsula of Sinai is a triangular tongue of land between the gulfs of Suez and Akaba, comprehended between lat. 27° 40′ and 30° N., and long. 30½° and 35° E., and terminating to the south in the apex of Ras Mahomed, where the two gulfs unite in the common channel of the Red Sea. The average length of the peninsula from N. to S. is about 108 miles.

SINA PATI. Sansk. A commander-in-chief; from Sina, an army, Pati, lord or master.

SINAPIS, Mustard.

Khardal, .	Arab., Heb.	Tuverica, . . .	Sansk.
Moung ngyin, . .	Burm.	Surai-bij, . . .	Sind.
Napu, ...	Gr.	Gan-aba, Rata-aba,	Singh.
Sarson, Rae, . .	Hind.	Kadaghoo, . . .	Tam.
Sarshuf, ...	Pers.	Avaloo, ...	Tel.
Rajika, Sarshapa,	Sansk.		

The Sinapis genus of plants belongs to the natural order Cruciferæ. There are 40 or 50 species. S. alba and S. nigra, the white and black mustard, are best known in Europe. Five or six species are cultivated in all parts of India for the sake of the valuable oil their seeds yield. Those most frequently seen are S. glauca, toria, racemosa, ramosa, dichotoma, and juncea.

Sinapis alba, white mustard.

Hu-kai, Peh-lui, .	Chin.	Safed rai, . . .	Hind.
Hu-lui, ...	,,		

White mustard is a native of most countries in the south of Europe. It is cultivated, and when young is eaten as a salad. The seeds yield by expression 36 per cent. of a bright yellow, pleasant tasted edible oil, having a strong smell and slight taste of mustard. The seeds of S. nigra yield only 28 per cent. of an oil, but in all respects similar to the above. The oil of this species is used in India in cookery, and is considered superior to all other oils for anointing the body, which it is supposed to invigorate. In medicine it is sometimes given internally, but is more frequently applied as a rubefacient. The best flour of mustard is prepared by crushing the seeds of both black and white mustard between rollers, and then pounding them in mortars, when they are twice sifted to yield pure flour of mustard. Two bushels of black and three of white seed yield, when ground, 145 lbs. of flour; which, to diminish the pungency and improve the colour, is mixed with 56 lbs. of wheat flour and 2 lbs. of turmeric; and the acrimony is restored without the pungency, by the addition of a pound of (capsicum) chilli pods, and half a pound of ginger.

Sinapis dichotoma, *Roxb.*

Tha-ba-mee, . . BURM. | Suhota, Sighta, . HIND.
Toreea, Kali surson, HIND.

Cultivated in British India. Much prized for its oil.

Sinapis erucea, Taramira, HIND., a kind of mustard, with a red seed somewhat elongate. The oil it produces is used as food and for burning, and as a medicine for cattle and horses. It is called 'assu' in Panjabi.

Sinapis glauca, *Cleghorn*, is found in the Sutlej valley between Rampur and Sungnam at elevations up to 11,000 feet, and is much cultivated. Several species of Sinapis are grown in the N.W. Himalaya as salads and condiments.

Sinapis juncea.

Khardel, Kubbr, . ARAB. | Tsze-kai, ... CHIN.

Sinapis juncea and S. ramosa are not sown together, but each is cultivated as a mixed crop, with either grain, barley, wheat, or peas.—*Cleghorn's Panjab Reports*, p. 68.

SIND, the name of the Indus river, and of two rivers in Central India. One of these rises at Latouti, on the table-land near Seronj, and, falling into the Chambal river at its junction with the Jumna, forms that sacred spot Triveni, where a shrine has been erected to Siva. The Chot'ha or Little Sind rises on the table-land forming the buttress of Malwa, skirting the Nerbadda, and joins the Par. The term is from Sin, an Indo-Scythic or Tatar term, the river Indus being the Aba-Sin or Father Stream.—*Tod in Tr. R.As. Soc.* iii. p. 145.

SIND, a province of British India, consists of the lower valley and delta of the Indus, lying between lat. 23° and 28° 40′ N., and long. 66° 50′ and 71° E. Its area, including the Native State of Khairpur, is 54,123 square miles, and its population in 1881 was 2,537,976. It is bounded on the west by Baluchistan; on its north is Baluchistan, the Panjab, and Bakhawulpur; on the east it has the Rajputana States of Jeysulmir and Jodhpur, and on the south the Arabian Sea and Runn of Cutch. Its sea-coast is that of the delta of the Indus, and extends about 125 miles between Cape Monze on the W. and the Koree mouth, which is the S.E. entrance and the boundary of Sind. The delta shore is low, flat, and swampy throughout; but west of Kurachee is a high range of mountains terminating in Ras Muari called Ras Mouari and Cape Monze. The contrasts presented by this province are striking. In the central tracts liable to inundation are picturesque-looking villages, with, in the cold season, waving fields, beautiful small lakes, and the land throughout its length and breadth partitioned by numerous canals and irrigation channels; but outside of the fertilized tracts are bare mountains and sandy deserts. Eastward, Sind is bounded by some of the most desert portions of Bahawulpur, Jeysulmir, and Balmir, a dependency of Jodhpur; and the eastern portions of Sind itself, for from ten to sixty miles within the frontier, are desert wastes. Northwards and westwards are rugged ranges of inhospitable stone-heaps, varying in height from 2000 to 5000 feet, where inhabitants, animal life, vegetation, and water are altogether wanting, and divide the province from the territories of th many Baluch clans that compose the State o Kalat. The more habitable part of Sind is a lon narrow tract of country yearly fertilized by th inundation of the Indus, with shifting sand-heap on the east, and bare stony mountains on th west. In the delta of the Indus expansive lak abound. From the easternmost mouth of Indus to the Kurachee harbour, nearly the w coast is a network of channels and marine lago and of sand-banks and mud-banks, more less covered by each advancing tide. Du December and the two succeeding months, cold at night is often severe, being frequ Fahrenheit at daybreak, while at noon mounts to 75° or 86° in the shade.

To the Western Arabs, all eastward Persian Gulf was known as Hind; b distinguished the two regions on and b the Indus river by the term Hind-wa-Sind. Th name of Sind is of great antiquity, and is me tioned both by Pliny and Arrian; the one writ it Sindus and the other Sind. Ancient orient geographers divide the country into two district Lar and Siro, a town called Halah, lying a litt north of Hyderabad, forming the point where the Lar and Siro frontiers unite.

In the 7th century it was described as comprising four principalities, viz. Upper, Middle, and Lower Sind, and Cutch, their native names being Siro, head or upper, Vichalo or midland, and Lar or lower.

The district of Lar or Lower Sind, the ancient Pitasila, is the delta of the Indus from Hyderabad to the sea..

In the time of Alexander, the only places mentioned are Sindomana, supposed to be the modern Sehwan, and a city of Brahmans, named by Diodorus, Harmatelia, which seems to have been the Brahmana city destroyed by an earthquake, A.D. 757. At the present day the principal places in Middle Sind are Sehwan, Hala, Hyderabad, and Omarkot. Hyderabad is supposed to be the ancient Patala and the Nerunkot of the Middle Ages.

Ptolemy has preserved the names of several places, as Barbara, Sousikana, Bonis, and Kolaka, of which the first is probably the same as the Barbarike emporium of the Periplus, and perhaps also the same as the Barce of Justin. In

the time of the author of the Periplus, the capital of Lower Sind was Minnagara, which the foreign merchants reached by ascending the river from Barbarike. In the middle of the 7th century, Hiwen Thsang mentions only Pitasila or Patala.

In the Middle Ages Debal was the chief seaport of Sind, hence called Debal Sindi. It was the emporium of the Indus, and seems to have been situated on the western bank of the Baghan river, below the junction of the southern branch of the Ghara or Sagara branch, five miles to the north of Lari Bandar. Lari Bandar has been deserted, and the present part of the western half of the delta is Dharaja, a few miles east of Lari Bandar. Dewal or Debal means a temple, and several Sind towns had it as a prefix, as Debal Thatta, Debal Kangra. Debal Sindi seems to have been the port at which Zabeida of the Arabian Nights landed from Basra, and found all the people turned into stone.

Debal or Dewal is from Deo, God, Alaya, house = the house of God, a sacred city. Hima-alaya is the snow abode.

Sind was found by Alexander (B.C. 327) well peopled, in a high state of cultivation, under several chiefs. From the time of Alexander till the khalifat of Walid (A.D. 705-715), Sind seems to have been chiefly under Rajputs professing Hinduism. No Buddhist remains have hitherto been observed.

In the early centuries of the Christian era, the Rai dynasty ruled from Kashmir and Kanouj to Makran and the port of Debal on the shores of the Sea of Oman, and from Surat to Kandahar and the Suliman range. The commencement of this dynasty has not been ascertained, but in the time of Rai Diwaij the capital was Alor. He was a powerful chief, who contracted alliances with the rulers of India. He was succeeded by his son, Rai Siharas I. Rai Sihasi was the celebrated son of Rai Siharas, and the next was Siharas II., who reigned 42 years, and was killed in battle. He was a contemporary of Nushirwan. After Siharas II., a Brahman dynasty succeeded. The reign of the Rai dynasty seems to have extended to 137 years.

Several places on the Indus are named after the Chach dynasty, viz. Chachpur, Chachar, Chachgaon, Chachi. Chach was the Brahman who usurped the kingdom of the Rai dynasty of Sind. He was a contemporary of Shahram or Shahrear, and he is supposed to have invented the game of chess. He seems to have reigned about A.H. 2, A.D. 623-24, and to have been succeeded by his brother. In A.H. 93-94, A.D. 711-712, Muhammad Kasim, nephew of the ruling khalif, Walid I., led an army of 15,000 men against the ruler of Sind, raja Daher, who fell in battle before Alor, A.H. 10 Ramzan 93, A.D. 711. Kasim pursued his conquests northwards to Multan. In A.H. 99, A.D. 717, on the invitation of the ruling khalif, Umar-bin-Abdul Aziz, many of the Sind princes adopted Muhammadanism.

After the Ummia khalifs, the Abbassi held Sind until A.D. 1025, when Al Qadar B'Illah, the khalifs' viceroy, surrendered it to Mahmud of Ghazni. In the confusion that resulted on Mahmud's death, a Rajput tribe in Sind, called Sumrah or Sumera, established themselves, A.D. 1054, and held sway until overthrown by the Sammah, another Rajput tribe, A.D. 1315. A brief period of changes was followed by the Sammah tribe re-establishing themselves; and in A.D. 1360 Muhammad Taghalaq took Jam Beni, the reigning prince, to Dehli, from whence he was honourably dismissed, and in 1380 adopted Muhammadanism. The Sammah family continued to reign until A.D. 1519-20, when the last prince was dethroned by Shah Beg Arghun, prince of Kandahar. Arghun Khan Tarkhan was grandson of Hulaku Khan, grandson of Chengiz Khan. One of his descendants, Shah Beg Arghun, occupied Siwi, and his troops in December 1514 took the villages of Kakan and Baghban, and returned to Siwi. In December 1520 he defeated the Sammah army, led by Darya Khan, and gave Thatta up to plunder. He resolved to retain Siwisthan north of the Lukhi Hills, of which he took possession after defeating the Sa'ta and Sumera tribes. He subsequently occupied Bakkar, and moved down the river with the object of invading Gujerat, but died at Chainduka in June 1522. He was succeeded by Mirza Shah Husain Arghun, who defeated a great army near Thatta, composed of the Sind and Sammah races, led on by Jam Firoz. In A.D. 1543, Sind was invaded by the emperor Humayun. Shah Husain died A.D. 1552, at a village 20 cos from Thatta, after a reign of 32 years. Elphinstone says he was drowned in the Indus, and that the Arghun family then became extinct. He was succeeded by Muza Isa Tar Khan (great-grandson of Arghun Khan, grandson of Hulaku Khan, grandson of Chengiz Khan), who, after a comparatively peaceful reign, died A.D. 1566, after a reign of 14 years. His son and successor was Muhammad Baki. There are members of the Tar Khan family still in Sind, and 219,591 in the Panjab.

The last two Asiatic dynasties were the Kullora and Talpur tribes. In the early part of the 18th century, the Kullora, a Sind tribe, took possession of Sind, and were recognised by Nadir Shah or his deputies. The Kullora traced their descent from the Abbasside khalifs, and the Talpuri from Mahomed, but both seem to be Baluch. The Talpuri (Tal or Tar, Borassus flabelliformis or palmyra, and Pura, a town) amount to one-fourth of the population of Hyderabad, which they call Lohri or Little Sind. Previous to the invasion of Nadir Shah, the Kullora, a religious sect, had risen to power in Sind, and the chief of the tribe, Nur Muhammad, had been recognised as governor of the province. During the rule of his brother, Gholam Shah, the connection of the British Government with Sind commenced by the establishment of factories at Thatta and Shah-bunder in 1758. In that year Gholam Shah granted an order for the establishment of the factories and for certain immunities to trade. This order was renewed in 1761; but during the rule of Sirfaraz Khan, the eldest son of Gholam Shah, the trade was so much interfered with, that in 1775 the British withdrew their factories. The violence and tyranny of Sirfaraz Khan and his successors, who from jealousy put to death three of the chiefs of the Talpur tribe, led to the overthrow of the Kullora dynasty. The Talpur chiefs had long held the first place in the service of the rulers of Sind. To avenge the death of their chiefs, the Talpur tribe rose, and, headed by Mir Futteh Ali Khan Talpur,

in A.D. 1786 expelled the Kullora ruler Abdul-Nabbi. The measures which Futteh Ali Khan took to establish his authority alarmed his relatives, Mir Sohrab and Mir Thara, who fled, seized on Khairpur and Shah-bunder, and renounced the authority of their kinsman. Mir Futteh Ali Khan was never again able to extend his authority over the whole province, which henceforth remained divided into three separate principalities, viz. Hyderabad or Lower Sind, under Futteh Ali Khan; Khairpur or Upper Sind, under Mir Sohrab; and Mirpur, under Mir Thara. In Hyderabad, Futteh Ali divided his power with his three brothers, Gholam Ali, Kurm Ali, and Murad Ali, and from their real or apparent unanimity, the brothers received the appellation of the Char Yar, or four friends. In 1799, the commercial intercourse between the British Government and Sind was revived, and Futteh Ali Khan issued an order granting certain privileges in favour of British trade.

Sind fell to the Indian Government, from the Muhammadan Talpur dynasty, after the battles of Hyderabad on the 15th, of Meanee on the 17th February 1843, and of Dubba on the 24th March 1843, all fought by Sir Charles Napier, and this gave to the British the course of the Indus up to Multan. In August 1842, Sir C. Napier had been appointed to the military command in Sind and Baluchistan, and invested with authority over all civil and political officers in these territories. On the 14th February 1843, the Amirs, except Nasir Khan of Khairpur, signed a treaty, leaving Mir Roostum's rights to future investigation. Next day the residence of Major Outram was attacked by 8000 of their troops. After a most gallant defence, the escort made their way to the main army. The battles of Meanee and Dubba subjected the whole of Sind to the British Government, with the exception of the possessions of Ali Murad, who was established as chief of Khairpur, in the territories which belonged to Mir Roostum, both by inheritance and in right of the turband, as well as in the lands of which he himself stood rightfully possessed at the time of the conquest. But a fraud was clearly established by a commission, which met in 1850, and Ali Murad was degraded from the rank of rais of Khairpur, and deprived of all his territories, except those which he inherited under his father's will. The revenue of his possessions in A.D. 1860 was estimated at Rs. 3,50,000, with power to try for capital offences any persons except British subjects. After the conquest, the deposed Amirs were removed from Sind, and pensions were granted them by the British Government.

For British administrative purposes Sind is arranged into the five districts of Kurachee, Hyderabad, Thar and Parkar, Shikarpur, and Upper Sind frontier. The valley is fertilized by the great river, which, like the Ganges, the Irawadi, and the Nile, has an annual rise in the summer months, overflowing its banks and fertilizing the soil to a distance on both sides. Strabo (Geogr. lib. xv.) and Arrian (Hist. Ind. c. 2) compare the delta of the river Indus to that formed by the Nile, and almost every part of the delta has at some time or other formed a channel for the river or one of its many branches. Parts of the territory are almost rainless; the average fall of Sind and Cutch is given by Mr. Blanford at 9·2 inches. Sometimes, indeed, for two or three succe[illegible] no rain falls in the province. The [illegible] soon deluges the Baluchistan hills, bu[illegible] in long. 67° 2′ E., is its eastern li[illegible] S.W. monsoon ends abruptly at Lak[illegible] on the boundary of Cutch. In Upp[illegible] country is diversified. The Lakhi [illegible] an abrupt escarpment facing the riv[illegible] high. The towns of Sukkur and [illegible] hang the stream, and lying in the ri[illegible] them is the island fortress of Bukk[illegible] lofty castellated walls, crowning th[illegible] limestone hills through which the Ind[illegible] A little to the south of Bukkur is t[illegible] Sad'h Bela, with its sacred shrine. In [illegible] district is the Manchar lake, formed [illegible] pansion of the Western Nara. During [illegible] tion it measures 20 miles in length, ar[illegible] area of about 180 square miles; while [illegible] Nara, at the same season, forms dan[illegible] lakes. The extreme S.E. border of Sin[illegible] by the Runn, a salt-water waste with [illegible] 7000 square miles. In the Thar [illegible] district, in the eastern portions of Kh[illegible] in Rohri subdivision, is the desert, wh[illegible] of sand-hills which succeed one anothe[illegible] waves. The soil of Sind consists [illegible] clay, strongly impregnated with sal[illegible] strip which borders either bank of th[illegible] a distance of 12 miles, is for produc[illegible] best in Sind, and in places on it are [illegible] forests of acacia. The exhalations a[illegible] the pools left after the annual inund[illegible] rise to fever.

Religion.—Two-thirds of the popula[illegible] Muhammadanism, 17·84 per cent. Hin[illegible] all retain their clan designations. The[illegible] tudinous, and many of the tribal nam[illegible] the country from which the first immig[illegible] —Syuds from Arabia, Baluch from th[illegible] region on the west, descendants of [illegible] Zanzibar or Abyssinia, with Mehman and Kh[illegible] of Hindu origin, with Awan, Chuvan, [illegible] Nakhuda, and Solang. Burton (pp. 36[illegible]) [illegible] 79 names of Baluch tribes. Other Muha[illegible] generally known as Sindi, of whom there [illegible] about 300 clans of tribes, are descendants [illegible] converts from Hinduism.

Language.—Persian was the language of [illegible] ture, ceremony, office, and epistolary [illegible] ence. But Sindi, the language of the people, [illegible] spoken from the N. boundary of Katty[illegible] north as Bahawulpur, and extends fro[illegible] on the west to the desert which separates Sind from the eastern portion of the Indian Peninsula. There are several dialects of it. It abounds in Arabic words. These in the Urdu constitute the language of the learned men, but in Sindi they are the words in common use for name[illegible] literature consists of translations of Arabic religious and moral works, and popular traditions in poetry, and the Arabic Nashki character is used by the Muhammadans, but the Hindus have a separate written character.

The Sindi is superior to most of the dialects of Western India in various minor points of refinement and cultivation, as, for instance, in the authorized change of terminations in poetical words, the reduplication of final or penultimate letters to assist the rhyme, and many similar signs of elaboration.

lture.—The crops consist of rice, sor- enicillaria spicata (spiked millet), Indian d in Upper Sind wheat and barley. hod of clearing water-courses adopted irers is peculiar to Sind. They are in their work by musicians, and the nt is kept up by beating drums and horns. Without these they make no but with them the canal-diggers of do more manual labour than any natives They work uninterruptedly for twelve d use a large hoe (phaorah) with a short The period for clearing the water- s the first appearance of a rise in the rch or April). The seasons for crops in two, Rabi or spring, and Kharif or the produce varying in portions of the These divisions of the year do not climate, for they hardly exist. Saltpetre n the soil of Sind, particularly the lower and is collected in great quantities. In ricts the surface of the land is covered ine efflorescence.

mber trees of Sind are species of Acacia, lebec, Avicennia tomentosa, Azaderachta pecies of Capparis, Ceriops, Cordia, Dal- Populus Euphratica, Prosopis spicigera, es of Tamarix and Zizyphus.

rests, under the rule of the Amirs, were ting preserves, and were admirably from the thickness of their underwood, over of wild animals of every sort. No whatever was paid to their timber.

the grass called Sar, which perhaps is karka, has its culms, sur jo kanee, made s, and its flower-stalks, beaten to form called moonyah, are made into string (moonyah jo naree), and into ropes (moonyah jo russa).

Nine-tenths of the Sind vegetation consist of plants which are indigenous in Africa, the desert regions assimilating with that country. At least one-half are common Nubian or Egyptian plants, and a considerable number is common to tropical Africa, and South Arabian and Persian plants also occur largely.

The pasture grasses most relished by horses, cattle, and sheep, are Cynodon dactylon, the sweetest and most nutritious of grasses, and abundant everywhere; also Poa cynosuroides, Andropogon involutus, *Stend.;* Anthistiria ciliata, Alopecurus pratensis, *W.;* Dactylis glomerata, and Digitaria sanguinalis, *P.S.;* with the straw of all the grain grasses and millets.

Amongst other wild animals may be mentioned the Gor-khar or wild ass of the deserts, the Equus onager of naturalists.

The river fisheries afford a considerable export trade in dried pullah. Among domestic animals, the camel, of the one-humped variety, ranks first as a beast of burden, immense numbers being bred in the salt marshes of the Indus.

The wool of Sind forms a staple of almost equal importance, though the larger portion of the quantity exported comes, not from the province itself, but from Ferozpur district in the Panjab, and from Afghanistan and Baluchistan.

The spirituous liquors are the gura from molasses, and kuttala from dates; wine called angur is from the Sind grape; and liqueurs sonf, mushki, turanji, nusri, gulabi, and kaisari. It abounds in mineral waters, but the situation of the province and its climate alike preclude the hope of their ever being extensively useful to Europeans, though they might be more employed for sepoys and the people of the country.—*Burton's Scinde; Cunningham's India; Elliot's India; Elphinstone's India; Gibson's Forest Reports; Ouseley's Travels; Pennant's Hindustan David Ross, C.I.E, The Land of the Five Rivers and Sind; J. A. Murray, The Plants and Drugs of Sind.*

SINDBAD, well known to Europe as having the history of his voyages incorporated in the Thousand and One Nights, but they form in Arabic a distinct and separate work, which Baron Walkenaer (in Nouvelles Annales des Voyages, tom. liii. p. 6) regards of equal value with those of Soliman and Abu Said. The voyages belong to the 9th century, when the commerce of the Arabs under the khalifs of Baghdad was at its highest activity. In his first voyage Sindbad reaches the country of the maharaja. This title was given so far back as the 2d century to a Hindu king, whose monarchy is said to have comprised the greater part of Southern India, the Malay Peninsula, Sumatra, and Java in the Indian Archipelago, and whose title continued to be borne afterwards by one of the sovereigns of the disintegrated empire, who reigned over the kingdom of Bijanagar or Vijayanagar. In Sindbad's second voyage mention is made of the kingdom of Riha (the Malay Peninsula according to some), and the manner of the preparation of camphor, produced in the mountain forests there, is accurately described. In the third voyage the island of Silaheth is mentioned. In the fourth he was carried to a country (Malabar) where he found men gathering pepper, and from it he went to the island of Nacous (the Nicobars?) and on to Kela (Quedah or Keydah?). In the fifth voyage he is shipwrecked on the island (*i.e.* country) of the Old Man of the Sea, probably somewhere on the Konkan coast. Thence he crossed the sea to the Maldives, and back again to the pepper country of Malabar, passing on to the peninsula of Comorin, where he found the aloes-wood, called santy, and afterwards to the pearl fisheries of the Gulf of Manaar, whence he travelled back to Baghdad. In the sixth voyage he visited an island (*i.e.* country) where were superb trees, of the kinds named santy and comary, and the island of Serendib (Ceylon), which was also the limit of his seventh and last voyage.

SINDHU. India was first known to the Chinese in the time of the emperor Wu-ti of the Han dynasty, in the 2d century before Christ. It was then called Yuan-tu or Yin-tu, that is Hindu and Shintu or Sindhu. At a later date it was named Thian-tu, and this is the form which the historian Mat-wan-lin has adopted. The name Sindhu was taken from the Romans, the Romans from the Greeks, the Greeks from the Persians. In Persian the initial s is changed into h, which initial h was as usual dropped in Greek. It is only in Persian that the country of the Sindhu (Sindhu is the Sanskrit name for river), or of the seven Sindhu, could have been called Hindia or India instead of Sindia. Unless the followers of Zoroaster had pronounced every s like h, we should never have heard of the West Indies. The name of India, *i.e.* Hoddu, does not occur in the Bible

before the book of Esther, where it is noticed as the limit of the territories of Ahasuerus in the east, as Ethiopia was in the west (i. 1, viii. 9). The names are similarly connected by Herodotus (vii. p. 9). The Hebrew form Hoddu is an abbreviation of Hondu, which is identical with the indigenous names of the river India, Hindu or Sindhu, and again with the ancient name of the country as it appears in the Vendidad, Hapta Hendu. The native form Sindus is noticed by Pliny (vi. p. 23). But though the name of India occurs so seldom in the Old Testament, an active trade was carried on between India and Western Asia. The Tyrians established their depots on the shores of the Persian Gulf, and procured 'horns of ivory,' 'broidered work and rich apparel' (Ezekiel xxvii. 15, 24), by a route which crossed the Arabian desert by land, and then followed the coasts of the Indian Ocean by sea. The trade opened by Solomon with Ophir through the Red Sea chiefly consisted of Indian articles. Algummim (sandal-wood), kophim (apes), thuccim (peacocks), are words of Indian origin (Humboldt, Kosmos, ii. p. 185), to which we may add the Hebrew names of the topaz, pitdah, derived from the Sanskrit pita.—*Muller's Lectures*, p. 215.

SINDHU, a Jat clan in the Panjab. They are steady, good farmers, a sturdy, stalwart people.

SINDIA, the family name and regal title which designate the sovereign whose capital is Gwalior, and who has the title of maharaja. The territories over which the Maharaja Sindia rules form part of what the British term Central India. The Sindia family are Mahrattas, and came from near Satara. Ranaji, the first member of the Sindia family of note (1724), commenced his career as the carrier of the slippers of Balaji Rao, Peshwa. His care in the performance of this menial duty attracted his master's attention, who appointed him to a command in the pagah or bodyguard horse. From this his rise to the first rank of Mahratta chiefs was rapid. He placed himself at the head of several bodies of horse, with which he carried on raids, even into the territory of the emperor of Dehli, and some of the lands he then overran still form part of the appendages of the Gwalior rule. Ranaji's achievements might have perished with him after his death in 1759, had he not been succeeded by a man of still more striking capacity than his own. His youngest son, Mahdaji, although he did not at once succeed to the family jaghir in Malwa, has always been considered his political heir, because it was he who continued the work of establishing the fortunes of the house of Sindia.

Mahdaji Sindia's career had little more than begun when he found a great opportunity for showing the nobility of his character on the fatal plains of Panipat. On that day Mahdaji proved himself the bravest of the brave. The contingents of Holkar and Sindia formed the right wing of the Indian army, but Mulhar Rao left his youthful comrade to bear the brunt of the engagement alone, and the Mahratta forces were utterly defeated. Among the principal consequences of this signal defeat were the accession of Mahdaji to the full title of Sindia, in consequence of the death of all his relatives, and the commencement of a bitter rivalry between him and his neighbour Holkar. The disaster of Panipat, which threatened the family with extinction, was really the main cause of the after-fame of the house of Sindia, by bringing Mahdaji to the front as its responsible leader. Mahdaji escaped from the battle more by accident than by the fleetness of his steed. Pursued by an Afghan horseman, his horse was unable to carry him to a place of safety, stumbling over a ditch. Mahdaji fell at the mercy of his assailant. The Afghan struck him on the knee with his battle-axe, but was content to retire with the spoil of his accoutrements and of his horse. Mahdaji received the assistance of a water-carrier, also the sole survivor of the battle, but he carried the lump to his grave.

The overthrow at Panipat was so complete that the Mahrattas, who before it had seemed to grasp the empire of Hindustan, were after it glad for a time to content themselves with a position subsidiary part in its affairs, but Mahdaji succeeded to regain supremacy. By the aid of Najaf Khan's army, the emperor Shah Alam was restored upon the throne of Dehli, and Rohilkhand was overrun by the Mahratta horsemen.

Mahdaji had, after his return from the Doab, devoted himself to the task of establishing his authority throughout the possessions he had inherited. But when he had secured his estates, his next thought became how he might turn them into a kingdom. In order to attain this object he formulated a policy of his own, by means of which he hoped to render himself as independent of his own suzerain, the peshwa, as of the Mogul emperor. He reorganized his army, and was the first of his race to train an infantry force, and to employ European officers,—De Boigne, 1784; Colonel Fremont, 1792-93; Major Gardner, 1794; Colonel Perron, 1794; Colonel Drugdor, 1797; Colonel Duprat, 1798; Colonel Sutherland, 1795; Colonel Pohlmann, 1799.

For thirty years he thus made himself the greatest potentate in Central India, and it was during this period that the house of Sindia was first arrayed in arms against the British. The early encounters of this campaign were in his favour. The convention of Wargaum closed a campaign of incapacity, and Mahdaji issued from his first contest with the British with increased reputation. The next campaign, under the conduct of Colonel Goddard, left Mahdaji's position intact, although the capture of Gwalior fort was a rude shock to the self-esteem of native warriors. With the signing of the treaty of Salbye, Mahdaji was again left to prosecute his schemes for establishing his supremacy among the Mahrattas. In 1788 he again entered Dehli to replace the aged Shah Alam on the throne, and five years later he marched on Poona to assert his pre-eminence in the councils of the peshwa. He succeeded in his object, and his prospects were rendered still more brilliant by the intelligence of a decisive victory gained by his troops over his rival Holkar, when his career was suddenly terminated by death in 1794 near Poona. His formidable army, organized under French officers, had made him in reality the ruler of Hindustan, though nominally the servant of the peshwa. He had played a most important part in the struggle which took place for the peshwa's office, after the death of Madho Rao, Bullal. He was the chief support of the party of Nana Farnavis. When peace was concluded with the Mahrattas by the treaty of Salbye in 1781, Sindia was the

ual guarantee of both powers for its observ-e. Under the 3d article of this treaty, the ght of the British Government to the pargana and town of Broach was recognised. By this treaty the independent power of Mahdaji Sindia, the relation of the British Government, was recognised, but in all other respects he consented ostensibly to proffer subjection to the

Mahdaji Sindia died in 1794, and was succeeded by his grand-nephew Dowlat Rao Sindia. During the distractions which followed on the death of the peshwa Madho Rao Narain, Sindia was able to place Baji Rao in power. When by the treaty of Bassein the British Government had recovered its influence at Poona, and established a subsidiary force there, Dowlat Rao Sindia entered into a league with the raja of Berar to defeat the objects of the treaty, and he opposed General Wellesley's plan. But in the campaign which followed, the power of Sindia was completely broken, both in Upper and Central India, and he was compelled to sue for peace, and to sign the treaty of Surjee Anjengaum in 1803, by which he was stripped of his territories in Hindustan and south of the Ajunta Hills, with the exception of some hereditary villages, and resigned his claims on his former feudatory rajas with whom the British Government had made treaties. A subsequent treaty was concluded on the 23d November 1805. Sindia, however, countenanced the Pindaras in 1817. The subsequent open defection of the peshwa and the raja of Berar showed the stedfastness of Sindia to his engagements. The strong fortress of Asirgarh was not surrendered as stipulated by the treaty, and it therefore became necessary to reduce it by force. In the captured fort a letter was found in which Sindia directed the governor to obey all orders of the peshwa, who, by attacking the Residency at Poona, had declared war with the British Government. In consequence of this want of good faith, Sindia was required permanently to cede the fort of Asirgarh. Dowlat Rao Sindia died in March 1827. He left no son, and a youth of eleven years, named Moogut Rao, declared to be the nearest relation of Dowlat Rao, was adopted, was married to the granddaughter of Dowlat Rao by Baiza Bai, and was placed in power, with the title of Alí Jah Jankoji Rao Sindia, under the regency of Baiza Bai. Baiza Bai acknowledged this succession most reluctantly, and maintained that it was her late husband's intention that she should hold the regency during her life. The rule of maharaja Jankoji Sindia was very weak. Although the Baiza Bai had no strong party within Gwalior territories, she did not cease to intrigue and to use freely for this purpose a sum of Rs. 37,00,000, which she had been awarded as her private property. Jankoji Sindia died on 7th February 1843. He had no children. Tara Rani, however, the maharaja's widow, a young girl of twelve years of age, with the concurrence of the chiefs of the state and the army, adopted Bugeerut Rao, son of Hunwunt Rao, usually called Babaji Sindia, the nearest, though a very distant, relative of the maharaja, and the adoption was recognised by the British Government. The boy was then about eight years of age. He assumed the title of Ali Jah Jyoji Rao Sindia. The Mama Sahib, who appeared to possess the greatest influence, and was attached to British interests, was chosen by the chiefs as regent. But troubles again arose through the instigations of Dada Khasji Wala, who was at length delivered up. An interview was agreed upon between the governor-general and the maharaja, which was to take place at Hingoona on 26th December 1843, but the maharani and her son were held in restraint by the mutinous troops, and on the 29th December, when the British army was taking up its advanced ground, it was fired on by the Gwalior troops. The battles of Maharajpur and Punniar were fought the same day, and ended in the total defeat of the Gwalior army, and the conclusion of a treaty, by which it was agreed that territory yielding 18 lakhs a year should be ceded to the British Government for the maintenance of a contingent force, and other lands for the payment of the debts of the state to the British Government, and expenses of the war; that the army should be reduced to 6000 cavalry, 3000 infantry, and 200 gunners, with 32 guns; that the government during the minority should be conducted according to the advice of the British Resident; and that the just territorial rights of the Gwalior State should be maintained by the British Government. From that time till the rebellion and revolt of 1857 there was little change in the relations of the British Government with the Gwalior State. By the mutiny of the Contingent in June 1857, the Political Agent was forced to quit Gwalior. In June 1858 the maharaja was deserted by his troops on the approach of the rebels under Tantia Topee. He and his minister were compelled to flee to Agra. On 19th June, Gwalior was retaken by Sir Hugh Rose's force, and the maharaja was re-established in his palace. From that date the confidence of the maharaja was entirely withdrawn from his minister, to whom he conceived an intense dislike. Dinkur Rao was at last removed from office in December 1859, and Balaji Chimnaji was appointed in his stead, with the concurrence of the British Government. Since that time the maharaja has himself superintended the whole of his affairs. For his services during the mutinies, Sindia received a sunnud conferring on him the right of adoption. He was also informed that lands yielding three lakhs of rupees a year would be added to his territories; that permission would be given to him to raise his infantry from 3000 to 5000 men, and his artillery from 32 to 36 guns; that the arrears due to the British Government on account of the deficiency in revenues of the districts assigned under the treaty of 1844 would be remitted, and that no payments would in future be claimed should these revenues fall short of 18 lakhs; and the annual payment of 10,000 rupees out of the revenues of Burwa Saugor in the Jhansi district would be hereditary. These modifications of the treaty of 1844 were embodied in a new treaty concluded on 12th December 1860. The raja of Amjhera, tributary to Sindia, paid annually to the Gwalior State a tribute of 35,000 rupees, under an engagement mediated by the British Government. This tribute was part of the sums assigned in 1844 for the payment of the Contingent, and is now payable by Sindia to the British Government under the treaty of 1860. Besides this, the maharaja contributes 20,000 Halee

rupees towards the payment of the Malwa Bhil corps. Formerly Sindia contributed only 8000 rupees to this corps, and the raja of Amjhera contributed 4000 rupees. But when Amjhera was confiscated and made over to Sindia in consequence of the rebellion of the raja in 1857, it was made subject to a payment of 20,000 rupees, no further contribution being required on account of Gwalior. Including the cessions to Sindia under the treaty of 1860, the territories of the Gwalior State are estimated to contain a population of about 2,500,000 souls, and to yield a revenue of 93,09,102 rupees, of which 78,38,900 rupees are derived from the land-tax, 14,70,202 rupees from customs, and the rest from the tributes of feudatories. After the [illegible] of Gwalior by the force under Sir [illegible] in 1858, the fort of Gwalior continued to be held by British troops. [illegible] negotiations, however, which ended in the treaty of 12th December 1860, Lord Canning agreed that the fort should be restored to Sindia when this could with safety be done. It was, however, finally decided in 1[illegible] that the [illegible] should be [illegible] it therefore became necessary that the Gwalior fort should continue to be garrisoned by British troops. [illegible] *Engagements* [illegible] *Administration*.

SIND-SAGUR, a [illegible] the Panjab. Its population are chiefly [illegible]. They are a fine hardy race, with [illegible] and large turbands. The la[illegible] relate that all Sind-Sagur formerly belonged to them.—*Rajasthan*, ii. p. 233.

SING. No nation is more closely united by the ties of clanship, which is thus signified by the word sing, than the Chinese. All the many millions are divided into rather more than 400 sing; those who belong to the same sing consider each other as relations, descended from the same ancestor, and bound in duty to lend mutual help. This excellent custom degenerates frequently into that exclusive partiality which is so repugnant to the spirit of true philanthropy. One sing is opposed to the other, one clan oppresses the other; they proceed even so far as to engage in open hostilities. The ties of nearer relationship are still closer. A Chinese is taught by his sages to love his relations.—*Gutzlaff's Chinese History*, i. p. 207.

SINGALLY and Sozille are the maws or sounds of two fishes, and largely exported from Calcutta.

SINGAPORE ISLAND, at the southern extremity of the Malay Peninsula, in lat. 1° 17′ N., and long. 103° 50′ E., is separated from the continent by a narrow strait, in some places less than a mile in width. Singapore was first settled in A.D. 1160 by Sri Sura Bawana, and from an inscription, now destroyed, on a sandstone rock on a narrow point to the left of the entrance of the Singapore river, it would appear that raja Suran of Amdan Nagara, after conquering the state of Johore with his Kling troops, proceeded to Tamask about A.D. 1201, returned to Kling, and left this stone monument.

The island consists of a number of low hills and ridges, with narrow and rather swampy flats intervening. In several places the sea-face is elevated, but the greater portion of the circumference is fringed by a pretty deep belt of mangrove fore[illegible]. Bukit Timah is a granitic hill about 530 feet hig[illegible], but the rest of the island is composed of sedimentary rocks, amongst which sandstone occupies a prominent place. Government Hill is about 160 feet high. The Bukit Timah is in the centre of the island.

During the administration of Sir Stamford Raffles, on the 6th February 1819, for a sum [illegible] 60,000 dollars, and a yearly stipend of 24[illegible] dollars for life, the sultan of Johore made over the island of Singapore to the British and it was finally ceded by treaty on 2d August [illegible] to the British by the sultan.

The island is 25 miles in length, and about one-third of that distance in breadth; its area is [illegible] 206 square miles (1,423,000 acres); and its population (at the census 3d April 1881) [illegible].

The total imports and exports [illegible] during the last decade were as follow:—

Imports.	Exports.		
1870, 39,058,564	31,731,022	1876, [illegible]	[illegible]
1871, 36,760,530	32,003,807	1877, [illegible]	37,41[illegible]
1872, 43,415,383	39,020,121	1878, [illegible]	36,421,021
1873, 47,880,090	41,752,145	1879, [illegible]	[illegible]
1874, 46,887,070	41,508,798	1880, 60,[illegible]	54,576,081
1875, 43,766,201	41,619,519	1881, 76,[illegible]	[illegible]

In Singapore free port, the only charges are the Straits light dues, which are 4 annas or 25 cents per registered ton on [illegible] vessels. All national ships are free of the [illegible]. In Singapore, measures of capacity are rarely used, and these only with certain articles, such as tobacco, etc.

16 tael make 1 catty = 1 lb. 5 oz. 5½ grs., or 1¼ lb. avoirdupois.
100 catties make 1 (Chinese) pikul = 133⅓ lbs. avoirdupois.
40 (Chinese) pikuls make 1 royan.
2 (Malay) pikuls make 1 char.

The Malay catty weighs 24 Spanish dollars. The Chinese catty weighs 22½ Spanish dollars. Rice is sold by the royan of 40 pikuls. The native merchants buy imported produce from the islands by the Malay pikul, but sell it by the Chinese pikul. Singapore timber is conveyed in huge rafts, 500 or 600 feet long and 60 or 70 feet broad, with atap-leaved houses on the top; each raft containing about 2000 logs, bound together by rattan rope.

SINGASUN is the ancient term for the Hindu throne, signifying 'the lion-seat.' Charun bards, who are all maharajas, 'great princes,' by courtesy, have their seats of the hide of the lion, tiger, panther, or black antelope.—*Rajasthan*, i. p. 293.

SINGAURGARH, hill fort in the Central Provinces, situated in lat. 23° 32′ 30″ N., and long. 79° 47′ E., 26 miles N.W. of Jubbulpur city. It is on a high hill, commanding the narrow Sangrampur valley. It was founded by raja Bel, a Chandela Rajput; it was enlarged by raja Dolpat Sa of Garha-Mandla, who made it the seat of government about 1540. It was the scene of the defeat of Rani Durgavati by Asaf Khan, an officer of Akbar; and the fort stood a siege of nine months in the days of Aurangzeb.—*Imp. Gaz.*

SINGBHUM, a British district in Bengal, lying between lat. 21° 59′ and 22° 53′ N., and between long. 85° 2′ and 86° 56′ E.; area, 3897 square miles; population, 322,396. The district forms the S.E. portion of the Chutia Nagpur

division. It is made up of the Government estate of Kolhan or Ho-desam, the fiscal division of Dhalbhum, and the political estates of Parahat, Saraikala, and Kharsawan.

The central portion of Singbhum consists of a long, undulating tract of country, running east and west, and enclosed by great hill ranges. The Ho or Larka Kol would not allow any strangers to settle in or even pass through the Kolhan, and [illegible] to Jagannath had to make a circuit of several days' journey to avoid it. Among aboriginal tribes the most numerous are the Kol, [illegible],925 in 1872; Santal, 51,132; Bhumij, [illegible],253; and the Bhuiya, 12,078. The bulk of the Kol enumerated above are Ho, otherwise called Larka or 'fighting' Kol. Physically, the Singbhum Ho are the finest of all the Kolarian tribes. The men average 5 feet 5 or 6 inches in height, the women 5 feet 2 inches; and both men and women are noticeable for their fine erect carriage, and long, free stride. Even wealthy men go about all but naked as proudly as if they were clad in purple and fine linen. The Ho are fair marksmen with the bow and arrow, and great sportsmen. They are a purely agricultural people, and their festivals are all connected with that pursuit. Brahmans in Singbhum in 1872, 4095; Khandait, 2255; Rajputs, 1718; Pastoral Goalas, 4,987; Tanti, or weavers, 20,758; and Kurmi cultivators, 19,667.

In Singbhum occasionally, in the markets, a young man will pounce on a girl and carry her off by force, his friends covering the retreat. In 1857 the raja of Purahat joined in the rebellion, many of the Larka Kol following him. A Christian mission went to Chutia Nagpur in 1845, and has made much progress amongst the Dhangar race.—*Dalton*, pp. 163, 181; *Imp. Gaz.*

SINGH, from Sin'h or Sinha, a lion; a title borne by several military castes of Northern India, by Rajputs, by Brahmans, and likewise by Sikhs of Jat race when following the military profession. When a Manjhi Singh dies, leaving no male offspring, his brothers or his nephews of the full blood assume the right of succession, to which the widows become competitors. According to the Shastras (if they may be considered applicable to public property and chiefships), the prior title of the widows is held; but the Sikhs, with a view to avoid an open and direct violation of a known law, have a custom, termed Kurawa or Chadardalna, which obtains in every family with the exception of those of the Bhai: the eldest surviving brother of the deceased places a white robe over, and the nat'h or ring in the nose of the widow, which ceremony constitutes her his wife.—*Steinbach's Panjab*, p. 79; *Wilson.*

SINGHALESE, the general term in use to designate the inhabitants of Ceylon, and also the Ceylon language. The population comprises Europeans and persons of mixed descent, with the Burgher of pure Dutch descent, also Tamil or Dravida, Rhodia, Chalia, Veddah, Kandyan, and Gattaru. See Ceylon; India.

SINGHANA, town in Jeypore State, Rajputana, situated in lat. 28° 5′ N., and long. 75° 44′ E., 95 miles S.W. of Dehli and 80 miles north of Jeypore city. A rocky hill, 2 miles S.E. of the town, contains abundance of copper ore of a poor quality, yielding from 2 to 7 per cent. of metal.—*Imp. Gaz.*

SINGPHO, an uncivilised tribe occupying the hills bordering the extreme eastern frontier of Assam. They entered the Assam valley from Burma about A.D. 1773, and are now settled in the tract in lat. 26° and 27° N., and long. 96° E. Colonel Dalton says they are known to the Burmese as Ka-Ku and Ka-Khyen, but that on entering Assam they called themselves Singpho, which in their language means man. They occupy both the north and the south of the Patkoi mountain, and are near the Hukong valley or Pavendwen, 1000 feet above the sea. Another body, the Mirip Singpho, dwell farther east, in long. 97° E., between the Shooay-doung-gyee and the Irawadi, and near them, near the Hukong valley, are the amber mines, 1000 feet above the sea-level, in lat. 26° 20′ N., and long. 96° E. Their first settlements in Assam were on the Tengaprani, E. of Sadiya, and on the Bori Dihang river in Namrup, under their chiefs called Gam, La, and Thu or Du. They are a fine athletic Mongoloid, olive-yellow coloured race, above the usual standard, capable of enduring great fatigue, but addicted to opium and spirits; hair abundant; fond of amber ear ornaments and of the deomani (god-bead), a bright-coloured bead. The men tattoo their lower limbs, and the married women from the ankles to the knees. They are polygamists. They bury their dead until decomposed, and afterwards the bones are placed in a coffin and decked out. On the demise of a parent, the eldest son takes the landed property and the youngest son the personal property, the intermediate sons remaining with their eldest brother.

The principal tribes on the frontier of Upper Assam are the Muttuk, the Khamti, and the Singpho. The Bur Senaputti, or chief of the Muttuk branch of the Singpho, entered into an engagement in May 1826, whereby he acknowledged the supremacy of the British, and bound himself to supply 300 soldiers in time of war. The management of the country was left in his own hands, except as regards capital offences. In January 1835 the obligation to supply troops was commuted to a money payment of Rs. 1800 a year. In 1826, similar agreements were made with the Khamti chief of Sadiya, but in 1839 they attacked the town of Sadiya, and many persons, as also Colonel White, the political agent, were slain. Agreements were also made in May 1836 with the Singpho. These tribes were implicated in the Khamti rising in 1839, but they were allowed to surrender under conditions. Many of the Singpho clans have become extinct, and the main body have left Assam for Hukong in Upper Burma.

SINHACHALAM, a temple in the Vizagapatam district of the Madras Presidency, in lat. 17° 46′ N., and long. 83° 11′ 8″ E. It is on a hill (800 feet above sea-level), 6 miles N.W. of Vizagapatam town. The shrine is in a wooded glen, containing springs and beautiful cascades. It is dedicated to the lion incarnation of Vishnu, and held in great veneration. It is believed to have been built by the Gajapati kings of Orissa about the 13th century A.D.—*Imp. Gaz.*

SINHALA, a Buddhist king, of whose coronation a representation occurs in the caves of Ajunta.

SINHASANA, or Lion Seat, the throne on which a sitting Buddha is figured. When the

Mahayana sect became popular, other beings were associated with the Indras, Bodhisatwas, Padmapani, Manjasri. In Hindu temples the sinhasan or throne is very handsome; the usual supporters are the sinha, or lions rampant, trampling on elephants couchant, and ridden by amazons armed with shields and swords. It was applied particularly to the throne of the Chalukya dynasty whilst ruling at Kalian, and literally means the lion's seat.

SINHASANA DWATRINSATIKA, or the Thirty-two Stories of the Speaking Statues; stories which were related by the female statues forming the pedestal of a throne belonging to the renowned Vikramaditya, king of Ujjain. They refer to Bhoj, a king of Ujjain, who obtained possession of a valuable throne, but when he attempted to sit on it the statues met him with uncontrollable laughter, and on his asking why they laughed, one of them related the story of king Vikram, how the throne was given to Vikram by raja Sin Bul, and the other statues followed by other stories.

SIN-HOA, the country named Aurea Chersonesus of the great geographer Ptolemy, has been shown by D'Anville to be the Malay Peninsula, and Sin-hoa the western part of Cochin-China.—*Ind. & the Ind. Cent.*

SINGH, Chin. A gigantic creeping plant which grows spontaneously, extensively used both by natives and Europeans in making a lye or wash for the hair, which it is said to clean and strengthen in a remarkable degree.

SIN-TU or Sin-to or Shin-to, the state religion in Japan, but its followers are much less numerous than the Buddhists; the term is derived from Sin, the gods, and Tu, faith. The priests of the Buddhist religion use the Chinese language in their worship, except in their poetry, which is in the Japanese tongue. The Sin-tu religion, like the old pagan religion of Europe, consists of an apotheosis of all great heroes or saints, amongst whom the Japanese include Buddha, which explains the great consideration shown by the various sects there. Sin-tu temples have as gods the emperors, empress, the gods of the sea (kami), and a round mirror is a sacred emblem.—*Sir J. E. Reed.*

SIPAHI. Hind., Pers., Turk. A sepoy or foot soldier, from Persian Sipah, an army; and hence the words Sipah-salar, commander-in-chief; Sipah-dar, etc. Under the emperor Akbar, the Sipah-salar was a viceroy of a subah or province, from which, in Akbar's time, he was given the designation of Subahdar. The Dewan was a revenue officer under the Subahdar.

SI-PAIT, Malay, meaning 'bitter wood,' is the root of a tree of Sarawak. In substance, appearance, and lightness it precisely resembles the plye; but while plye is tasteless, si-pait is very bitter to the taste. Pait, in Malay, means bitter.—*Low's Sarawak.*

SIPAL, a name of the Bhotia race occupying Sibu in Darma, in the N.W. Himalaya.

SIPATTA or Sih-patt. Hind. A woman's veil or wrapper, formed of three pieces sewn together.

SIPHONESTEGIA CHINENSIS. *Tatarinov.* A plant of Ho-nan and other parts of China. It has square stems, topped with the dehiscent fruit, containing millet-like seeds, useful in fluxes.—*Smith.*

SIPHONIA ELASTICA, common in the forests of Guiana and Brazil, and has been introduced into the E. and W. Indies. Condamine frequently mentions it in his Voyage down the Amazon. Caoutchouc is the milky juice of the plant, which exudes on incisions being made, and solidifies on exposure to the air.—*Eng. Cyc.*

SIR, also Sar. Hind. The head. Hence Sardar, a chief; Sir-pesh, a forehead jewel; Sir-kar, a government, a superintendent; Sar-posh, a cover. Sar-band, or head-binder, becomes with the Turks turband. Sir, in Pushtu, a peak.

SIRA, a municipal town in the Tumkur district of Mysore, in lat. 13° 44′ 43″ N., and long. 76° 57′ 16″ E. A large proportion of the inhabitants are Kurubar, who manufacture cumblis or coarse blankets.

SIRAF. Arab., Hind., Pers. A banker, a money dealer, a cashier. It is from the Arabic.

SIRAJGANJ, a town in the Pabna district, Bengal, and the most important river mart in the province. It is situated near the Jamuna or eastern stream of the Brahmaputra, in lat. 24° 26′ 30″ N. and long. 89° 47′ 5″ E. It formerly stood upon the bank of the Jamuna; but in 1848 an excessive flood of the river washed the entire town away. The traders thereupon retreated some 5 miles backward to the new bank. Scarcely a warehouse stands on the river's brink, nor a tree to afford shelter. Large boats and flats lie anchored in mid-stream; fleets of smaller craft take shelter in the natural bends of the river; while the merchants and brokers move to and fro in light dinghis, to conduct their transactions on the spot. The principal native merchants are Marwari, locally known as Kaya, who are immigrants from Rajputana. They are described as honest, frugal, and diligent, but quite uneducated.—*Imp. Gaz.*

SIRAT. Arab. In Muhammadan belief, a bridge over which all must pass on the day of judgment. It is said to extend over the midst of hell, and to be sharper than the edge of a sword. In moving along on it the feet of the infidel will slip, and he will fall into hell fire, but the feet of the Muslim will be firm, and carry him safe into paradise. See Bridge.

SIRENIA. Zeiren, Gr. Herbivorous cetacea, a sub-order of the Cetaceæ, as under:—

Order. Cetaceæ, Whale tribe. 2 fam., 8 gen., 21 sp., viz.—
Fam. Delphinidæ, 5 gen., 14 sp., porpoises; Delphinus, 8 sp.; Steno, 2 sp.; Neomeris, 1 sp.; Platanista, 2 sp.; Globiocephalus, 1 sp.
Fam. Balænidæ, whales, 4 gen., 7 sp.; Balænoptera, 1 sp.; Balæna, 4 sp.; Physeter, 1 sp.; Phocæna, 1 sp.
Sub-Order. Sirenia, herbivorous cetacea. Gen. Halicore, 3 sp.

SIRGUJA, a mountainous tract rising 600 to 700 feet above the level of Chutia Nagpur. Chutia Nagpur is the country on the eastern part of the extensive plateau of Central India, on which the Koel, the Subunreka, the Damuda, and other rivers have their sources. It extends into Sirguja, and forms what is called the Upar-ghat or highland of Jashpur, and it is connected by a continuous chain of hills with the Vindhyan and Kymor ranges, from which flow affluents of the Ganges, and with the highlands of Amarkantak, on which are the sources of the Nerbadda. The plateau averages 2000 to 3000 feet above the level of the sea, with an area of about 7000 square miles. It is on all sides difficult of access. It is

a well-wooded, undulating country, diversified by ranges of hills, and has a genial climate. The population in 1866 was estimated at about a million, and is formed of a number of non-Aryan tribes who had fallen back to that refuge from the plains, more than half of them being the race known to Europeans as Kol. There are 21 mahals which form the S.W. frontier, and which may be thus classified :—

The Sumbulpur Group.

Sumbulpur pro-	Sukti.	Bamra.
	Gangpoore.	Rehra Cole.
	Surunghur.	Sonepore.
	Bunnia.	

The Patna Group.

Patna proper.	Bora Samur.	Bindra Nowa-
Koolihur.	Kuttiar	garh.

The Sirguja Group.

Sirguja proper.	Udeypore.	Chang Bahar.
Jushpur.	Korea	

Singbhum.

The territories comprised in the Sumbulpur and Patna groups were ceded to the British Indian Government by the treaty of 1803 with Ragoji Bhonsla. They were all, except Raigarh, restored in 1806, but finally reverted to the British in 1826. The Sumbulpur and Patna groups are in the circle of the Cuttack Tributary Mahals. Singbhum was never Mahratta, and in 1857 its chief, the raja of Purahat, joined in the rebellion, many of the Larka Kol following him. The territories forming the Sirguja group were ceded in 1817, and in 1818 the British Government sent a superintendent to Sirguja to restore order in the country, which had become distracted by domestic feuds. In 1820 and 1825, engagements were made with the chief of Sirguja. In 1819 engagements were also taken from the chiefs of Jashpur and Korea, of which latter state Chang Bahar was then a feudal dependency; but in 1848 separate settlements were made with Korea and Chang Bahar. The Sirguja mountains are [illegible] length 90 miles, breadth 85 miles, and lie [illegible] lat. 22° 34′ and 24° 54′ N., and long. [illegible] 84° 6′ E. Sirguja is rugged and [illegible] from 500 to 600 feet above the [illegible] land of Chutia Nagpur. Dra[illegible] between Kunher and Rhern, with [illegible]2° 40′ and [illegible] mountainous, [illegible]c. Sea adjoining table- [illegible]ined by the rivers [illegible]its feeder. — *Major* [illegible] *Administration*; *Aitche-* [illegible] Kol; Saont; Singbhum.

[illegible]R, in Hazara district, Panjab, a [illegible] Indus. Rises at the head of the [illegible]en, in lat. 34° 46′ N., long. 73° 19′ [illegible]n fish, especially the mahsir. The [illegible] call the Sirhan their female slave, [illegible]heir fields, grinds their corn, husks [illegible] cleans their cotton. Numerous [illegible]ank.—*Imp. Gaz.*

[illegible]the capital of a province of that [illegible]a town in the state of Patiala. Its [illegible] described by Abul Fazl as laid out [illegible]ahmat, a grandee of Humayun's court. [illegible]in Sirhind, on the route from Kurnool [illegible]a, was the object of one of Mahmud [illegible]conoclastic expeditions. It is still [illegible] a ruined wall evidently once of [illegible]ht, connected with which is a [illegible]merous towers. Sirhind [illegible]rth-east portion of the [illegible]en the rivers Jumna [illegible]British districts of Ambala, Ludhiana, and Ferozpur, together [illegible] the Native States of Patiala, Jheend, and N[illegible] This tract comprises the whole watershed of [illegible] now deserted stream which once formed the gr[illegible] river Saraswati. In 1882, during the administra[illegible] tion of the Marquis of Ripon, a canal was completed designed to irrigate 2500 square miles, 750,000 acres of thirsty soil. It passes through the territory of several native chiefs, as well as through what is directly under British administration. They all gave active co-operation, ranging themselves alongside of the Imperial Government in the efforts it makes for the amelioration of the poverty that presses with terrible severity upon large classes of the Indian populations. The total length of the canal was 502 statute miles; and when the works were completed, 2500 miles of channel were to be maintained. The canal was designed to irrigate, through branches, 5[illegible],000 acres in British, and 261,000 acres in Native States. The total cost was estimated at [illegible] lakhs, of which 278 lakhs were being advanced by the British Government, and 129 lakhs by the Native States.—*Cal. Rev.*, Jan. 1871.

SIRI, Sri, or Siris was [illegible] of the principal deities of Arabian [illegible] Ethiopian theologies. Deodorus says the Greek [illegible] as O, and made it Osiris.

SIRI, the ancient nam[illegible] capture in A.H. 587, [illegible] p. 326.

SIRI. MALAY [illegible] betel. Amo[illegible] are in forms [illegible] spective ow[illegible] were exhib[illegible] the raja Mu[illegible] treasurer, a[illegible] war and poli[illegible]

SIRIKUL[illegible] the Pamir pla[illegible] [illegible] Wood to be the sou[illegible] Oxus. It is about 14 miles [illegible] in breadth. The surrounding mountains are covered by perpetual snow.—*Tr. C. As.*

SIRIPUL, a town in Afghan Turkestan, 100 miles S.W. of Balkh, with about 18,000 souls, in houses and tents, mostly Uzbak. The chief is an Uzbak.—*MacGregor*, p. 645.

SIR-KAP, part of Taxila. Hatial is a strong fortified position on the west end of a spur of the Margala range, and immediately to the north-east of the Bir mound, from which it is separated by the Tabra Nala. The fortified city of Sir-kap is situated on a large level mound immediately at the north foot of Hatial, of which it really forms a part, as its walls are joined to those of the Kot or citadel.—*Cunningham's India*, p. 115.

SIRKELE, the minister of the Puducottah State, ruled over by the Tondaman raja.

SIRKI and Kanna, stems of Saccharum munja and of Saccharum sara; also thatch made of the tapering top of the flower-stalk of munj grass.

SIR KOTAHA. HIND. Level land; sir cultivation, on the plains, means the land that a man retains for his own individual cultivation.

SIRMUR, one of the Sub-Himalayan hill states, under the government of the Panjab, frequently called Nahan, from the name of the chief town. In 1803, the country was brought into subjection by the Gurkhas, who in turn were expelled in

by the British under Sir David Ochterlony. height of the trigonometrical station on the r mountain on the northern frontier is 11,982 t, and that of the confluence of the Giri and umna on the southern frontier about 1500 feet above sea-level. The Raja Ban forest yields much sal timber. A sportsman finds difficulty in making his way through them in search of wild elephants, tigers, leopards, bears, and hyænas, with which they abound. Wild pea-fowl abound, and are sacred. The Kanet, a Rajput tribe, are per cent. of the population; they purchase their wives and widows re-marry. In recognition of the services rendered by Raja Shamshir Purgass during the mutiny, he received a khilat of Rs. and a salute of seven guns. Population, ; revenue, 1 The raja is bound to render feudal service. Some women are to be in form and feature, but to the forward the female countenance is generally good-humoured, but the form coarse.—*Drew's Jammoo Mountains*, p. 35.

SIRNA, sanctuary, in all ages and countries the rights of sanctuary have been admitted, and however they may be abused, their institution arising from humane motives. To check the impulse of to shelter the weak from objects, and the surest test ce is the extent to which remotest times sirna lege of Rajputs, refuge Moses, after lands of six slain unintentionally, for until he stood or until the

ch event appears to have been considered as the termination of revenge. In India the infraction of political sanctuary (sirna torna) often gave rise to the most inveterate feuds, and its abuse by the priests was highly prejudicial to society. Moses limited priestly interference, by appointing but six cities of refuge to the whole Levite tribe; but the rana of Mewar assigned more to one shrine than the entire possession of that branch of the Israelites, who had but 42 cities, while the god Kaniya had 46. The motive of sanctuary in Rajasthan may have been originally the same as that of Moses, but the privilege was abused, and the most notorious criminals deemed the temple their best safeguard. Yet some princes were hardy enough to violate, though indirectly, the sacred sirna. Zalim Singh of Kotah, a zealot in all the observances of religion, though he would not demand the culprit, or sacrilegiously drag him from the altar, forced him thence by prohibiting the admission of food, and threatening to build up the door of the temple; and the Greeks evaded the laws, and compelled the criminal's surrender by kindling fires around the sanctuary. There was an ancient law of Athens by which he who committed 'chance-medley' should fly the country for a year, during which his relatives made satisfaction to the relatives of the deceased. The Greeks had asyla for every description of criminals, which could not be violated without infamy; but Gibbon gives a memorable instance of disregard to the sanctuary of St. Julian in Auvergne, by the soldiers of the Frank king Theodoric, who divided the spoils of the altar, and made the priests captives, an impiety unsanctioned by the son of Clovis, and punished by the death of the offenders, the restoration of the plunder, and the extension of the right of sanctuary five miles around the sepulchre of the holy martyr. Within the sacred bounds of Mount Abu was the sanctuary (sirna) of Kaniya, where the criminal was free from pursuit.—*Tod's Rajasthan*, i, pp. 523, 526, ii, pp. 378, 551. See Bast; Sanctuary.

SIROCCO. The sirocco wind in the Mediterranean has little effect on the healthy, but the weak and diseased are materially injured by its depressing influence. The term has an Arabic origin from Sharq, the east wind.

SIROHI, a Native State in Rajputana, lying between lat. 24° 22' and 25° 18' N., and long. 72° 22' and 73° 18' E. Area, 3000 square miles; population, 158,000. The Banas, rising in the Aravalli Hills, flows through the State into Gujerat, and after passing the cantonment of Deesa, is finally lost in the Runn of Cutch. The people comprise the Banya and Mahajan class of the Oswal and Porewal, following the Jain faith. The Rajputs are the dominant race, their septs or clans are Deora, Chauhan, Sesodia, and Rahtor. But Kalbi, Rebari, and Dher are numerous; and also aboriginal Bhil, Grassia, and Mina. Grassia are principally in the bhakar or hilly tract in the S.E. corner of the Sirohi. They claim to be the descendants of Rajputs married to Bhil women. There are some Koli, who are believed to have immigrated from Gujerat. Rao Sheo Singh, with whom the British Government concluded a treaty in 1812, was called to power, in 1818, by the unanimous voice of the chiefs, who had deposed and imprisoned his elder brother Oudeybhan-ji tyranny and oppression. Maharaja Man Singh ur, who laid claim to supremacy over force in 1819 to liberate Oudeybhan-d; and Oudeybhan-ji continued his death, without children, in for disturbances incident on the of Jodhpur Rao Sheo Singh craved the Sirohi, sent Government ji, but he fail Gover in confinement til 1847. During the Jodhpur invasion, protection of the British made over to the British some lands on Mount Abu for of a sanatorium, but fettered b that no kine should be killed. O sions he was requested to cancel but he always refused. The rao d in the mutinies, in consideration o ceived a remission of half his trib been fixed at Rs. 15,000, to Rs. 750 ceived the right of adoption and guns. In 1868 it was discovered Sirohi and in Marwar the practice of burying alive, prevailed to a considera but confined almost entirely to persons stage of leprosy, by whom it was pract an end to their sufferings. His High proclamation declaring that Samadh and that any one assisting at would be liable to impris years, and that the ja took place would be l and the forfeiture of

through whose culpable neglect a case might occur, would also incur the same liability.—*Treaties*, iv. p. 157.

SIRONCHA, lat. 18° 51′ N., and long. 80° 1′ E., in the Central Provinces, is the headquarters station of the Upper Godavery district, pleasantly situated on the left bank of the Pranhita, two miles above its confluence with the Godavery, and 120 miles S.S.E. of Chanda, the nearest station of the Central Provinces. It is 520 feet above the sea-level according to the topographical survey maps. 40 miles above Sironcha occurs what is known as the third barrier.

SIROPA, the Rajput term for a khillat or robe of honour; properly Sir-a-pa (from head, Sir, to foot, Pa), and means a complete dress; in short, cap-à-pie.—*Rajasthan*, i. p. 265.

SIRPHERRA, a tribe who reside in summer in Gurghina and winter in Cutch Gandava.

SIRR. Salt lakes of the Indian desert are termed sirr, though none are of the same consequence as those of Marwar. The largest is at the town of Sirr, so named after the lake, which is about six miles in circumference. There is another at Chaupur about two miles in length. Although each of them frequently contains a depth of four feet of water, this entirely evaporates in the hot winds, leaving a thick sheet of saline incrustation. The salt of both is deemed of inferior quality to that of the more southerly lakes.—*Tod.*

SIRSA, a British district in the Panjab, lying between lat. 29° 13′ and 30° 40′ N., and long. 73° 57′ and 75° 23″ E.; when conquered by the British in 1803, it was found almost entirely uninhabited. The Bhatti were lords of the soil, but they tilled little, and only used it as a site for their scattered forts, from which bands of marauders made occasional raids into the surrounding regions. Sirsa is entirely dependent for its harvests upon the scanty rainfall; it is peculiarly liable to famine. The Bhatti are graziers, and are still predatory. Other races are Jat, Banya, Arora, and the Muhammadan Waller and Kharal.—*Ann. Ind. Ad.* xii.

SISTER is a term applied to cousins, and in such degrees inter-marriages occur. Indeed, a Muhammadan claims for his bride, by right, the daughter of his mother's brother. The polygamic Israelites seem, from Genesis xx. 12, 13, and Esther ii. 3, also Genesis xi. 29, and xxiv. 4, to have held these views; but eastern nations in general shrink from calling their wives sisters, as Abraham called Sarah, Genesis xx. 12, 13, and he was suitably rebuked for his impropriety.—*Hind. Theat.* ii. p. 314.

SISUNAGA, a Maghadha dynasty, which ruled in India from B.C. 691 to 395. These are dates given by Mr. Fergusson, who says Sakhya was born B.C. 623, in the reign of Bimbasara, the fifth king of the dynasty, and died B.C. 543, at the age of 80 years, in the eighth year of Ajata Satra, the eighth king. They are said to have succeeded the parricide Battya kings, B.C. 446, by the murder by Sisunagaga of the last Bhatti. This was brought about by a learned Brahman named Chanacya, through whose intrigues Chandragupta was raised to power.

Sisunagaga, ...	reigned	18 years,	B.C. 446
Kalasoka, ...	,,	28 ,,	,, 428
Bhadyasena and his 9 brothers,	,,	22 ,,	,, 379

The last brother, Pingamakha, was dethroned by Nanda.—*Fergusson*, p. 14. See Bhattya.

SISYMBRIUM ATROVIRENO. Ting-lih, CHIN. A plant of several parts of China, given in dropsy, fevers, amenorrhœa. Sisymbrium iris, Khub, Kalan, Khakshi, HIND. Small, oval, bright-yellow seeds. Used for coughs. Formerly used as a pot-herb in England.—*Powell.*

SITA, daughter of Janaka, king of Kosala, and wife of Rama. Rama was the son of Desaratha, of the Solar race, king of Ayodhya, now termed Oudh, a potent sovereign of Hindustan, who, having been banished by his father in consequence of the machinations of his queens, retired to the banks of the Godavery, accompanied by his brother Lakshmana and his wife Sita, and lived in the neighbouring forests the austere and secluded life of an ascetic; but Sita having been forcibly taken from him by Ravana, the king of Lanka (Ceylon), Rama, with the aid of Sugriva, the sovereign of Carnata, invaded the kingdom of Ravana, and, having conquered him, placed his brother on the throne of Lanka in his stead. The war seems to have been protracted, and its events are related in the Ramayana, one of the finest epic poems (in spite of many extravagances) extant, which beautifully describes the incidents of Rama's life, and the exploits of the contending foes. Sita was highly loved by her husband, who says she gave him excellent counsel, and his impatience without a murmur to him in the time of need, and of joy. The Uttara-Kanda his wife on her own oath gods as to her purity. the Uttara-Rama-Charita the fire ordeal. This is who took back his wife years with Paris.—*Ward*

SITABALDI, lat. 21° E., in Berar, a large s Mean height of the plain Sitabaldi, standing close consists of two eminences narrow neck of ground, about 300 yards in length, of considerably lesser elevation than either of the two hills. The whole surface is rock. It is near to the town of Nagpur, and a battle was fought near Sitabaldi, 26th and 27th November 1817, and won by the British.—*Schl. Ad. S.*

SITAKUND, highest peak in the Sitakund range, Chittagong district, Bengal, a sacred hill, 1155 feet above sea-level; lat. 22° 37′ 40″ N., long. 91° 41′ 40″ E. It has a hot spring, said to be bituminous, and is a great place of pilgrimage for Hindus from all parts of India. The principal gathering is the Siva Chaturdasi festival, on the 14th day of the moon, sacred to Siva (usually in February); it lasts about ten days, and is attended by from 10,000 to 20,000 devotees. The pilgrims live at lodging-houses kept for the purpose by Brahmans, called adhikaris, each of whom is said to realize from £300 to £400 during this feast. A meeting of Buddhists (chiefly hillmen) takes place on the last day of the Bengali year, at a spot on Chandranath Hill, where the body of Gautama, the last Buddha, is locally reported to have been burned after death. Bones of deceased relatives are brought here, and deposited in a pit sacred to Gautama.—*Imp. Gaz.*

SITAKUND, an oblong tank, about 100 feet long by 50 feet wide, excavated in the Mandar

Hill, Bhagulpur district, Bengal, nearly 500 feet above the surrounding plain. The pilgrims who visit it are persuaded that Sita used to bathe in it during her stay on the hill with her husband when banished from Oudh.

Sitakund, a hot spring, is two or three miles from the town of Monghir, and one of the sights of that pleasant and picturesque station.

SITAL SINGH, moonshi to the raja of Benares, author of a history of the various Hindu sects.

SITANA. Below Derbund lies the district of Sitana, about 15 miles north of Torbaila, near the base of Mahaban, and on the bank of the Indus. The Syuds of this place are the remnant of the followers of Syud Ahmad, who, gathering a handful of Gazee (warlike devotees) from various parts of India, raised a formidable rebellion in Peshawur. After winning and losing Peshawur and Yusufzai, the Syud was eventually slain at the mouth of the Kaghan glen by Sher Singh, the son of Maharaja Ranjit Singh. Most of his adherents, chiefly foreigners to the Punjab, dispersed, and the remainder settled at Sitana on the slopes of the Mahaban. They were proceeded against by the British in 1858, by a force under Sir S. Co[illegible]—*Papers, East India, Rabul, and Afghan*[illegible] p. 20.

SITA[illegible] Burma, rises in lat. 2[illegible] [illegible] E., runs into the Gulf [illegible] 120 miles; [illegible] It is a navigable river for [illegible] ns the boundary between [illegible] es and Pegu. Its valley [illegible] The whole extent of the [illegible], of which one-half lies [illegible] ces of Pegu and Marta- [illegible] separates Pegu from [illegible] o a broad estuary, 55 [illegible] e. It consists of hard [illegible] by narrow but deep [illegible] ch the tide rushes with furio[illegible] e form of a bore, which advances like a wall, broken into foam at the top, filling the river from bank to bank. In the dry season, the tide is felt as high as Mūn.—*Findlay.*

SITANUK, one valve of a mussel shell, with the dried fish attached. The Punsari of Ajmir call it 'the small head of a sea animal;' used in Ajmir as an aphrodisiac, and also said to cure the cynanche of children; comes from Bombay via Pali. One seer costs two rupees.—*Gen. Med. Top.* p. 132.

SITAR or Sitara, a musical instrument similar to the cither, supposed to have obtained its name from the Sih-tara, the three-stringed, and believed to be the source of the word guitar. Ek Tara, when with one steel wire; sometimes it has nine or eleven steel wires; but generally three, whence its name. See Kemanchi.

SITONA, a species of this genus of insects is one of the most destructive in Indian granaries, attacking poppy seed, maize, millets, wheat, barley, and rice. It is about one-eighth of an inch long, and of a pale-chesnut colour.

SIVA, a Hindu deity, the object of worship of the Saiva sect, which is the most numerous of all the Hindu sectaries. Nearly all the Rajput races, most of the Hindus in the valley of the Ganges, and three-fourths of all the Hindus of the south of India, worship Siva in some of his emblematic forms, the most received of which is that of the lingam. Magnificent temples have been erected to him all over British India, to each of which from thousands to hundreds of thousands of pilgrims annually resort. Those in the Madras Presidency, at Conjeveram, Jambukeswara, Tirunamale, Chedambara, and Kalahasti, are the most celebrated. Siva and his worship are confined to British India, where the name is variously pronounced and written Siva, Shiva, Sivin, Seo, Sheo, Shev, Seb, S'hiu, Shib, Shivu, and Chivin, and there is mention of this god in the book of Amos (v. 25-27), 'Have ye offered unto me sacrifices and offerings in the wilderness forty years, O house of Israel? But ye have borne the tabernacle of your Moloch and Chiun your images, the star of your god, which ye made yourselves. Therefore will I cause you to go into captivity beyond Damascus.' And it is evident from this that even then, B.C. 965, the emblem under which Siva is still worshipped, and the marks which his followers put on their foreheads, were both well known. About 500 years B.C. the pantheism of the Vedas became transformed into the respective symbolic embodiments of Siva and Vishnu, and, in later times, Siva has since been accepted as the same with the Vedic deity Rudra. Siva is a god unknown to the Vedas; the name is a word of not infrequent occurrence in the hymns, indeed, but means simply propitious; not even in the Atharvan is it the epithet of a particular divinity, or distinguished by its usage from any other adjective. As applied to him whose title it has since become, it seems one of those euphemisms so frequent in the Hindu religions, applied as a soothing and flattering address to the most awe-inspiring god in the whole pantheon.

Siva is mentioned by Bardasanes, a Greek author, as worshipped in a cave not far from Peshawur in the early part of the third century. The worship of Siva seems to have been introduced into India about the beginning of the Christian era, and apparently came from the west, and embodied the sun-worship and the physiologial philosophy of Baal. Colonel Tod tells us that there are numerous temples in Rajasthan of Baalim; and that Balpur (Mahadeo) has several in Saurashtra, all representing the sun.

One of the great teachers of the Saiva sect was Sankaracharya, A.D. 850. He was born in Malabar. He extended his teachings to Kashmir and Kedarnath, where he died at the early age of 32. He wrote in Sanskrit many religious works, and has exercised a great influence on the religion of the people of India. He had ten disciples, and the appellation Das-namah, applied to the ten Saiva sects, has reference to their names. Of these, six and a half sects have fallen away from Sankara's doctrines. They are called Atith, from 'a tita,' passed away from worldly cares. They are still religious mendicants, are frequently collected in maths or monasteries, but they are not ascetics, as they use clothes, ornaments, and money, carry on trade, accumulate property, and mix in the business of the world.

The Dandi of Sankara, three and a half in number, are compelled to retain his doctrines in a pure form. The doctrines of the Dandi and of the Atith are those of the Vedanta system. What the Sri-Vaishnava are to the Vaishnava

sects, that the Dandi are to the Saiva sects; and what Ramanand was to the Sri-Vaishnava, that Gorakhnath was to the Dandi.

The attributes of Siva are many. He is named Isa or Iswara, Rudra, Hara, Sambhu, Mahadeva, Mahesha. Siva is Time, the Sun; he is Fire, the destroyer, the regenerator. His consort Parvati, a mountain nymph, is the symbol of created nature, and in that character named Prakriti. As the deity presiding over generation, his type is the linga, which is the phallic emblem of Egypt, Greece, and Rome. As the god of justice, which character he shares with Yama and other deities, he rides a bull as his vahan, the symbol of divine justice. He holds, as his commonest attribute, a trident, called trisula, in this and in some other points resembling Neptune. His colour, as well as that of the bull, is white, and his hair of a reddish colour. He is sometimes represented as with two, four, eight, or ten hands, and with five faces. He has a third eye on his forehead, pointing up and down, a distinction peculiar to him. As Mahadeva, he is abundantly decked with serpents, emblems of immortality, and common ornaments to many deities. He is often represented with his trisula or trident in one hand; as also with the pasa, string or rope, also often depicted in the hands of his consort Kali, for binding and strangling incorrigible offenders. Serpents, emblems of eternity, form his ear-rings, called Nag-mundala; his pendent collar of human heads, his Mund-Mala, marks his character of destruction or time; and his frontal crescent points at its most obvious measurement by the phases of the moon. Occasionally, in his hands is represented the warlike mace (Gadha or Parasha), and Mrigu or Sasin, a name for the antelope, given also as an attribute of the god Chandra, the Moon. Frequently Siva's loins are seen wrapped in a tiger's skin, and the river goddess Ganga smiles serenely from his Mugut, or headpiece. His sectaries give various explanations and comments on these symbols.

Siva is principally worshipped under the form of the linga. Some of these lingams, usually of basalt or dark-coloured greenstone, are of an enormous size; but they are also made, morning and evening, of clay of the Ganges, and after worship are thrown into the river. The linga is never carried in procession. The temples dedicated to it are square Gothic buildings, the roofs of which are round and tapering to a point. In many parts of Hindustan they are more numerous than those dedicated to the worship of any other of the Hindu idols, as are the numbers of the worshippers of this symbol beyond comparison more extensive than the worshippers of the other deities or their emblems. The Binlang stone is also sacred to Siva. In the temples erected in honour of Siva, the officiating Brahman, after bathing in the morning, enters the temple and bows to Siva. He anoints the image with clarified butter, after which he bathes the image with water which has not been defiled by the touch of a Sudra, nor of a Brahman who has not performed his ablutions, by pouring water on it, and afterwards wiping it with a napkin. He next grinds some white powder in water, and, dipping the ends of his three forefingers in it, draws them across the linga, marking it as the worshippers of Siva mark their foreheads. He next sits down before the image, and, shutting his eyes, meditates on the work he is commencing; then places rice and durva grass on the linga; next a flower on his own head, and then on the top of the linga; then another flower on the linga; then others, one by one, repeating prayers. He then places white powder, flowers, vilva leaves, incense, meat offerings, and a lamp before the image; also some rice and a plantain. He next repeats the name Siv, with some forms of praise, and finally prostrates himself before the image.

On the 14th of the increase of the moon in Phalguna, in the night, a vigil in honour of Siva is kept at his temple, the image is bathed four times, and four separate services are performed during the night.

The temples of Siva in most parts of India are small, and with one chamber, in the centre of which stands a linga, usually of white or black stone; but occasionally 12 such temples, or even up to 108, are arranged immediately adjoining, in a group. Yet these temples are little resorted to by votaries; they are regarded with comparatively little ven[illegible] by the Hindus, and flowers and fruit ar[illegible] with little solemnity before the ima[illegible]ception to this is the temple of [illegible]ares, which is thronged with[illegible] of admirers. Along the[illegible] the worship of Siva is no[illegible] popular condition of th[illegible] is only in the south of[illegible] possess popular legends [illegible]

The worship of Siva is a[illegible] and his consort, in the for[illegible] the dread agents for the[illegible] The opposing worshipp[illegible] long desolated India with[illegible] Krishna appears to have[illegible] the Saiva and Indra sects.[illegible] be given to the Hindu legends, Ravana, who reigned over Ceylon and the southern part of the Peninsula at the time of Rama's invasion, was the head of a civilised and powerful state, a Hindu follower of Siva. The Hindus who worship both Siva and Vishnu are of the sect of Bhagavat Sampradai, or devotees of a two-fold deity, these being ordinarily the lingam and yoni as emblems of Siva and his sakti (Devi), and of Krishna, of the Yadu form, with Lakshmi. Vaishnava Brahmans will never worship Siva nor any emblem of that deity, nor even enter his temple, nor fast on the days of Siva's fast days. Saiva sectarians, generally, worship all deities; they are, in truth, polytheists. But the Vira-Saiva Lingaets, and Smartta Brahmans, and those who recognise the Rig Veda, do not worship at the Vaishnava temples. The period of sectarian intolerance is now past or in abeyance; and, as far as observation goes, the worshippers of Vishnu, Siva, and Buddhists view each other without malignity; which feeling appears never to have influenced the laity of either sects, who are uniformly respectful to the ministers of other religions, whatever be their tenets.

Siva, from the legendary destruction of the three cities of a demon, is named Tripura or Tripura-sura, the supposed origin of the modern Tiperah. Siva is represented with three eyes; hence his

title of Trinitira and Tri-lochun, and in this form he is the Tri-ophthalmic Jupiter of the Greeks. From the fire of the central eye of Siva is to proceed Pralaya, or the final destruction of the universe; this eye is placed vertically, resembling the flame of a taper, is a distinguishing mark on the foreheads of his votaries, the eye in the forehead being one peculiar characteristic of Siva and of his consort, when armed with his terrors. This third eye is said to have burst from his forehead on an occasion when his wife playfully placed her hands over his eyes whilst he was engaged in austerities in the Himalayas. With [illegible] he reduced Kama to ashes for daring to inspire [illegible] motous thoughts of Parvati whilst engaged in [illegible] penance, and by his glance the gods and all created [illegible] beings were destroyed at one of the periodical [illegible] destructions of the universe.

The second of Vishnu's ten great avatars or [illegible] incarnations was in the form of a tortoise, and [illegible] those called the Kurma avatara, the principal [illegible] incident in which was churning the ocean with [illegible] the mountain Mandara, the huge serpent Sesha [illegible] serving as a rope to wind the mountain round [illegible] himself, and Vishnu, in the shape of a tortoise, [illegible] sustained the [illegible] The result was fourteen [illegible] kinds of [illegible] genus or Chaodh ratni [illegible] (Nirless ratna), and one of [illegible] but [illegible] and Siva drank [illegible] retained his azure neck. [illegible] very popular gives the [illegible] name the epithet Nila- [illegible] is a name of Siva. [illegible] now not an uncommon [illegible], as is that of the deity, [illegible]

[illegible] of the linga in the [illegible] other periods in which [illegible] shipped under different [illegible] to be seen in numbers, [illegible] streets of Calcutta, after the festivals in honour of Siva, to be cast into the river. In the month Phalguna he is worshipped for one day as a mendicant. On the following day the images of him, with a bloated countenance, matted locks, and inflamed eyes, are carried in procession, attended by a large concourse of people, dancing, singing, and playing on various instruments, and thrown into the river. In the month of Mughut there is another festival in honour of him, called Hari Gauri, in which he is represented riding on a bull, with Parvati on his knee. But the most celebrated occasion of his worship is in the month Choitru, at the time that the ceremony of the Charkha, or swinging by hooks fastened in the flesh of the back, is performed. This festival derives its name (Charkha or Chakra, a wheel or discus) from the circle performed in the swinging part of it, that terminates the ceremonies, which should properly last a lunar month; but the term is now much shortened, and the observances of it are limited to the followers of Siva. The higher classes do not engage in it, although they contribute towards the expense of, and countenance it. The initiatory ceremonies of purification, abstinence, and exercises of devotion take place several days before the commencement of the rites, during which time the sanyasis, or worshippers, form themselves into parties, and wander about the streets with horns, drums, [illegible] a most intolerable and horrid [illegible] exhibition is that of suspension, which is [illegible] formed by two posts being erected, on the [illegible] of which is placed a strong bar, from which the sanyasi or worshipper is suspended by his [illegible] over a fire, kindled beneath him, into which rosin is occasionally cast. His head is often completely enveloped in the smoke, though sufficiently high to be beyond the reach of the flame. On the following day the sanyasis dance and roll themselves upon the beds formed of various descriptions of prickly plants. Their next ceremony is called the Jamp Sanya, or jumping on a couch of pointed steel, which has been thus described. A bamboo scaffolding of three or four stages is erected, on which the sanyasis stand, tier above tier, the principal and most expert occupying the upper row, which is sometimes between 20 and 30 feet high. A bed of bedding, supported by ropes, is stretched beneath the scaffolding by a number of men. Upon the mattress are attached several bars of wood, to which are fixed very loosely, and in a position sloping forward, semicircular knives, upon which the sanyasis throw themselves in succession. In general, the effect of the fall is to turn the knives flat upon the bedding, in which case they do no harm; but occasionally severe wounds, and even death, are the consequences of this rite. When they take their leap, the performers cast fruits, such as cocoanuts, betel, plantains, etc., among the crowd, on which there is a great scramble for them, as they are supposed to possess much virtue. Women desirous of progeny are very anxious to get these donations, and those of the first families send persons to obtain and bring them for their private eating. The ensuing day is spent in revelling and dancing among burning ashes, and afterwards casting them at each other. On the following day they again infest the streets, attended by music. Cruel rites are now forbidden.

Every Hindu has a sect mark on his forehead, of white earth, red ochre, sandal-wood, or ashes. The worshippers of Vishnu place the mark perpendicularly, and two perpendicular lines and a dot between denotes a worshipper of Vishnu as Rama or Krishna. The worshippers of Siva mark horizontally. Any conical or triangular mark is a symbol of the linga.

One distinguishing mark of the faith of Siva is a crescent on the forehead. With his ascetic devotees the hair is braided, and forms a tiara round the head, and with its folds a chaplet of the lotus seed is often entwined. They smear the body with ashes, and use garments dyed of an orange hue. They bury their dead in a sitting posture, and erect tumuli over them, which are generally conical in form. Col. Tod says it is not uncommon for priestesses to officiate at the shrines of Siva. In the south of India, the officiating priests of the Saiva shrines are commonly of the Vira-Saiva, or Jangam, or Lingaet sect, and are designated Aradhya, also Pandaram.

Siva is represented with his person powdered with the greyish-white ashes of burnt cow-dung, termed Vibhuti, which is consequently used in a similar way by all the Saiva and by many of the Vaishnava ascetics. Part of Siva's scanty raiment is the skin of an elephant, or more properly of an Asura or Titan killed by him under

…, and thence named Gajasura. His …the *trisula* or *trident*, *is considered to* …ntinual motion over the face of the … to guard and preserve its creatures. …se its course would be to incur imme… …ath. Its motion would appear to be … but varying according to the days …k. Thus it is imagined that it is … proceed towards the westward on …nd Fridays, to the northward on … and Wednesdays, to the eastward on … and Mondays, and to the southward …ays. The trisula or trident symbol of …nce used on a copper paisa, weighing …s, for circulation in the province of …ly. Siva, as Mahadeo, is often repre… …ng on a tiger's skin, with a Nag snake … head. In the different terrific forms …d Durga, a necklace of skulls forms …ble decoration, as does the crescent …oon on the forehead; and the moon is …d to be the peculiar reservoir of amrita, …verage of immortality. Aghora-Ghanta, … Chamunda, says of Durga, a sakti of

…ephant hide that robes thee, to thy steps … to and fro; the whirling talons rend …escent on thy brow; from the torn orb …ickling nectar falls, and every skull …ems thy necklace laughs with horrid life.'

…Myth.; Tod's Rajasthan, i. p. 517; *Hind. …Hero and the Nymph*, ii. pp. 59, 195; *…s Indian Antiquities; Moor's Oriental …nts; Moor's Hindu Pantheon; Ferg. and … Cave Temples*, p. 20; *Oudh*, p. 121.

…A-BHAKTA, a worshipper of Siva, a …et or Jangam.

…VA-CHIPAGA-WANLOO, of Bellary, are …hippers of Siva. The Siva-chipegeree, or …leka-balji wanloo, worship Siva in the form …nake.

…AGANGA, a hill in the Bangalore district …e, in lat. 13° 10′ N., and long. 77° 17′ E., …t above sea-level. Its face is crowded …red buildings. The number of steps …o the summit is reckoned equal to the …f yojanas thence to Benares, and conse… …e ascent is held to be a vicarious …ge to that city. Pop. (1871), 721.

…GANGA, a zamindari in the Madura …of the Madras Presidency; area about …are miles; population, 432,023.

…II, founder of the Mahratta empire, was …d son of Shah-ji. He was born about …627, and was brought up under the care … Condu, a Brahman whom Shah-ji had …n charge of his Poona jaghir. Sivaji's …s were his father's soldiers and predatory …ers, and by the age of sixteen he got …Dadaji's control. He is suspected of …n gang robberies in the Konkan; and he …a band from amongst the Bhil, the Koli, …usi, and the Mahrattas of the Mawals to … of Poona, with whom he surprised the … of Torna (A.D. 1646), a strong hill fort, …W. of Poona. On the death of Dadaji, … possession of his father's jaghir, seized …ill forts, amongst them that of Purandhar …47), and occupied the tract between …and the Neera. Hitherto his acquisitions …n got without bloodshed, but in 1648 he plundered a convoy of royal treasure in the Konkan, and before the court recovered from its surprise at this outrage, it heard that five of the principal hill forts in the ghats had fallen into his hands, and that a Brahman, one of his officers, had obtained possession of Kalian and of all the forts of the Northern Konkan. The Bijapur Government was under the impression that Sivaji was acting by the advice of his father Shah-ji. They therefore seized Shah-ji, threw him into a dungeon, and threatened to build up the entrance unless Sivaji should submit; but on this Sivaji offered his services to Shah Jahan, who appointed him to the rank of commander of 5000, and Shah-ji obtained his release from the dungeon, though for four years, 1649-1653, he remained a prisoner at large within the fortress of Bijapur. No sooner was his father free than Sivaji renewed his plans of aggrandizement. He procured the assassination and seized on the territories of the raja who held the whole of the hilly country south of Poona from the ghats inclusive to the Upper Kistna; and when prince Aurangzéb reached the Dekhan in 1655, Sivaji [illegible] himself recognised as a servant of the Mogl[illegible] Government, and obtained a confirmation of [illegible]ssessions. But when Aurangzeb declared [illegible] the king of Golconda, Sivaji invaded t[illegible]ritories, surprised Juner, and made [illegible]empt on Ahmadnaggur. He [illegible] 1658) on promising to ai[illegible] of horse, a promise whic[illegible] renewed the attacks on [illegible] the commander of the t[illegible] him, Sivaji tendered [illegible] Partabgurh obained a pe[illegible] meeting Sivaji clutched [illegible] called tiger's claws, an[illegible] dagger, and at a signal [illegible] rushed out and slaughte[illegible] Khan's army. He then o[illegible] near the ghats, and took po[illegible] forts. On another army being sent a[illegible]im, he allowed himself to be shut up in the almost inaccessible fort of Panala, May A.D. 1660, from which he at length escaped on a dark night. The king of Bijapur now took the field in person, A.D. 1661, and before the end of a year Sivaji found himself stripped of almost all his conquests; but on the Bijapur king being withdrawn to Carnata for the revolt of Sidi Johar, Sivaji recovered and increased his territories. A peace favourable to Sivaji was mediated by his father Shah-ji, which left Sivaji (A.D. 1662) in possession of a territory including upwards of 250 miles of the Konkan seaboard between Kalian and Goa, while above the ghats its length was more than 150 miles from the north of Poona to the south of Mirich on the Kishna. Its extreme breadth from E. to W. was 100 miles, on which he maintained an army of 7000 horse and 50,000 foot. At the end of 1662, he broke with the Moghuls, ravaged their country near Aurangabad, took their forts near Juner, and occupied the hill fort of Singhar near Poona. Shaistah Khan was sent against him, and occupied Poona, taking up his quarters in the house in which Sivaji had been brought up. Sivaji left Singhar one evening after dark, posted sentries on the road to support him, and went on with 25 Mawali Mahrattas into Poona, where he joined a marriage procession, gained admission

into the house by a back door, and surprised Shaistah Khan in his sleeping room, who received a blow from a sword which cut off two of his fingers, as he was letting himself down from the window to a court below. Shaistah Khan's son and most of his attendants were cut down. Sivaji returned in safety, and reascended Singhar amidst a blaze of torches. This exploit, so congenial to the disposition of his countrymen, is the one of all his actions of which the Mahrattas still speak with the greatest exultation. On this, Aurangzeb superseded Shaistah Khan by sending his son Muazzam and Jeswant Singh. But Sivaji with 4000 horse came suddenly on the rich and defenceless city of Surat, which he plundered at leisure for six days, and carried off his booty in safety to his capital of Rairi or Raigarh in the Konkan. He was beaten off from the Dutch and English factories.

Sivaji was again [illegible] with Bijapur, and carried on his operations chiefly in the Konkan. He embarked with [illegible] men in 87 ships, sacked Barcelore and plundered all the interveaning tract; his ravaged the Bijapur territory, and he led his son on an attack on the Moghul districts. Aurangzeb now superseded Jeswant Singh and Muazzam by Raja Jye Singh and Dilir[illegible] were sent with a large army to [illegible] Jye Singh laid siege to Purandhar, and Sivaji [illegible] up 20 out of the 32 [illegible] her with the territories [illegible] co-operate with Jye Aurangzeb pleased with [illegible] him to court but his humiliating and overbearing and indignation, he [illegible] line of courtiers and reproached Ram Singh [illegible] ordered him to be [illegible] time Sivaji and his son [illegible] guards concealed in baskets, and, [illegible] a horse with his son behind him, he escaped to Muttra, where he put on the dress of a religious mendicant, shaved off his hair and whiskers and rubbed his face over with ashes, and, leaving his son there under the care of a Brahman, he pursued his journey by the least frequented roads to the Dekhan, reaching Raighur in December 1666, nine months after his escape from Dehli. The English factors at Karwar in the Konkan wrote on the 29th September 1666, 'If it be true that Sivaji has escaped, Aurangzeb will quickly hear of him to his sorrow.' In the following year, 1667, Jye Singh failed in an attempt on Bijapur, and he in his turn was superseded by prince Muazzam and Jeswant Singh. Sivaji joined these commanders, his title of raja was acknowledged, his territory partly restored, and a new jaghir was granted to him in Berar. The years 1668 and 1669 were passed in tranquillity, which gave Sivaji time to arrange his government. His army, both horse and foot, was formed in divisions, with a regular chain of officers, from heads of ten, fifty, up to heads of 5000, above which were the generals of the divisions, all regularly mustered and paid by the state, and the utmost economy enforced. His civil officers were all Brahmans, and those of the highest rank were often employed in military commands also. Aurangzeb tried to get Sivaji into his power, but Sivaji turned all the emperor's plans against himself. A[illegible] then ordered an open attempt to seize Si[illegible] peace thus broken, Sivaji's great friend [illegible] fidant, Tanaji Malusri, surprised Sing[illegible] Poona with 1000 Mawali, who escaladed [illegible] at night, though with the loss of their l[illegible] many of their number. Sivaji conferred [illegible] bracelet on each of the survivors: he [illegible] other forts, again plundered Surat, ra[illegible] desh, and for the first time levied the [illegible] fourth share of the revenues, a tax w[illegible] wards formed a prominent feature in [illegible] policy. His progress was almost un[illegible] because of the inactivity of Muazzam a[illegible] bat Khan (A.D. 1671), who considered [illegible] under them insufficient for the country t[illegible] hold. Muazzam remained inactive at A[illegible] and Muhabbat Khan, in an injudicious [illegible] cover a siege in which he was engaged [illegible] body of 20,000 men to a total def[illegible] Mahrattas (A.D. 1672). This was the [illegible] action won by Sivaji's troops, and the [illegible] stance of success in a fair conflict with the [illegible] and Aurangzeb recalled both prince [illegible] and Muhabbat Khan. In the course of t[illegible] A.D. 1673 and 1674, after a succession o[illegible] and sieges, Sivaji made himself maste[illegible] whole of the Southern Konkan, except [illegible] held by the English, Abyssinians, and Po[illegible] and of a tract above the ghats, extend[illegible] to the east than the upper course of th[illegible] He now, 6th June 1674, had himself [illegible] time crowned at Raighur, with all the ce[illegible] of a Moghul coronation, including h[illegible] weighed in gold, and distributing rich pr[illegible] all around him. Mr. Oxenden was the E[illegible] envoy from Bombay to Sivaji, and was pr[illegible] the coronation. At the same time, he cha[illegible] the titles of his principal officers from Persi[illegible] Sanskrit; and while he thenceforth assum[illegible] the pomp of a Mahratta prince, he redoubl[illegible] attention to the duties of his religion, and aff[illegible] greater scrupulosity than ever in food a[illegible] things connected with caste. Soon a[illegible] ceremony the Moghuls made an excursion [illegible] territories. Sivaji retaliated (A.D. 1675) by [illegible] bands into the imperial provinces, plund[illegible] country to the heart of Kandesh and [illegible] even penetrated into Gujerat as far as [illegible] where for the first time his troops cro[illegible] Nerbadda. In 1676, he resolved to re[illegible] father's jaghir in the Peninsula. He fo[illegible] alliance with the king of Golconda, and [illegible] to that fortress with 30,000 horse and 40,[illegible] and it was agreed that he should share [illegible] king all conquests beyond his father's jagh[illegible] the Golconda forces should keep those of B[illegible] check. He crossed the Kistna at Kurnoo[illegible] 1677, proceeded through Cuddapah, and [illegible] close to Madras, presented himself at J[illegible] which he obtained possession, and h[illegible] besieged and took Vellore, Arnee, and [illegible] father's jaghir in Mysore. Hearing of the [illegible] of Golconda by the Moghuls, he left h[illegible] brother Santaji in charge of his new co[illegible] but the king of Golconda had come to a se[illegible] with the Moghuls, and Sivaji, after co[illegible] Adoni and Bellary, returned to Raighur a[illegible] middle of A.D. 1678, from which he h[illegible] absent eighteen months. His brother [illegible] came to a compromise, by which he was [illegible]

[illegible] ay half the revenue to Sivaji, who [illegible] himself the places he had conquered from Bijapur.

In A.D. 1679 Aurangzeb ordered Dilir Khan and prince Muazzam to make demands on the Bijapur Government. Its king was a minor, and the regent sought the aid of Sivaji, who invaded and laid waste the Moghul territory with more than ordinary severity. He was thus engaged when he received intelligence that his son Sambaji had deserted to the Moghuls. Aurangzeb ordered Dilir Khan to send Sambaji to the royal camp, but Dilir allowed him to return to his father, and Dilir, pressed by Sivaji and by Bijapur, raised the siege and retired. The price of Sivaji's alliance was the cession of the territory between the Tumbudra and the Kistna, and shortly after, on the 5th April 1680, Sivaji died at the age of 53 years.

His treacherous assassination of Afzal Khan was a detestable crime. The family was of the Mahratta Kunbi race, but claimed descent from the Rajas of Mysore. His son Sambaji succeeded to power, but after a life of continued war, he fell into the hands of Aurangzeb, who put him to death in 1689. Ram Raja, son of Sivaji, was for a short time on the throne of his father, but was dethroned and imprisoned by his half-brother Sambaji. He died A.D. 1700, leaving two sons. In 1688, Sambaji, son of Sivaji, was taken prisoner, and in August 1689 put to death. Saho or Shaoji, son of Sambaji, succeeded in 1708. In 1719 Saho obtained the Chouth or one-fourth of the total revenues of the six subahs into which Aurangzeb had nominally subdivided the Dekhan. He fixed his capital at Satara, and on the death of Aurangzeb in 1707, he took advantage of the broils in the Dehli empire to enlarge his boundaries and power. His treasurer was Balaji Wishwanath, father of Baji Rao, the first of the Peshwas of Poona. Holkar, of the shepherd caste, and Sindia, in A.D. 1720 were cavalry officers in his army. He died in 1749, on which Holkar established himself at Indore, and Sindia first at Ujjain, and finally his descendant in 1810 at Gwalior, in the province of Agra.—*Elphin.* pp. 532-572; *Grant Duff, Hist. of the Mahrattas.*

SIVALAYA, a temple of Siva, from Siva, and Alaya, an abode. The Sivalaya in old Bardwan consists of 108 temples in two large amphitheatre circles, one within the other.—*Tr. of Hind.*

[illegible]ARAYAN, a Rajput, a native of the [illegible]hondavan near Ghazipur, flourished [illegible]ign of Muhammad Shah, A.D. 1735. [illegible]luminous writer, and founded a sect [illegible] Hindus who profess the worship of [illegible] whom no attributes are predicated. [illegible] worship nor pay regard to any of [illegible] of Hindu or Muhammadan veneration; [illegible] proselytes from Hindus, Muham- [illegible] Christians. Truth, temperance, and [illegible]eir cardinal virtues, and polygamy [illegible] The sect comprise Rajputs mostly. [illegible]o be the same with the Siva Narayana, [illegible] sect of the people of India, who do [illegible]ip or regard any object of Hindu or [illegible]dan veneration. They admit alike [illegible]uhammadans, and Christians as pro- [illegible] Their cardinal virtues are truth, temper- [illegible] mercy. Polygamy is prohibited. The founder was Siva Narayan, a Rajput, who flourished about A.D. 1735, in the reign of Muhammad Shah.—*H. H. Wilson*, i. p. 358.

SIVA PUJA is performed by all young Hindu girls in Bengal on the 30th day of the month Choytro, because Siva is regarded as a model husband, and his sakti Durga worshipped him. Krishna in character is supposed to be questionable.

SIVA-RATRI, or Maha Siva-Ratri, a popular festival in honour of Siva, on the 14th of the moon's wane in Magha (January—February). A rigorous fast is observed during the day and night, and Siva is worshipped in the form of the lingam, the priapus of the Romans, and phallus of the Greeks. On the 29th of each month the lingam is worshipped by all Saivites, but in the worship on the Maha Siva-Ratri the many different names of Siva are repeated over the lingam, and a leaf of the Ægle marmelos dropped on it at each name.

SIVASAMUDRAM, lit. Sea of Siva, an island formed by the branching of the Kaveri (Cauvery) river into two streams, each of which makes a descent of about 200 feet in a series of picturesque rapids and waterfalls. The island is properly called Heggura, but the name Sivasamudram is derived from an ancient city [illegible] N., long. 77° 14′ E.

SIVATHERIUM, from S[illegible], is a genus of extinct anima[illegible] tidæ. The remains of s[illegible] genus were found by [illegible] Cautley in the valley of [illegible] Hills of the Himalaya. T[illegible] S. giganteum and S. P[illegible] scribed. A cranium, lo[illegible] bones of the extremities [illegible] in the British Museum. [illegible] is nearly as long as t[illegible] neck is shorter and stron[illegible] The posterior portion of t[illegible] veloped, and formed of cell[illegible] elephant. The face is short, and the [illegible] are remarkable for the manner in which they are prolonged into a pointed arch above the external nostrils, indicating a trunk or proboscis. The very inclined direction of the front of the face in relation to the triturating surface of the teeth, imparts a physiognomy altogether peculiar. Two horns arise from the brow between the orbits, and diverge from each other, and it is probable that the posterior protuberances of the forehead also supported a pair of short massive horns. When living, the Sivatherium must have resembled an immense gnu or antelope, with a short thick head surmounted with two pairs of horns. The front pair of these horns were small, whilst those behind were probably palmated. The eyes were small, and it had a nasal proboscis, an organ unknown amongst the Ruminantia.—*Mantell, Petrifactions and their Teachings; Jour. As. Soc.; Eng. Cyc.; Falconer's Palæozoic Remains.*

SIVA-VAKYA, the name of a well-known work treating of Siva as the supreme being.

SIVI, son of the king of Usinara near Gandhara. He was famed for his charity and devotion to Siva.—*Dowson.*

SIVIRA or Seoree, a race in Ghazipur, Gorakhpur, Behar, Benares, and Mirzapore, whom Buchanan thinks identical with the Kol and the Cheru.—*Elliot.*

SIWAI. HIND. A quarter more, a title of a Hindu ruler; also, an additional cess of 25 per cent.; properly Sawai.

SIWALIK HILLS, a mountain range which runs parallel with the Himalayan system, from Hardwar on the Ganges to the banks of the Beas (Bias). It belongs to the tertiary deposits of the Outer Himalayas; and it is chiefly composed of low sandstone and conglomerate hills, the solidified and upheaved detritus of the great range on its north. The northern slope leads gently down into the Dehra Doon, a vale between the Himalaya and their outlying Siwalik subordinates. A thick forest of sal and sain clothes the lower slopes, while on the higher crests pine woods indicate a cooler climate. Wild elephants abound; and the fauna in this section also includes tigers, sloth-bears, leopards, hyænas, spotted deer, pigs, and monkeys. The total length of the range from the Ganges to the Beas is about [illegible] miles, and its average breadth about 10 miles. All the great rivers which run at right angles to the Siwaliks —the Ganges, Jumna, Sutlej, and Beas—have worn themselves wide valleys through this chain. The Siwalik Hills [illegible] 5 to 10 miles across, and are a ma[illegible]ower and sandstone hills, [illegible]ost broken up into ravines, [illegible] floods or 'raos' rush in the [illegible]ills which bound the Doon [illegible] 400 to 600 feet.

[illegible] extensive fossil remains [illegible] Falconer and Captain [illegible]manas or monkey tribe [illegible]s of the Palæopithecus, [illegible]acus. One of the carni[illegible]thed tiger, Machairodus [illegible]t, is remarkable for the [illegible]f its canine teeth, and [illegible]on. It has been found [illegible]ay, in the Norfolk forest [illegible]ertiary deposits of Epples[illegible]e Auvergne in France, the [illegible] Italy, the pampas deposits and bone [illegible] of South America, and the upper miocene fresh-water limestones of the Siwalik Hills.

These hills also contain remains of extinct species of the Proboscidea or elephants, various species of Mastodon have lived there, and also in Burma, and also in Armenia, many parts of Europe, and N. and S. America. Dr. Falconer described 13 species of fossil elephants, 9 of which are from India. Amongst these are Elephas ganesa, with tusks 10½ feet long, and it was probably the largest of all the extinct elephants.

One of the ungulata or hoofed animals of the Siwalik, the three-toed miocene ancestor of the horse (the Hipparion or Hippotherium), occurs fossil, and has also been found at Pikermi in Greece, and in France and Germany. Remains of the hippopotamus have also been found in the newer miocene deposits of the Siwalik.

India has also furnished fossil remains of two pigs, the Sus hysudricus and Sus giganteus.

The newer tertiary deposits of the Siwalik also furnished remains of the Sivatherium, a gigantic four-horned ruminant, bearing some resemblance to the living antelope of India. Fossil remains of the camel have also been found there; and, of three extinct species of the ruminant Chalicotherium, one is from India, and one from China, while in the later tertiaries of the Siwalik have been found the heads and horn cores of fossil oxen and antelopes.

In the newer miocene deposits of the Siwalik also have been found the bones of a fossil ostrich, Struthio Asiaticus, and the remains of a huge crane, Argala Falconeri.

The tertiary rocks of India have also furnished remains of alligators, crocodiles, and gavials. Some of the existing species [illegible] extinct Colossochelys atlas [illegible] Falconer in the Siwaliks, exceeds [illegible] chelonian remains. From the pieces [illegible] shell of one has been restored in the [illegible] Museum, and it measures 20 feet in longitudinal and 15 feet in lateral girth.

Mr. W. T. Blanford is of opinion that the [illegible] of the Siwalik Hills belongs to the pliocene formation. In Sind, strata containing [illegible] marine fossils pass up into beds with [illegible] fauna, including some of the older [illegible] such as Mastodon, Chalicotherium, Deinotherium, etc., together with Dinotherium, Hyotherium, Anthracotherium, etc., which have never been found in the true Siwaliks. The Sind beds are apparently equivalent to the Siwaliks, which are unfossiliferous in the typical area. In the Middle and Upper Siwaliks, instead of the old forms just named, elephas, hexodon, cervine, and bovine ruminants in abundance and other recent types, are found. As the Sind beds cannot be older than upper miocene, the typical Siwaliks must be pliocene. The [illegible] (Bubalus) palæindicus, found in the Upper Siwaliks, occurs also in the Nerbadda alluvium associated with palæolithic implements.—*Asiatic Jour.* September 1878; *British Museum Catalogue; Falconer's Palæozoic Remains; Beng. and Roy. As. Soc. Journ.; Imp. Gaz.*

SIYALBET, in Kattyawar, contains the remains of the ancient city of Srilingapura.

SIZE. Siras, GUJ.; Sirisht, HIND. A gelatinous substance, obtained from parchment shavings, fish-skin, and several animal membranes. It is less adhesive than glue, and is used by bookbinders, paperhangers, and painters.

SKAMBHA. SANSK. The Supreme Being. The word means the fulcrum. In this sense it is equivalent of the Arabic Kiblah.

SKANDA, a name of Subhramanya, the Hindu god of war, a six-faced deity. Parvati, the wife of Siva, having produced a son, Ganesa, with [illegible] father, by her intense wishes, Siva, with [illegible] skill, developed Skanda out of his [illegible] consciousness,—or outer substance, [illegible] certainly be stated which. Heaven and [illegible] then cursed by the tyranny of the [illegible] Brahma, Vishnu, and the other deities [illegible] Siva to release them from his thraldom. [illegible] shrank from the task, but promised that [illegible] Skanda should become incarnate for the [illegible] Immediately on conception he was [illegible] Kartikeiya, heavenly virgins, who happened [illegible] that juncture to have descended to the [illegible] sacred tank. While they were bathing [illegible] warm rays of the sun, each one of them [illegible] birth to a son, and they at once departed [illegible] celestial abode. Siva, hearing the cries [illegible] little outcasts, instructed Parvati to nurse and [illegible] rear them. As she hugged them to her [illegible] the six trunks became incorporated in one, and [illegible] the six pairs of hands and feet, and the [illegible]

remained distinct and separate;—hence his other name, Arumugam (six faces). In five years he had completed his course of studies. The following seven years he spent as an ascetic on the banks of the tank which was the scene of his birth. At the age of twelve he collected a thousand hosts of Bhuta or goblins, and sallied forth to conflict with the giant Sura, who had for his defence a hundred thousand hosts of similar goblins, the giant, his two brothers, and his four sons fighting in the forefront of their ghostly battalions. Skanda with one blow of his weapon severed the giant in twain. The separate parts instantly assumed the shapes of a cock and a peacock, and with beak and spur renewed the conflict, only to be re-subdued by Skanda, who mounted the peacock, and has since continued to use it as his chariot, while the cock has remained his warlike emblem and standard. Indra, the god of heaven, rewarded his courage by giving to Skanda his lovely daughter Devani in marriage, while the liberated and joyful inhabitants bowed to him in adorations and worship.

SKANDA PURANA is one of the sacred books of the Hindus. One portion, named Kasi Khanda, of 15,000 stanzas, written prior to the 11th century, describes the Saiva temples in and near Benares. Another fragment, the Utkala Khanda, describes Orissa. The book purports to have been written by Skanda. It is read through once a year in the temples of Siva. Skanda Shasthi, a fast and festival observed in honour of Skanda.—*Dowson.* See Purana.

SKARDO, lat. 35° 20′ 2″ N., long. 75° 44′ E., in Balti, the capital of a province, on the left bank of the Indus. Level of the Indus at the rock Mendok Kar, 7255 feet. In Gilgit, Hunza Nagyr, and all the valleys to the westward, the name Skardo is almost unknown, and the place is called Palor, Balors, Palolo, Balti. It was conquered in 1840, for the Raja Ghulab Singh, by his general Zorawar Singh, with his Dogra troops. The people grow corn, irrigating the land, and using manure. They are fond of out-of-door or manly games. Skardo, or Little Tibet, is a Bhot tract, but the people are Muhammadans. They are strong and hardy; they grow corn and cut water-courses like the people of Rongdo. Skardo is called by the Lamas of Ladakh, Skar-ma-m-do, meaning the enclosed place or the starry place. Iskardo is the Arab-Muhammadan pronunciation, who fail in all attempts to pronounce the double consonant beginning with s, requiring to prefix an i.—*Latham's Ethnology; Adolphe Schlagentweit.*

SKENJEHIL. Pers. A beverage in use with the native Kakims; a syrup of vinegar diluted with water.

SKEWERS, a term by which sailors designate a practice in the Archipelago of transfixing the glans. Dalton says they use copper, the bones of birds and monkeys, and hardwoods. The ceremony, he heard, took place after the birth of the first child; but from subsequent inquiries he found that it is immediately after they have tunnelled or betrothed with a girl; that unless the girl submitted to it, the girl would have nothing to say to him; that they measured the length of the skewers to be used by the length from the knee to the second joint of the woman's third finger; that a great chief often used three, some others one; and that it never seemed to injure them in the slightest degree. The Naga are stated by Fytche (i. p. 350) to wear a ring four to eight lines broad.—*Journ. Ind. Arch.* v.

SKIMMIA LAUREOLA. *Hooker.*

Ner . . . of Jhelum.	Shalangli . . . of Ravi.
Burroo . . . of Ravi.	

A shrub of the N.W. Himalaya. It has been introduced into English gardens, and is greatly admired for its aromatic, evergreen foliage, and clusters of scarlet berries. This plant never bears scarlet berries in Sikkim, apparently owing to the want of sun. The fruit ripens, but is of a greenish-red or purplish colour.—*Hooker; Ste... Gamble.*

SKINNER, Colonel JAMES, a brave so... who distinguished himself in the wars of ... Lake and Marquis Hastings. He was the son of ... Scotch officer by a Rajput mother; and serve... the Mahratta armies under General de Boi... and afterwards under General du Perron, ... he took service under L... 1796 to 1803, whe... and distinction. He di... Lake, and rose to ... commanded a body of ... in 1841. He rais... rtant services in the ... horse, which rendered ... the Mahratta and ... campaigns of the British again... rih ul Akw... Pindari. He wrote in Persia... tions of ... an account of the origin a... n, with ... various castes and tribes ... native drawings representi... and costume... Besides ... book called Tazkirat u... Princes. He devoted ... church at Delhi.

SKINS.

Skind, ...	Dan.
Vellen, ...	Dut.
Peaux, ...	Fr.
Felle, ...	Gr.
Chamra, ...	Hin.
Pelli, ...	It.
Kulit-balulang,	Malay.

This term is applied in ... to the skins of calves, deer, goats ... which, when prepared, are used in ... works of bookbinding, the manufacture of ... parchment, etc.; while the term hides is appli... to the skins of the ox, horse, etc., which, wh... tanned, are used in the manufacture of sh... harness, etc. The exports of India have gre... creased in value, from Rs. 30,30,890 in ... to Rs. 1,95,40,032 in 1882–83. In India ... of the bison, sambur, bullock, horse, ... goat, kid, dog, and iguana are all ta... skins are tanned and dyed blac... their natural colour. They ar... tough, and granular, gree... appearance. From the ... appearance of this leath... but it bids fair to be ... slippers, and a good ... kinds of instrumen... over with shagreen ... tanned white for th... for the purpose of t... when tanned, mak... in England for ... great beauty. ... They are pli... the accom... when in a... facture a... certain ...

skins of young alligators are tanned, converted into leather, and the leather manufactured into boots. They are for sale in many shops in London. The religious Hindu student sits on the skin of an antelope or tiger, and in the south of India the same is used for weddings. Skins were exhibited at the Lahore Exhibition from the hills around Kangra and Simla. The sable from Russia, and the Karakuli lambskins of Bokhara, had been imported. Karakuli are so called from Karakul, a province 20 cos south of Bokhara. They are lambskins with the hair on; as much as [illegible] lakhs' worth are exported to Persia, Tartary, Kabul, and India; other districts of Bokhara produce them, but all are called Karakuli. The soft black lambskins of Karakul are immensely prized for making postins and for coats. They are prepared by taking the skins of [illegible] young lamb's immediately on their being [illegible]. This of course is an expensive method [illegible] skins are proportionately high-priced [illegible].

SKOPTZI. The cerem[illegible] Russian sect of the mutilated (S[illegible] inscribed in a manuscript by [illegible] Metropolitan of Moscow, a[illegible] emperor Alexander [illegible] fully explain the nature of the two [illegible]. The first [illegible] of the Lamb. [illegible] bound to live a life of [illegible] less often happens that this is usually ascribed [illegible] women having broken [illegible] interposition. The [illegible] on the seventh day [illegible] is tied over its eyes, [illegible] over a dish, and a silver [illegible] left side, so as to pierce the [illegible] sect of the Skoptzi then advance in [illegible] suck the child's blood. This is what is called 'the communion of the Blood of the Lamb.' As soon as the ceremony is over, the body is put in another dish full of sugar, where it [illegible] until it dries up; it is then crushed into [illegible] and administered in small cakes to the [illegible] members of the sect as 'the communion [illegible] of the Lamb.'

TIB. A praying cylinder of wood, [illegible] inches long, revolving on an iron [illegible] are wound written prayers and [illegible] lower end of the spindle [illegible] which the cylinder is twirled. [illegible] faster as the praying drums [illegible].

[illegible] Siberica, wild goat or [illegible] 4 feet 3 inches in [illegible] inaccessible rocks, [illegible] are killed in Balti [illegible] forced to descend into [illegible] are snared at night, [illegible] the morning when [illegible] sunk. Their hair [illegible] but the soft [illegible] Asl-Tus, is [illegible] light-brown [illegible] shawls, [illegible] woven [illegible] soft and

delicate texture, much prized for its [illegible]. The term ibex is given in India to several [illegible] of the genus Capra or goats, but Capra [illegible] the Ibex Himalayana, *Blyth*, is the H[illegible] ibex, the Skeen or Sikeen of the H[illegible] the Kyl of Kashmir. These are the name[illegible] male; that of the female in Tibet is L'da[illegible] inhabits Ladakh and Kashmir. A wild s[illegible] ibex, called Paseng by the Persians, o[illegible] Middle and North Asia, but it belon[illegible] genus Ægagrus. See Bovidæ.

SLAID, a Bedouin tribe in Irak. [illegible] cultivators, and have a breed of large wi[illegible] much used in Syria.

SLATE.

Skiferstein, . .	DAN.	Ardoise, . .	
Lei, ...	DUT.	Aspid, . .	
Ardoise, ...	FR.	Pizarra, . .	
Schiefer, ...	GER.	Skiferstein, . .	
[illegible]	HIND.	Kalpalagi, . .	
Lavagna, Lastra, . .	IT.	Rati palaka, . .	

A laminated rock, of which there a[illegible] kinds. One of commercial importance i[illegible] slate employed for roofing, and as writi[illegible] True roofing slate is capable of almo[illegible] division into thin plates or slabs. A bl[illegible] quarried in the Karakambady district [illegible] Arcot. When first taken from the q[illegible] very soft, and can easily be cut into [illegible] Slate is also found near the Khas[illegible] slates for roofing are found in Madho[illegible] Panjab. Slates are occasionally brou[illegible] from the Himalaya. A slate of the [illegible] quarries is deemed medicinal by nati[illegible] called Sang-i-Musa, 'Moses' stone.' Slates o[illegible] in the hilly tracts of the Sonah, Pali, and Ferozp[illegible] parganas of the Gurgaon district. Writi[illegible] slates, and the slate-pencil for writing on the [illegible] are imported into the East Indies from Euro[illegible] The materials used in the Indies in lieu of writi[illegible] slates are slabs of wood, and thick slabs of pape[illegible] for which pencils of soapstone are used. [illegible] Cuttack, Kharee is used for the manufactur[illegible] pencils and balls, for writing on the [illegible] floor, in all rural schools, and by [illegible] to countants.—*Cat. Ex.*, 1862.

SLAVE.

Abd, Abdat, . .	ARAB.	Servus, . .	
Slaaf, ...	DUT.	Esclavo, . .	
Esclave, ...	FR.	Nevolnik, . .	
Sklave, ...	GER.	Esclavo, . .	
Ghulam, .	HIND., PERS.	Slaf, . .	
Das, Dasa, ,,	,,	Pullukai, . .	
Schiavo, ...	IT.	Yessir, . .	

Slavery in one form or other exi[illegible] throughout the East Indies. Among all nations slave[illegible] with its accompanying horrors, was the [illegible] of a man's neighbour; but even in the case of an [illegible] conquered in battle, it was by the Egyptians sometimes allowed to stand in place of the triumphant cruelty of slaughter. The Israelites had learned the evils of slavery from [illegible] groaned under it themselves, and they forbade it in every possible case. Exodus xxi. 16. 'He that stealeth a man,' says the law, 'or selleth him, or if he hath one found on his hands, shall be [illegible] death.' Nevertheless, slavery was a [illegible] condition amongst the Hebrew [illegible] as may be observed from reading Matthew xviii. 25 [illegible] the Lord Jesus illustrated his sermon [illegible] remark that, 'as he had not to pay, he [illegible] manded him to be sold, and his wife and [illegible]

…t he had, and payment to be made.' …recognises 15 kinds of slaves—1. Gri… child of a female slave; 2. Krita or … 3. Labdha or gifted; 4. Dayadupa…erited; 5. Anakalabhrita, taken in time … 6. Ahita, pledged; 7. Rinadasa, volun…e in payment of a debt; 8. Yuddprapta, …war; 9. Panejita, won in a wager; 10. … voluntarily; 11. Pravarajyavasita, an … 12. Krito, voluntarily for a time; 13. …a, a slave for his food; 14. Varava…dava-hrita, one who by marrying a …e becomes a slave; 15. Atmani krayi, …ls himself as a slave.

…adan law recognises only two kinds, … made captive in war, and their de… In practice, however, a title to slaves …quired by purchase, donation, or inherit…, according to the principle recognised … religionists, Kul-Islam hurre! All …ee! no Muhammadan can legally be … be kept as a slave; but all over Asia …ny slaves of this religion in the posses…eir co-religionists, either purchased or …datory excursions or in war. Mahomed, …he sanctions the enslavement of cap… in war, enjoins their surrender on … a fair ransom. 'Show kindness to …,' he says in one place; in another, he …that 'alms should buy the freedom of … and once, in speaking of the marriage of … even says, 'You all come one from … and from Adam, the common father.' …th chapter of the Koran runs, 'If any one …slaves asks from you his freedom, give it … you judge him worthy of it; give them … of the goods which God has granted …

…what is now British India, during the revolu… and disturbances preceding the accession of … the enslaving of the conquered soldiery … townsfolk had been carried to a great … Not only was it practised towards the … and children of garrisons who stood a … but the peaceable inhabitants were also … and sold, till Akbar by an edict … prohibited making slaves of persons taken …

…tigin, father of Mahmud of Ghazni, was … so was Kutub-ud-Din, the conqueror and … of Dehli, A.D. 1206, the Slave dynasty …ting till A.D. 1288.

A writer of the 17th century, when noticing the races of Cochin, says the slave castes, the members of which belong to individual masters, are the *Cannekaa*, who gather the cocoanuts; the … who make saltpans and collect the salt. These are the most honourable of the slave castes. The *Pulleah*, who are again subdivided into several classes,—the Collamary or smiths, the Weltoe Caren, the Beltoe Pulleah, and the Canna Pulleah, whose occupation is agriculture, sowing, planting, and cutting the Nely, for which they receive both from their proprietors and from strangers one share out of every ten they cut. There was then a dispute between the Cannekaa and the Pulleah as to which is the higher caste; the former maintaining that their caste ranks first, whilst the Pulleah averred that they enjoy more privileges, for instance, that they may employ barbers, wear a fillet on their heads, and a long garment reaching to the knees, which the Cannekaa may not do.

Tod tells us, in the Rajasthan, that the illegitimate sons of the rana of Mewar are called das, literally slave. They have no rank, though they are liberally provided for. Bussee signifies acquired slavery, in contradistinction to gola, a hereditary slave. The gola can only marry a golee; the lowest Rajput would refuse his daughter to a son of the rana of this kind. The bussee can redeem his liberty. The gola has no wish to do so, because he could not improve his condition nor overcome his natural defects. To the bussee nothing dishonourable attaches. The class retain their employments and caste, and are confined to no occupation, but it must be exercised with the chief's sanction. Individuals reclaimed from captivity have in gratitude given up their liberty. Communities, when this or greater evils threatened, have done the same for protection of their lives, religion, and honour. Instances exist of the population of towns being in this situation. The greater part of the inhabitants of the estate of Bijolli were the bussee of its chief, who is of the Pramara tribe. They are his subjects. The only badge denoting the bussee is a small tuft of hair of the crown of the head. The term interpreted has nothing harsh in it, meaning occupant, dweller, or settler. The numerous towns in India called Bussee have their origin in it. Famine in the regions of Rajasthan is the great cause of loss of liberty; thousands were sold in one great famine. The predatory system of the Pindari and mountain tribes aided to keep it up. The Muhammadan slave girl is called Bandi, Londi, but when associating with their master is one of the haram. The das or slave may hold a fief in Rajasthan, but he never can rise above the condition in which this defect of birth has placed him.

Nafr.—In the west of Bengal the Nafr and his offspring were slaves for ever, and were transferable and saleable. In Purneya the Nafr was sometimes a domestic slave, sometimes an agricultural slave.

Slavery in British India is illegal. About the year 1811 a British officer in authority at Dehli abolished all forms of slavery. His name and the exact date have not been handed down. But by Act v. of 7th April 1843 slavery ceased to exist, by law, in any part of British India, though in many parts the people themselves have not yet freed themselves from their bonds, though public works and railways have greatly aided them. Act v. of 1843 appeared in consequence of information obtained by the Commissioners appointed to frame a code of Criminal Law. They reported that the proportion of slaves to freemen varied in number in different parts of British India as one-sixth, one-third, or two-fifths. On many estates most of the cultivators were slaves. 200 or 250 landholders had as many as 2000 slaves each. In Calcutta, most Muhammadan, Portuguese, Armenian, Parsee, and Jew inhabitants possessed slaves.

In the N.W. Provinces slavery was chiefly confined to the towns, and was generally of a domestic character.

In the hill districts of Kamaon, Garhwal, and in the whole border of the Himalaya from Kashmir to Assam inclusive, also in Arakan and the Tenasserim provinces, in all the territory border-

ing the Malay Peninsula, Penang, Malacca, and Singapore, slavery was everywhere common, and in some provinces included almost the whole of the labouring population. Throughout the Tamil country, as also in Malabar and Canara, by far the greater part of the labouring classes of the people had from time immemorial been in a state of acknowledged bondage. In only three districts of the Madras Presidency was this system of bondage unknown. In Malabar and Canara the labourer was the personal slave of the proprietor, and was sold and mortgaged by him independently of his lands. In the Tamil country the labourer was the slave rather of the soil than of its owner, and was seldom sold or mortgaged except along with the land to which he was attached. In every district of Telingana some sort of serfage or bondage and domestic slavery were then still existing.

In the southern parts of the Bombay Presidency, bordering on the Southern Mahratta country, adjoining Malabar and Canara, and in a few of the less civilised districts of Gujerat, there were agricultural slaves; but in the other districts of that part of India only domestic slavery prevailed, and that was confined to the towns and to the houses of people of importance. Comparing the above information, district by district, with the very imperfect estimates of the population, Sir H. B. E. Frere has estimated the total slave population of British India in 1841 at between eight and nine millions of souls. The slaves freed in the British colonies on the 1st of August 1834 were estimated at between 800,000 and 1,000,000, and the slaves in North and South America in 1860 were estimated at 4,000,000; so that the number in British India far exceeded that of the same classes in all the slave-holding colonies and dominions of Great Britain and America put together; and in that number those of Sind, the Panjab, Oudh, Nagpur, and Burma are not included, as these provinces have only since then been added to the empire.

The domestic slave of British India seems to have been treated at least as well as the hired servants. Self sale—of men selling themselves into slavery to secure a provision for old age, to obtain a wife, or to pay a debt—was an ordinary origin of the servile state, and this was not compatible with any prevalence of harsh treatment, and the prevalence of caste privileges aided to protect the slaves. With the Muhammadans the female slaves were liable to become concubines of their masters; but in most Hindu castes a stigma attached to such connection, and often prevented its open avowal. But every kind of service, both domestic and outdoor, was required of slaves.

The Commission further stated that slaves were both heritable and transferable property; they could be mortgaged and let to hire, and they could obtain emancipation only by their owner's consent, except in some special cases.

In Ramghur, in S. Behar, when petty disputes occurred, the slaves were habitually employed to commit crimes, such as theft and murder; and in Assam they were habitually employed in plundering and gang robbery.

Throughout Malabar the whole labouring agricultural population was servile, and the slaves were under fixed rules; could not approach a freeman or his house within a certain number of paces, to avoid defiling the master or free fellow-labourers. The distance was 72 paces aloof from a Brahman, and 24 paces from a freeman. To carry out this rule, the slaves were required to give notice of their approach by uttering a peculiar cry at every four or five paces. If the cry were answered by a passenger of superior caste, the slave was required to quit the road and retire to a distance. The lower class of slaves were generally interdicted the highway, lest they should pollute the houses of the free labourers in passing them.

The punishments inflicted on slaves were not ordinarily severe. The prices paid varied from a single meal in famine times for a child, up to £20 given in Bengal for a handsome domestic slave girl; and African female slaves and eunuchs brought even higher prices. The sale of free female children by their parents, and of slave girls by their owners, for purposes of prostitution, was very prevalent, and kidnapping, with the same object, was frequent. In every province, from the Himalaya to Cape Comorin, stolen children formed part of the establishments of the Hindu temples. Such shrines were among the most sacre India; such, for instance, as those of Jaga at Puri, and of Ragonath in Cuttack, in bo which the salaried officials were the Deva- who, to the number of fifty or sixty famili Jaganath's shrine, were at the service of E devotees, and formed a regular self-gover corporation, all with strict rules of admission government.

In many districts in Bengal a very large portion of the labouring agricultural popula seems to have been in one or other form of ditional bondage. Slavery was kept up by sale or gift by parents of children in time famine, sale by mothers or maternal relatio sale of wives by husbands, sale of widows heirs or relatives of deceased husbands, pe slaves, conquest of aboriginal tribes, self sale adults in times of famines, marrying with a sla kidnapping of female children; and the Megpun Thugs would murder parents wholesale, in orde obtain their children, who were sold for a rupees each; and importation through Arabia African slaves of all ages and both sexes, sty Habshi or Abyssinians; also the children of sla were slaves.

After the great inundation of Saugor Island in 1833, children were commonly hawked about the streets of the town of Calcutta for sale.

The Sylhet and the Cachar tribes were long engaged in selling slaves; and the Law Commissioners reported that a slave could be bought for twenty packets of salt, value about six shillings.

Such was the legal condition up to 1843. There are many slaves in the Feudatory States, and the non-Hindu races in many of the villages of British India, the Pariah and tanner races, are little if any above the condition of predial slaves.

The Adavi slave of Canara is a serf, an unpaid labourer.

The Tamil and Malealam Adima or Udima means any slave; a predial slave attached hereditarily to the land, and only transferable with it. In Malabar, amongst the Nair, it means a feudal dependent.

Adiyan, pl. Adiyar, is a slave, serf, or vassal in Malabar; a low-caste man under the protection of a raja or a religious establishment.

The Wakkalu Jamadalu, in Coorg, is a predial slave attached to the revenue lands. They are the personal property of the proprietors, and may be sold or mortgaged at pleasure.

The Bhumi Jamadalu slaves are attached to the land, and transferable with it.

In Malabar the Kanakan or Kanaka charma are predial slaves, supposed to be a subdivision of the Palayar.

Charumar are predial slaves, whose name Wilson derives from Chera, MALEALAM, the soil. They follow the rule of Maruma-katayam. They are very diminutive, with a very black complexion, and not unfrequently woolly hair.

The Mukkavan is a fisherman caste of Malabar, also called Makwa, and their women Makoti.

The toddy-drawer of Malabar is called Katti Karan.

The Panni Malayan are a servile caste of Malabar.

The Pulichi is a forest tribe in Malabar, who are deemed so unclean that they are not allowed to approach other castes.

The Uradi or Urali of Malabar are a servile race.

The Tiyar race in Malabar are toddy-drawers and agriculturists.

The Palayan, Pulian, or Pullar of Malabar is a servile caste, often slaves.

Balute, in the Mahratta countries, means the village officers, several of whom are predial slaves, as the Mhar, Holeyar or Dher, and Mhang.

Badava-hrita is a female slave; also a man who becomes a slave that he may marry a female slave in the family.

Banda, a Muhammadan slave; Bandi, a slave girl.

Ana-kala-bhrita is a person who has voluntarily become so at a season of famine.

In the Tamil countries about Chingleput the Alandadey are a class of slaves.

In many of the countries bordering on British India, the martial and predatory tribes regard tillage as beneath their dignity, and leave the cultivation of the soil to helots. In 1883, in the Chittagong Hill tracts, slavery or vassalage in its broadest sense prevailed throughout the hill tribes. The rowaja or dewan, who is head of the village, owns his clan. They cannot disown his authority, their names are entered in his books; they pay him poll-tax wherever they go, must work for him, and make him the first offerings of their produce. They have been bondsmen for generations, and the links are never severed until death takes them away, or they abandon their homesteads and leave the country. Rowajas or dewans in their turn own allegiance to their chief, to whom they pay the largest share of the poll-tax. The condition of these tribes was very lamentable before Government took possession of the hills. The people were sold at the mere will of the chiefs or headmen; and although this has been abolished, serfdom still prevails in the form described. Sir Lepel Griffin, writing in 1883, says he remembers the time when the Chamba peasants were little better than slaves, and widows were publicly sold in the market-place as ordinary source of revenue to the state.

With Muhammadans, whose creed sanctions polygamy, and with them the Chinese, whose domestic customs necessitate prolonged isolation, slavery and concubinage are difficult to be avoided.

There are many kinds of slaves in Assam distinguished by distinct appellations. The *Moorukea* is a kind of *Chapunea*, neither servant, slave, nor equal, but partaking of all. The master provides the Moorukea with a pair of bullocks and a plough, and he tills his master's land for two days. On the third day the Moorukea may plough his own ground with his master's bullocks and plough.

Arakan.—The plundering expeditions of the tribes of the interior of Arakan are chiefly to obtain slaves. The village attacked is surrounded at night, and generally set on fire, or a volley of muskets is fired into it, and the inhabitants are seized as they attempt to escape from the burning houses. The males are put to death, and the women and children carried away into slavery. In the distribution of the slaves and plunder, the leader receives a double share. For the release of a captive thus taken, a ransom of Rs. 200 is generally demanded.

The Malays have two kinds of slaves, the ordinary menial creature, originally non-Muhammadan, and the debtor slave. When a debtor fails to pay his debt, the creditor is entitled by Malay law to remove him and his family to the creditor's house or grounds, where they all become part of his household. They work for him without pay, and without credit given for the labour in reduction of the debt. The usual result is that the debt, with the enormous interest commonly charged, is never paid off, and the bondage becomes lifelong. On the death of the debtor the family remains liable for half the debt, and so continues in slavery. Such is the strict law. In practice, it give rise to gross abuses. The creditor sometimes gives the debtor's daughters in marriage, pocketing the sum which the Malay bridegroom pays for the virtue and charms of his bride. Sir James Brooke mentions with strong indignation the case of a man to whom 16 reals were due, selling his debtor's daughter to 'a person of influence' for 30 reals. That English raja put down debtor slavery in Sarawak before he had been long there. The late raja of Kedah, a principality adjoining one of our settlements, certainly did the same thing a few years ago; and Mr. Davidson got it abolished in Salangore during his brief residency there about the year 1876. There is no good reason why slavery in any form should be tolerated in British Malay possessions.

A correspondent, dating 2d February 1882, from the Straits, writes of debt slavery in Perak being then in existence. He says, 'Numbers of grey-haired men and women could be found still in debt slavery in Perak.'

In the Netherland Possessions in India, slavery was abolished about the middle of the 19th century. Slavery still exists in China, and the sale of female children, usually from poverty, is of frequent occurrence.

All along the littoral, from the Red Sea through Sind to the Peninsula of India, are descendants of slaves from Africa and Arabia. They are known as Habshi, and in the plural

Habush, and at Muhammadan courts they were the household troops.

The slaves of the Brahui are of two classes, Negroes brought from Muscat, and the descendants of captives made in the wars with the people of the western provinces of the country, as Kej, Turbat, etc.; some have, at various times, been brought from Kashmir and the eastern provinces of Persia. These in colour and features in no respect vary from their masters, and some of the females are remarkably handsome. They are better treated than their Negro associates in bondage, and less onerous duties are assigned to them. Few of the Negroes, and those only who are really useful, are even decently clad; and it is common for them so to multiply, that their masters, from inability to clothe and feed them, dismiss them to provide for themselves in other lands.

The Afghans have supplied themselves with captives from the Siah Posh Kafir tribes of the mountain race in Kafiristan. But Arabia, Egypt, Southern Persia, Baluchistan, Sind, and Peninsular India have been chiefly supplied from East Africa, from the Soudan southwards to Madagascar, most of the eunuchs in S. Asia being from that region. The slave traffic of this region seems to have gone on from pre-historic times, and it was chiefly from the western coast of Africa that European and American nations obtained the slaves whom they employed in agriculture and as domestic servants.

The Turkoman races in High Asia, as also the Hazara races, continuously at present (1883) make r[illegible] their own tribes, and [illegible]nds on the Persians and on children for sale. The seize on men, women, and [illegible]an others harassed in border Persians are more th[illegible] this way, and they are ad[illegible] markets of Central Asia, because bigoted Sunni Mullah have declared the Shiah sect not to belong to Islam. Shams-ud-Din Herati, a celebrated lawyer, is said to have been the chief promoter of this legal decision (fatwa). Slave-dealing, from immemorial times, has been practised in the northern provinces of Persia. It is conducted by the Turkomans as a regularly organized traffic, which diminishes as the distance from the Turkoman frontier is increased. They were carried on chiefly by the Tekke and Yomut tribes, the victims of the Tekke being the settled inhabitants of the frontier regions of Khorasan, Herat, Seistan, up to West Afghanistan, while the Yomut infest chiefly the southern shores of the Caspian. The Ali-Ali and the Kara occasionally capture caravans on their way to Bokhara. As the Chandor tribe live between the Lower Amu (Oxus) and the Caspian, they can only occasionally capture a few Kirghiz or Khivans. They treat the captives with such great cruelty as even to shock their neighbours. The great proportion of the slaves taken by the Turkoman and Uzbak are Shiah Persians, but they capture also Sunni of Khaf and Herat, also a few Jamshidi, and some Hazara and Western Afghans. The captives are handed over to the slave merchants in exchange for needed supplies. The slave-traders of Central Asia are seldom Uzbaks, but usually Tajaks or Sarts, with a few Persians; and their principal marts are at Karakol, Karshi, Charjui, and Bokhara. There are, however, other dealers who are employed by friends to ransom the slaves. By the custom of Muhammadan countries, a servant marrying a slave be[illegible] also a slave.

Owing to the Russian advances and the [illegible]ference of Britain in the affairs of Afghan[illegible] the slave area in Central Asia has been grad[illegible] diminished, until it is only composed of [illegible] country lying between Herat and Merv, [illegible] between Herat along the slopes of the H[illegible] Kush to Badakhshan. In Sher Ali's time [illegible] khanates of Afghan-Turkestan used to suppl[illegible] Amir with a periodical consignment of w[illegible] and boy-slaves as tribute. Mr. Schuyler [illegible] during his journey through Bokhara in 1873, [illegible] covered evidence of secret dealings in wo[illegible] and boys in defiance of Russia's prohibition [illegible] the contrary.

A writer attached to the staff of the Turkes[illegible] ski Vedemosti compiled a chronicle of the num[illegible] of Russian slaves who had been at various epo[illegible] detained in Central Asia. The aggregate t[illegible] amounted to some thousands.

Many generations have passed away since [illegible] Tartars sacked Moscow and Kieff, and carried [illegible] men and women into bondage in Asia; but [illegible] men are still living in South Russia whose fath[illegible] were bought and sold in the Tartar slave mark[illegible] of the Crimea; and both in the Caucasus an[illegible] Orenburg may be seen middle-aged men wh[illegible] youth was spent in bondage in Khiva and B[illegible] hara. The gunner Kidaeff, captured from [illegible] garrison at Fort Petro Alexandrovsk on the O[illegible] shortly after the Khivan campaign, and taken [illegible] a slave to Merv, was perhaps the last of the lo[illegible] list of Russian unfortunates whose tears have moistened the sands of Central Asia.

When Major Abbott visited the khanate of Khiva in 1841, upwards of 700,000 persons out [illegible] a population of 2,468,500, or 1 in every 3, w[illegible] In the city of Khiva alo[illegible] 12,00[illegible] slaves. In the cr[illegible]ians alone were [illegible] Herati and 30,000 Pers[illegible] the rest of the bo[illegible]dsmen being scattered about the country as ti[illegible]ers of the soil. Writing of the same period, W[illegible] the missionary, calculated that out of th[illegible] millions composing the population of Bok[illegible] 200,000 were in a state of bondage. Bu[illegible] another traveller, observed of a Bokharan vi[illegible] near the Oxus in 1832, that 'though not [illegible]ing of more than 20 houses, there were yet 7 [illegible] Persian slaves.' To capture these slaves w[illegible] regular pursuit on the part of the nomade tribes living adjacent to Khiva and Bokhara. The Khivans annihilated the expedition that Peter the Great despatched against them under Prince Bekovitch-Tcherkassky; and, more re[illegible] the Tekke-Turkomans of Merv captured [illegible] Persian soldiers in 1861 just outside their stronghold, and glutted the market to such a degree that the price of an able-bodied man fell to a pound.

The alaman or Turkoman raiding expeditions may be said to have received a death-blow when the Russians breached the walls of Goek Tepe. Already, years before, the slave market had been closed at Khiva and Bokhara by the Russian invaders; and the task they have achieved, of suppressing slavery outside Afghanistan and Merv, might rival the costly exertions of Britain on the African coast and in the Pacific.

Slave Trade.—Until the early part of the 19th century, Great Britain permitted her colonies to retain slaves, but from the efforts of Wilberforce

Clarkson, and others, Britain then abolished slavery in her colonies, as had already been done in the British Islands. Until after the middle of the 19th century, the United States of America held in slavery about five millions of the African races and their descendants of mixed blood, but the slave law was then changed after a civil war in which great numbers of men were slain. During the 19th century, Britain made vast and costly efforts to suppress the slave trade from the west coast of Africa, but till 1884 it continues on the east side of Africa, principally carried on through Arabs and Hindu natives of India.

The Hindu races have been settled as traders on the east coast of Africa from the most ancient known times. When the Portuguese first doubled the Cape, they found Banya traders established at every great port, and it was from them that Vasco da Gama and his successors learned the secret of the easy approach to India by the aid of the monsoons. They have held in their hands the trade of the east coast of Africa, and are still to be found as far south as Delagoa Bay. All the trade between that coast and Europe, America, or Asia passes through the hands of some branch of the Banya community, purchasing goods wholesale from the European or American importer, and selling them in retail for the interior. They are of the Bhattia and Banya tribes of Hindus, and the traffic is shared by the Khojah and Borah Muhammadans; and in 1872, a merchant, Mathur Das Khetsi, writing in the Rast Guftar, stated that from 10,000 to 20,000 slaves passed yearly through Kelwi on their way to Suahili and Arabia. The E. African slave trade by that year had depopulated much of the sea-coast line. To the south of Pangani is the territory of the heathen Wasegua tribe, and the great centre of the traffic. The Arabs of Zanzibar come here, and for muskets, powder, and shot purchase the slaves from the Wasegua chiefs.

The Red Sea slave trade appears to be of an exceptionally revolting nature; nine-tenths of the unfortunate victims are obtained from the southern frontiers of Abyssinia, where an incessant series of border quarrels afford a plentiful harvest to the kidnapper. As a rule, only children are thought worth capturing in these forays, and as the free and independent spirit of the Galla race renders them unfit for domestic or menial service, the males are immediately emasculated and disposed of to the slave merchants. The slaves captured in the Western Galla countries are usually brought to Massowa by way of Matemina, where there is annually held a large 'rakik' or market, whilst Zaila is the principal emporium for those brought from the Eastern Gallas through Shoa, the Christian inhabitants of which country take an active part in the trade. At Massowa a large traffic in slaves goes on, and from Zaila and Tajura; these last situated opposite to the Galla and Shoa territory, on the south-west corner of the Gulf of Aden. In 1873 the governor of Massowa was Munzinger Bey, a Christian, who was not supposed to profit by or even countenance the revolting traffic. At Massowa, as at other places where this illicit traffic flourishes, legitimate trade is almost at a standstill.

The male black slave is in Arabia (and other eastern countries) treated with more consideration than the free servant. If discontented with his situation, he can legally compel his master to sell him. It has been frequently observed that the black slaves are generally greater fanatics than their Muslim masters, and that they are, as a rule, totally ignorant of the doctrines in the defence of which they are so zealous. Through the depopulation of the line of the coast the slave trade has extended farther and farther inland, till in 1870 slaves were being brought from the west of Lake Nyassa, on which the Arabs had dhows to carry their captives across, traversing a distance of 500 miles, a three months' journey, during which the sick are left behind to die, and any hesitation is met with instant death. The Manyema, a cannibal nation, are constantly attacked by the Arab slave-traders. The Manyema are honest, industrious cultivators. Their women do not partake of the cannibal feasts; many of them, far down Lualba, are very pretty, bathe three or four times a day, and are expert divers for oysters. The men are fine tall fellows, not like Negroes; they use long spears, and are only conquered by the Arab firearms.—*Butler's Travels, Assam*, pp. 228, 229; *Dalton's Ethnol. of Bengal*, p. 114; *Times of India; The Madras Mail*, 14th May 1873; *Tod's Rajasthan; Slavery, by Sir H. B. E. Frere, G.C.B., in Fortnightly Review*, March 1883; *Wilson's Glossary; Masson's Narrative; Dr. Livingstone; Mr. H. A. Fraser; Dr. Kraff; Col. Rigby; Mr. Allington; Rev. Horace Waller; Hon. C. Vivian, in the House of Commons Report*, 1872; *Sharpe; Vigne's Per. Nar.* p. 145; *Court's Palembang*, 124.

SLAVONIAN and Slavonic are terms applied to races and their languages now found in the east of Europe and all Turkestan eastwards to the China Sea. The Slavonian and Sarmatian dialects comprehend the languages of eastern Europe, Russian, Polish, Bohemian, and the dialects in the greater part of Europe subject to the Turkish empire. Of the Slavonic languages, properly so called, the eastern branch comprehends the Russian with various local dialects, the Bulgarian, and the Illyrian. It is one of the Aryan tongues.—*Muller's Lectures*, pp. 187, 188.

SLEEMAN, General Sir WILLIAM, an officer of the E. India Company's Bengal army, who discovered the practices of the Thugs, and was appointed by Lord William Bentinck to undertake their suppression. He was long Resident at Lucknow, having previously been Political Agent at Gwalior. He wrote Rambles and Recollections of an Indian Official.—*Dr. Buist.*

SLEEPING HOUSES for the unmarried young men and girls, the lads apart and the lasses apart, are in use among the Bor and Bor Abor and others of the races in Assam, Sirguja, and in the Eastern Archipelago. In Fiji there are two kinds: those in which the men sleep (Buri ni sa), and those dedicated to the gods (Bure kalow). The sleeping bure may aptly be compared to the European clubs. In buildings or bure like these, all the male population, married, sleeps. The boys, until they have come of age, erect a bure of their own, often built on raised stages over the water, and approachable only by a long narrow trunk of a tree. The women and girls sleep at home, and it is quite against Fijian etiquette for a husband to take his night's repose anywhere except at one of the public bure of his town or village, though he will go to his family soon after dawn.—*Galton's Vacation Tourists*, pp. 253, 254.

SLEINANACHD. GAELIC. The Muhammadans in India often cast lots, and in Sind is a practice similar to that of the mountaineers of Scotland, called Sleinanachd, or 'reading the speal-bone' or the blade-bone of a shoulder of mutton. The poet Drayton alludes to the practice of this 'divination strange' amongst the 'Dutch-made English' settled about Pembrokeshire, in his Polyalbion, Song 5. Camden notices the same superstition in Ireland.—*Burton's Sciude*, p. 404; *Tod's Rajasthan*, i. p. 71.

SLIPPERS.

Pantoufle, . . . FR.	Pai-posh, ... PERS.
Pantoffel, . . . GER.	Chinela, ... SP.
Juti, Jora, . . . HIND.	Papoos, Sapata, . TAM.
Pianella, ... IT.	

In Turkey, Egypt, amongst the Persians, and throughout British India, Muhammadans and Hindus take off their boots or slippers when they enter into a mosque or temple, or visit the shrine of their holy men, the Muhammadans giving as a reason that Moses was commanded by God to leave his slippers on approaching the burning bush, because he was treading on holy ground. In Persia, a native never enters a room in boots or slippers; and when a foreigner attempts any transgression of this usage, it is looked upon as the height of ill-breeding, if not quite a premeditated insult. In some cases, where it has been intimated, reasons of policy have compelled an apparent toleration of the objection, by providing the expedient of receiving such visitors in the open air, but the necessity is always remembered with repugnance to the exactors. The custom of leaving the outward covering of the feet at the door is of very ancient practice all over the east, and especially so when the place to be trod on is connected with any religious ideas. We find it recorded so far back as in the Book of Exodus (iii. 4, 5), at the account of Moses turning aside to observe the burning bush, where it is written, 'The Lord called to him, and said, Put off thy shoes from off thy feet; for the place whereon thou standest is holy ground.' And again, we read in the Book of Joshua, that when that great captain of Israel was encamped in the plain of Gilgal, the same Divine Being appeared to him, and said to him also, 'Loose thy shoe from off thy foot; for the place whereon thou standest is holy. And Joshua did so.' In British India, about A.D. 1850, the richer Hindus and Muhammadans who visited amongst Europeans, began to wear patent leather shoes or boots to obviate the necessity of taking off their slippers; but at native courts and at their places of worship the visitor enters either on his bare feet or on his stockings. It is a part of the customs of eastern races, from which they never deviate amongst themselves.

SLOKA, a Sanskrit word. A couplet from a Shastra; a stanza or verse of four lines. The Malays probably derived the term for their poetry styled 'Shair' from the Arabs, and that of 'Sloka' from the Hindus. The origin of the Malay word Pantun is not so easily decided from its name; one word used is Bar-beit, which is from the Arabic Bait, a couplet; but perhaps Pantun itself is a Malayan word.—*J. I. Arch.* v. No. 11.

SMALL-POX—Jadari, ARAB., Mata, Sitla, HIND., Amur, TAM., TEL.—is regarded by the Hindus as a manifestation of the Hindu goddess called Maria-tal, Mari-amma, Devi, Mata, or Sitla, who is supposed by them to be a form of Kali, the wife of Siva. In the south of the Peninsula, the person affected is removed to a separate room. A pot filled with water is placed in the room with the patient, covered over with a saffron-stained cloth and leaves of the nim tree, representing the goddess. These leaves are also sprinkled about the bed of the person infected, who uses the tender twigs of the same tree to relieve himself from the irritation occasioned by the pustules, which, when they become sore, are smeared over with a paste made from the leaves. No strangers or unclean persons are allowed to enter the room where the patient is, both being considered at the time sacred. No puja is allowed to be performed with the ringing of bells, so that the patient may not be disturbed. Oil is not allowed to be used by members of the family when ablutions are performed, it being considered a non-conductor of prurient matter; and any one who has been shaved is also prohibited entering the room. No diet is observed,—curds, butter-milk, curry, and rice, and any other articles of food which the patient may desire, are given. When the patient recovers, widows are invited, and fed and clothed; little images called sellay, in the form of horses, are made of clay or stone, and placed near the Iyenar or tutelary god's temple. The Sudras offer rams, fowls, and ragi, and ambali or kulu is distributed among the poor. When small-pox makes its appearance in a village, men and women give out that the goddess Maria-tal has come upon them. They then dress themselves out fantastically, generally in saffron-stained cloths, and carry on their heads a pot of water, with two or three smaller pots over it, one upon the other. These pots are ornamented with saffron and ochre, and garlands are suspended from them, amongst which several limes are fixed. The bearers of these pots carry in their hands a small drum (Ooduku), which they beat with their hands. Some also dance, and with wonderful skill retain the burden on their heads. As they pass through the streets they stand before each house, the residents of which come out and pour water on the feet of the bacchantes, and present them with money. In the Malayalam and some other districts, so soon as a person is attacked with the disease, he is taken out of the village to a distance of a mile or more, and left in a thatched building, to which food is sent by a miserable old man or woman; and so afraid are they of the ravages of the complaint, that no one else will approach the place. In Ceylon, amongst the avenging scourges sent direct from the gods, the Singhalese regard both the ravages of the leopard and the visitation of the small-pox. The latter they call 'maha ledda,' the great sickness; they look upon it as a special manifestation of devidosay, 'the displeasure of the gods.' In Ceylon, such is the awe inspired by this belief in connection with the small-pox, that a person afflicted with it is always approached as one in immediate communication with the deity; his attendants address him as 'my lord' and 'your lordship,' and exhaust on him the whole series of honorific epithets in which their language abounds for approaching personages of the most exalted rank. At evening and morning, a lamp is lighted before him, and invoked with prayers to protect his family from the dire

calamity which has befallen himself. And after his recovery, his former associates refrain from communication with him until a ceremony shall have been performed by the capwa, called awasara-pandema, or 'the offering of lights for permission,' the object of which is to entreat permission of the deity to regard him as freed from the divine displeasure, with liberty to his friends to renew their intercourse as before.

Sir J. E. Tennent says leopards are strongly attracted by the peculiar odour which accompanies small-pox. About the middle of the 19th century, the capwa, or demon priest of a 'dewale,' at Oggalbadda, a village near Caltura, when suffering under small-pox, was devoured by a cheeta, and his fate was regarded by those of an opposite faith as a special judgment from heaven.

Masson says (Narrative, pp. 307–319) that persons milking a camel ill with small-pox contract what is called the poto-shutar or camel small-pox, and become also inaccessible to variolous contagion equally with those who receive the analogous disease from the cow. He was assured that no fatal results were ever known to follow from either the vaccine or the cameline disease.—*Tennent's Ceylon*, p. 28; *Masson*, p. 307.

SMALTE.

Smalt, ... Fr.	Smaltino, ... It.
Schmalz, ... Ger.	Lasor, ... Rus.
Smalto azzurro, . . It.	Esmalte, Azul-azur, . Sp.

An oxide of cobalt, melted with silicious earth and potash. It is a sort of glass, of a beautiful deep blue colour; and, being ground very fine, is known by the name of azure or blue powder. It is in great demand for the painting of earthenware, in the colouring of paper, and for other purposes in the arts. Smalt is manufactured in Germany and Norway. The Chinese use it for painting on porcelain and glazed copper vessels. —*Morrison; M'Culloch.*

SMARTA BHATTACHARYA, author of the law book Vyavahara Tatwa.

SMARTTA, a sect of the Brahman race of India, followers of Sankaracharya. They adhere to Sankaracharya's doctrine of unity, according to the Vedanta philosophy, but they specially honour Siva. They hold a high place in Hindu society. Their chief establishment is at Srivagiri. The sect regard Brahma and Vishnu as manifestations of Siva, and Siva or Para-Brahma, the supreme, or rather the universal, spirit; they mark their forehead with three (sometimes only one) horizontal lines of pulverized sandal-wood, with a reddish or blackish round spot in the centre.

SMASAN or Smashanam. Sansk.

Rudra bhumi, San., Tel. | Shudukadu, . . . Tam.

The place of incremation of the Hindu dead, the place where bodies are burned; temples of Durga in some of her terrific forms are usually erected in or near it, and monuments of stone or brick are not unfrequently reared where the funeral pile has stood.—*Hind. Theat.* ii. p. 55.

SMILACINA is a pot-herb growing in Tibet, north of Kanchinjinga. It is a beautiful plant, from two to five feet high, and has plaited leaves and crowded panicles of white bell-shaped flowers, like those of its ally the lily of the valley, which it also resembles in its mucilaginous properties. It is called Choklibi, and its young flower-heads, sheathed in tender green leaves, form an excellent vegetable.—*Hooker's Himal. Journ.*

SMILAX, a genus of plants which gives its name to the natural order Smilaceæ. They extend south to Australia, and north to Japan, North America, and the S. of Europe. S. China has a tuberous root abounding in fecula; the Chinese esteem it invigorating, and ascribe to it other virtues. Two Indian species, which, like the Chinese species, have tuberous roots, are called in Sylhet, Hurina-Shook-China and Gootea-Shook-China. These are S. glabra and S. lanceæfolia, and their roots cannot be distinguished from Chob-Chini, the China root. A similar species is common in the southern parts of North America, and has been called S. pseudo-China. Among Indian species are—

S. elegans, Dehra Doon.
S. glabra, *Roxb.*, Garo Hills, Sylhet.
S. randifolia, *Linn.*, Konkans, Dekhan, Bengal.
S. grandis, *Wall.*, —?
S. lanceæfolia, *Roxb.*, Sylhet.
S. maculata, *Roxb.*, Nepal, Kumaon, Mussoori.
S. ovalifolia, *Roxb.*, Konkans, Bengal.
S. prolifera, *Roxb.*, Rajmahal, Bengal.
S. pseudo-China, *Linn.*, Virginia, Jamaica, Garo Hills.
S. retusa, *Roxb.*, Bengal.
S. Roxburghiana, *Wall.*, Garo and Khassya mountains.
S. villandia, Morung Hills.
S. Zeylanica, *Wight*, Ceylon.

S. Roxburghiana or 'Koomare-Shook-China,' and S. oxyphylla or 'Chotee or small Koomaree;' S. rigida and S. ferox are Nepalese species. There are two or more species of Smilax in the Tenasserim jungles, one of which is used as medicine, to supply the place of a species of sarsaparilla, whose dried roots are sold in the bazars.—*O'Sh.; Eng. Cyc.; Dr. Mason.*

SMILAX CHINENSIS. *Linn.* China root.

Smilax China, *Linn.*	Rasna, Sugandamula, San.
Shook-China, . . Beng.	China-alla, . . Singh.
Tsein-apho-ta-roup, Burm.	Poringay, ... Tam.
Tu-fu-ling, . . . Chin.	Gali chakka, . . . Tel.
Chob-Chini, . . Hind.	Pirangi chakka, . . ,,

Dr. Smith applies the above Burmese and Chinese names to the tuberous root of Pachyma cocos. S. Chinensis grows wild in China, from which it is exported to Burma and to India; and the root is one of the China roots of the bazars. It is largely imported into Calcutta from the eastward, and much employed by native practitioners. The China root which comes to Ajmir via Bombay, is taken as an aphrodisiac in milk; one tola is a dose; used also in mesalihs. Natives suppose that this is the root of the Hazari marigold, Tagetes erecta, after being in the ground three years.—*O'Sh.; Gen. Med. Top.; Smith.*

SMILAX GLABRA. *Roxb.* Gootea-Shook-China, Beng. A climber with a large tuberous rhizome, a native of Sylhet, the Garo Hills, and the adjacent country. The stem and branches are thornless; leaves lanceolate, pointed, pale-green beneath. The root is identical in appearance with the China root of commerce, and the natives use it in decoction for the cure of sores and syphilitic eruptions.—*O'Sh.*

SMILAX LANCEÆFOLIA, *Roxb.*, not S. lanceolata, *Wall. and Loureir.*, is Hurria-Shook-China of Bengal. The leaves are lance-shaped and three-nerved, umbels stalked. Its large tuberous roots are much used by the natives of India in medicine.—*O'Sh.*

SMILAX OVALIFOLIA. *Roxb.*

Koomarika, . .	Beng.	Konda tamara, .	Tel.
Ku-ku, ...	Burm.	Kistapatamara, . .	,,
Wild sarsaparilla,	Eng.	Konda gurava tige, .	,,
Kari vilandi, .	Maleal.	Kummara baddu, .	,,
Krin koddy nar, .	Tam.	Konda dantena, . .	,,
Sitapa chettu, . .	Tel.		

A plant of Bengal and the Konkans, used for tying bundles.—*Mason; Spry's Suggestions*, p. 68.

SMITH. George Smith, an oriental scholar, who died in the autumn of 1876. Nothing could surpass the effect his paper, which was read on 3d December 1872, on The Assyrian Account of the Deluge, had on English Assyriological inquiry. The scientific journals took it up as a triumph of philological research, and the Daily Telegraph offered to send him out to search for more material. Accordingly he left England in January 1873, and on 3d March he gained his first view of Nineveh. Full accounts of this and the succeeding expedition in 1874 and 1875 have been published. The importance of his inspection of the sites of the palaces of Sennacherib and Assur-Banipal, and the survey of the ruins of Nineveh, cannot be overvalued. He was the first excavator who was able to read the records which he uncovered. He discovered a small fragment of a tablet containing the legend of the creation of the cattle and insects. This led him to search among the tablets in the British Museum, and in March 1875 he announced to the world the discovery of the Chaldæan legends of the Creation. The remainder of the year was occupied in the copying and translation of these texts, and the result was given in his last and famous work, The Chaldæan Account of Genesis. This was the first English work on Assyriology that had been translated into any foreign language.

Lieut.-Gen. Sir Harry George Wakelyn Smith, Bart., G.C.B., born 1788, died 1860. He entered the British army in 1805, and served against Monte Video, Buenos Ayres, and Copenhagen. He was present in the battles of the Peninsular war and at Waterloo, and in 1835 against the Kafir tribes. In 1839-40 he was appointed Adjutant-General to the Forces in India, and was present at the battles of Gwalior and Maharajpore, for which he was nominated a K.C.B. In the Panjab campaign of 1845-46, he was in command of a division at Moodkee, and of the reserve at the battle of Ferozpur, where he supported Sir John Littler in his charge upon the guns of the enemy. A few days later, the Sikh forces crossed the river Sutlej, near Ludhiana, and took up their position at Aliwal, on which Lord Gough despatched Sir Harry Smith, with 7000 men and 24 guns, to relieve Ludhiana. On the 28th of January 1846, Sir Harry Smith led the main charge in the battle of Aliwal, carrying that village at the point of the bayonet, and capturing all the enemy's guns, to the number of 67, a success which enabled him to come to the assistance of the commander-in-chief, and to join in the final and crowning victory of Sobraon (February 10), which crushed the last hopes of the Sikh leaders and their troops, and secured the possession of the Panjab to the British forces. He received the thanks of the House of Lords, was presented with the freedom of the city of London, and the thanks of the Honourable East India Company; was created baronet, and advanced to the dignity of a G.C.B. In September 1847 he was nominated to the governorship of the Cape of Good Hope. He conducted the operations of the Kafir war of 1851-52, until succeeded by Sir George Cathcart.

Sir Lionel Smith in 1821 commanded an expedition against the pirate tribes in the Persian Gulf.

Colonel Richard Baird Smith, an officer first of the Madras and subsequently of the Bengal Engineers. He was born in the year 1818, at Lasswade near Edinburgh, on the banks of the Esk; in 1838 went to India in the Madras Engineers, from which in 1839 he was transferred to the Bengal corps. From 1840 he was employed in the canal department under Sir Proby Cautley, served with Sir Harry Smith at Buddiwal and Aliwal (1845 ?), and in 1848-49 under Sir Colin Campbell (Lord Clyde) at Ramnuggur, and afterwards at Sadullapur and Gujerat. In 1851 he went to Piedmont and Lombardy to study their system of irrigation. He was chief engineer at the siege of Dehli; died in the Madras roads in 1859. He established a Museum of Economic Geology for N.W. Provinces, Bl. As. Trans., 1831, x. p. 779. Author of Memoir on Indian Earthquakes, ibid., 1841 and 1843; and Edin. New Phil. Jl., 1842, xxxiv. p. 107. Wrote an Account of the Delta of the Ganges, Cal. Jl. Nat. Hist. iii.; and on the Irrigation of the N.W. Provinces, pamphlet, 8vo, 1849.

SMITHIA SENSITIVA. *Ait., Roxb.*

Kul kushanda, .	Beng.	Muyyaku ponna, .	Tel.

An annual with small yellow flowers, makes good hay.—*R. Brown.*

SMRITI, Sansk., is the body of the recorded or remembered Hindu law, the ceremonial and legal institutes of the Hindu traditions. Dowson describes it as inspiration as distinguished from Sruti or direct revelation. He says the term includes several religious works of the Hindus, the Vedangas, Sutras, Ramayana, Mahabharata, the Puranas, Dharma-Sastras, especially the works of Menu, Yajna-walkiya, and other inspired law-givers, and the Niti Sastras or ethics; but its ordinary application is to the Dharma-Sastras; as Menu says (ii. 10), by Sruti is meant the Veda, and by Smriti the Institutes of Law.—*Dowson.*

SMUT or Dust Brand, Uredo segetum, Siahi, Hindi, is a disease produced in wheat by a fungus, and is said to infect chaff, straw, seeds, and leaves.—*Hassal.*

SNAKE BIRD, Plotus melanogaster.

SNAKE-BITE. In British India, in the six years 1875-1880, 1,073,546 snakes were destroyed, over 103,000 persons died from snake-bite, and Rs. 6818 were given in rewards for killing above a million of snakes. For our knowledge of the nature and effects of snake-poisons we are indebted to Surgeon-General Shortt; to Sir Joseph Fayrer's work on the Thanatophidia; to a Report on Indian and Australian snake-poisoning by Drs. Ewart, Richards, and Mackenzie; to the investigations of Drs. Halford and Weir Mitchell in Australia and America; and to a volume by Dr. Wall of the Indian army.

Dr. Halford, of Melbourne, advanced the theory that in snake-poisoning germinal matter was thrown into the body, together with the virus,

which rapidly developed and multiplied, the process going on at the expense of the oxygen; and he described some cells in the blood which he believed were evidence of his proposition. These cells, however, were afterwards proved to be the ordinary white blood corpuscles. Sir Joseph Fayrer finding that the blood after death from the bite of the viper (daboia) remained fluid, while after the bite of the cobra it quickly coagulated, supposed that death is due to some important changes in the blood. Dr. Wall is unable to accept either of these theories, and, while admitting a serious change in the condition of the blood in viperine, but not in cobra, poisoning, he attributes the cause of death to disturbance of the nervous system,—in the case of cobra poisoning to paralysis of the respiratory function, and in viperine poisoning to convulsions due to the direct action of the poison on the nervous system, and not to carbonic acid poisoning from failure of the respiration.

Surgeon-General John Shortt, a medical officer of the Madras army, recommends liquor potassæ internally for the cure of persons wounded by poisonous snakes. Surgeon-General Sir Joseph Fayrer of the Bengal army recommends liquor ammoniæ. All stimulants are useful,—spirits, and the essential oils of cinnamon, peppermint, etc. Dr. Wall is urgent for the entire removal by the knife of all the poisoned structure before the venom can be absorbed into the system. This, however, requires the skilled eye and hand of the surgeon, and time is not given, because the whole blood of the body passes through the heart in three minutes. The virus of snakes does not owe its peculiar properties to germs, but it is a perfectly structureless plasma, whose physiological action is little influenced by such materials as carbolic acid, and it retains its poisonous properties after being heated for an hour to a temperature of 224·6° Fahr., a temperature which it is hardly probable organic germs could survive. On the other hand, the disinfectants, which act by destroying organic compounds, such as chlorine, sulphurous acid, and chloride of zinc, have a marked effect in weakening the activity of the virus; while the permanganate of potash—better known by the name of Condy's fluid—completely suspends it by parting with its oxygen and decomposing its albuminous constituents.

Dr. Wall found no benefit accrue from the injection of ammonia or the permanganate of potash into the blood, nor does he speak encouragingly of giving large quantities of alcohol to the extent of producing intoxication.

As about 90 per cent. of snake-bites occur on the arms and legs, great importance is attached to the immediate application of a ligature to the limb above the seat of the wound. Dr. Wall thinks that the common mode of tying a piece of string or calico round the limb often fails to stop the circulation, and recommends as a substitute a piece of india-rubber bandage, similar to Esmarch's, employed by surgeons for bloodless operations.

The mungoose is the natural enemy of the snake, and although it seems to be as tameable as the cat, its depredations on the poultry yard will always prevent it taking the place of the cat in the Indian household. Mothers also dread lest their sleeping children be attacked.

Aristotle tells us that serpents may be driven away from a house by the smell of rue. Pliny says that the root of the holm-oak is an enemy to scorpions, and that of the ash to serpents, which, moreover, will not retire under fern. Serpents may be driven away by the burning of hair or stag's horn, or the sawdust of the cedar, or a few drops of galbanum, green ivy, or juniper; and persons rubbed with juniper seeds are said to be secure from hurt by serpents. See Serpents.

SNAKE GOURD, Trichosanthes anguina, a curiously contorted gourd, peculiar to India, and in very general demand for vegetable curries. The plant is of easy culture on trellises around the doors of the native cabins, and the fruit often grows two feet long, beautifully striped, small, and tapering, so, that streaming down from the trellis, they immediately remind one of striped snakes suspended from the foliage of trees. The viper gourd is Tr. colubrina.—*Mason.*

SNAKE-HEADED FISHES, Ophiocephalidæ, breathe atmospheric air direct; so, when pollutions or poisonous substances find access to rivers, or mud is carried down in such quantities as to choke the gills of most fishes, the Ophiocephalidæ are almost unaffected.

SNAKE RACE, Naga or Takshak race, was one of the most extensive and earliest in High Asia, and celebrated in all its extent; but the traditions regarding them, and the notices in the Hindu writings, are so mixed with fable, that little can be understood as to their real position. The Ramayana relates that the sacrificial horse was stolen by a serpent (Takshak) assuming the form of Ananta. The Snake race of India were the foes of the Pandu. The Mahabharata records constant war from ancient times amongst the children of Surya (the sun), and the Tak or Takshak (Serpent) races, and mentions that the horse of the sun, liberated preparatory to sacrifice, by the father of Rama, was seized by the Takshak. The successor of Janmejaya carried war into the seats of this Tak or Serpent race, and is said to have sacrificed 20,000 of them in revenge; and he subsequently compelled them to sign tributary engagements (penameh). The Paratacæ (Mountain Tak) of Alexander were doubtless of this race, as was his ally Taxiles, which appellation was titular, as he was called Omphis till his father's death. Baber gives the position of the capital of this celebrated race, which he passed on his route of conquest. And there is an intermediate notice of it between Alexander and Baber, in the early history of the Yadu Bhatti, who came in conflict with the Tak on their expulsion from Zabulisthan and settlement in the Panjab.

SNAKE-STONE, Pambu kallu, TAM., is a term employed in tropical countries to various substances applied to snake-bites. Charred bone, bezoar, magnesian limestones, and chalk are used. The virtues of these depend on their absorbent qualities; and earth has been recommended. Dr. Davy's belief was that in Ceylon a piece of charred bone is filled with blood perhaps several times, and then carefully charred again, and he says the manufacture of them is a lucrative trade, carried on by the monks of Manilla, who supply the merchants of India. Thunberg was shown the snake-stone used by the Boers at the Cape in 1772, which was imported

for them from the Indies, especially from Malabar, at so high a price that few of the farmers could afford to possess themselves of it. He describes it as convex on one side, black, and so porous that when thrown into water it caused bubbles to rise; and hence, by its absorbent qualities, it served, if speedily applied, to extract the poison from the wound. Mr. Hardy furnished Sir J. E. Tennent with an account of the piedra ponsona, the snake-stone of Mexico: Take a piece of hartshorn of any convenient size and shape, cover it well round with grass or hay, enclose both in a thin piece of sheet copper well wrapped round them, and place the parcel in a charcoal fire till the bone is sufficiently charred. When cold, remove the calcined horn from its envelope, when it will be ready for immediate use. In this state it will resemble a solid black fibrous substance, of the same shape and size as before it was subjected to this treatment. The wound being slightly punctured, apply the bone to the opening, to which it will adhere firmly for the space of two minutes; and when it falls, it should be received into a basin of water. It should then be dried in a cloth, and again applied to the wound. But it will not adhere longer than about one minute. In like manner it may be applied a third time; but now it will fall almost immediately, and nothing will cause it to adhere any more. These are quite insufficient to obviate the effects of a bite by the more poisonous snakes.

SNANA, Sansk., from Sna, to purify; bathing, ablution, a ceremonial of the Hindus; the ceremony of bathing or washing an idol. In the full moon of the month Jyeshtha, images of Krishna, as Jaganath, are carried out and bathed. It is called the Snana-yatra, or in Orissa Ratha-yatra.

SNEEZE, Atas of the Arabs, Cheenk of Hindustan. Most nations salute an individual after his sneezing. A Muhammadan after a sneeze ejaculates, Al Hamd Illah, God be praised; on which any one present adds, Ya! Rahmat Allah, God have mercy on you. On a child in Great Britain sneezing, the mother or nurse ejaculates, Bless you, bless you, my darling.

SNIPE are birds belonging to the family Scolopacidæ, sub-families Scolopacinæ, Limosinæ, Numeninæ, Tringinæ, Phalaropinæ, and Totaninæ. The species of the Scolopacinæ which receive the name of snipes, may be thus shown:—

Fam. Scolopacidæ.

Sub-Fam. Scolopacinæ, Snipes.

Scolopax rusticola, *Linn.*, the woodcock, all India.
S. saturata, *Horsfield*, Java.
S. minor, *Gmelin*, America.
Gallinago nemoricola, *Hodg.*, wood snipe, solitary snipe, all India.
G. solitaria, *Hodg.*, Himalayan solitary snipe.
G. stenura, *Temm.*, pin-tailed snipe, all India.
G. scolopacinus, *Bonap.*, common snipe, all northern latitudes.
G. gallinula, *Linn.*, jack snipe, all northern latitudes.
Rhynchæa Bengalensis, *Linn.*, painted snipe.

Gallinago scolopacinus (Scolopax gallinago) is the common snipe of Europe, Asia, North Africa, and is very common in India.

Gallinago gallinula (Scolopax gallinula), the jack snipe of Europe, Asia, Barbary, is common in India.

Both these are migratory, coming over the Himalaya in October, but the Gallinago stenura snipe precedes them, though few sportsmen discriminate it from the common British snipe, which makes its appearance somewhat later. G. stenura is nevertheless a different bird, at once distinguished by having a set of curious pin-feathers on each side of its tail; whereas the British snipe, which is equally abundant in India, has a broad fan-shaped tail, as unlike that of the other as can well be. The pin-tailed is the common snipe of the Malay countries, and is unknown in Europe, excepting as an exceedingly rare straggler from its proper habitat, the east. The double snipe is the Gallinago major of Europe, distinct from the two species of large or solitary snipes of the Himalaya, G. solitaria and G. nemoricola. The solitary snipe is the Gallinago solitaria. It is found throughout India, northwards to the Himalaya, where, in the lonely glen, by the side of the mountain torrent, where the pine grows tall and dense, and the sun's rays seldom penetrate, may be found the great snipe Gallinago solitaria, from the lower to the upper ranges of the forest region.

There are two distinct species in the Himalaya commonly confounded under the name 'solitary snipe,' and both are very different from the Gallinago major of Europe and Northern Asia, which has not been observed in British India. Of the other Indian kinds, one (Gallinago solitaria of Hodgson) is peculiar to the Himalaya, and to this species the designation 'solitary snipe' should be restricted. It is readily known by its white belly and yellowish legs,—wings longer, straighter, and more acuminated than in the other, and the upper plumage more minutely speckled, with the pale linear markings on the back narrower, and the tail also longer. Average measurement, 12½ inches by 20 in expanse of wings; closed wing 6½ inches, and tail 3 inches. Weight, 5 to 6 oz., or even more.

The other (G. nemoricola of Hodgson) should be distinguished as the wood snipe, and is more of a woodcock in appearance and habit, though keeping to the outskirts of the jungle. Though principally a Himalayan species, it is not rare in the Neilgherries, and it has been met with in various parts of the country, and in the Calcutta provision bazar. This species has blue legs, and the under parts are uniformly barred throughout; the general colouring dark, and the markings bold; the wings more bowed and rounder than in the other, and the tail shorter. 'It is only found,' remarks Mr. Hodgson, 'in the haunts of the woodcock, with this difference in its manners, that it is averse to the interior of woods.' Length, 12½ inches by 18 in expanse of wings; closed wing 5½ inches, and tail 2¼ inches. Weight, 5¼ to 6½ oz. and upwards.

The grass snipe is also known as the pin-tailed snipe (G. stenura); it is distinguished by a duller plumage than the common British snipe, and especially by the curious series of pin-feathers on either side of its tail; whereas the other has a fan-shaped tail, altogether different in form. The pin-tailed is the common snipe of the Malay countries, but not of Australia, as has been stated; the Australian (G. Australis) being a much larger bird, with intermediate form of tail, as in the solitary and wood snipes of British India. In Bengal it is the more abundant species, early and

ıe season, as the common or British
luring the height of the cold weather;
rly as the 30th August one was found
dle of pin-tailed snipes brought from
utta bazar, and subsequently the pin-
y in considerable abundance. Nothing
asy than to distinguish the two species
ape of the tail, and a practised eye will
tell them at the first glance; yet very
smen in India are aware of the difference.
ttle jack snipe (G. gallinula) is much
its arrival, though numerous species of
ders arrive from their breeding-haunts
ıe end of August. He, again, has a tail
fferent from that of any of the others.
ıncy of plumage he excels all the rest.
is a small and distinct species of wood-
the Malay Archipelago (the Scolopax
of Horsfield). The woodcock, identical
British, has been obtained in the Tenas-
rovinces; it abounds in the Himalaya, is
mon in the Neilgherries, and is considered
rd in the mountains of Ceylon. On the
side it is said to be far from common in
ıbaleshwar.
ainted species, the Rhynchæa Bengalensis,
to a different genus from the true snipes,
diverse than the closely akin one of the
ks. Sportsmen acknowledge this when
se to allow it to count in the game-bag.
t a migratory bird, and both eggs and
ave been obtained in the vicinity of Cal-
Indeed, Mr. Blyth has taken the egg from
uct of a bird brought to the bazar. Its
not in the least like that of a real snipe,
been aptly compared to that of a huge
fluttering over the ground. One remark-
peculiarity of the painted snipe consists in
lissimilarity of the sexes, the female being the
r and more finely-coloured bird of the two;
the young in their first plumage resemble
ature male. The same has been observed
e Australian painted snipe (R. australis),
externally differs little from the Indian
in having shorter toes. Nevertheless, the
only of the Australian painted snipe has
raordinary prolongation of the trachea or
pe, as described by Gould, which is not the
th that sex of the Indian species. So curious
rence of structure existing in two species
externally are so much alike as the painted
of India and Australia, is a most remark-
ct.
woodcock is found on the Neilgherries, and
nally on the plains of the Peninsula. One
ot at Kaladgi in 1842. It is everywhere
carce on the plains of India, but has now
ıen been met with even near Calcutta. The
ed woodcocks seen at the dinner-table are
ally greenshanks (Totanus glottis), and occa-
y the black-tailed godwit (Limosa ægocepha-
birds of very different Scolopaceous genera.
Macrorhamphus genus combines the form
xact bill of the snipes, with the plumage and
al changes of colouring of the godwits,
etc., becoming rufous in the breeding season.
lyth once obtained this bird in the Calcutta
ion bazar. A second example was obtained
Madras Presidency; and it is a bird that
be looked for on the sea-coast. Shore
should indeed be its popular name.

SNOW.

Talj, Tuluj,	Arab.	Neve,	It., Port.
Mo-bwing,	Burm.	Snyegh,	Rus.
Snee, Sneeuw,	Dan., Dut.	Nieve,	Sp.
Neige,	Fr.	Sno,	Sw.
Schnee,	Ger.	Khar?	Turk.

Snow is not known to fall in any part of British India south of the Himalaya. The snow-line of Kamaon was stated by Humboldt at 11,700 feet, but higher than this are flourishing agricultural villages and luxuriant vegetation. In every part of the Himalaya, and of Western Tibet, wherever the mountains attain a sufficient elevation to be covered with perpetual snow, glaciers are to be found. In the lofty chain of the Cis and Trans Sutlej Himalaya, and of the Kouen Lun, whose peaks rise to a very great height, and collect in winter enormous depths of snow, they are of great length. In the central parts of Tibet, which are often lower, and, even in their loftiest parts, are less snowy, than the bounding chains, the glaciers are of inferior dimensions, where the snow-bed is at once cut off abruptly in an ice cliff, which can hardly be said to be in motion, or rather whose motion must be almost entirely from above downwards. Moraines which, on the larger glaciers and among mountains of easily decaying rocks are of astonishing dimensions, form the margins of each glacier, and also occur longitudinally. The annual rising of the rivers Indus and Ganges depends to a great extent on the melting of snows on the mountains. The permanent flooding of the Euphrates is also caused by the melting of the snow in the mountains along the upper part of its course. This takes place about the beginning of March, and it increases gradually up to the time of barley harvest, or about the last days in May, when it is usually of its greatest height. In the report of the Proceedings of the Magnetic Survey, it is mentioned that the phenomenon of the illumination of snowclad mountains after sunset (analogous to the glowing of the Alpine snows) was seen several times in those nights when there was no moon. It was seen particularly well near Chibra, to the north of Kara-korum. Judging of it, as seen there, it was thought to be quite independent of a spontaneous development of light from snow, and evidently caused by an illumination of the snow-fields from the west-north-western parts of the sky. This illumination is only visible after a certain time after the sun has set, namely, when the projection of the earth's shade has reached an angular height exceeding that of the mountains, and when the atmospheric light has decreased so much that the atmosphere behind the mountains reflects less light than the snow-clad slopes of the mountains exposed to the west-north-west. The Lachen valley, says Dr. Hooker, remains almost level for several miles, the road running along the east bank of the Lachen. Shoots of stones descend from the ravines, all of a white, fine-grained granite, stained red with a minute conferva, which has been taken by Himalayan travellers for red snow, a phenomenon Dr. Hooker never saw in Sikkim. Red snow was never found in the antarctic regions during Sir James Ross' South Polar voyage; nor does Dr. Hooker know any authentic record of its having been seen in the Himalaya. — *Hooker's Himalayan Journal*, ii. p. 118; *Magnetic Survey of India*, p. 8.

SNUFF.

Barnuti, Saut, . .	Arab.	Tobacco da naso, . .	It.
Tabac en poudre, .	Fr.	Nosowoi tabak, .	Rus.
Schnupftaback, . .	Ger.	Tabaco de polvo, .	Sp.
Nas, ...	Hind.	Enfiyze, ...	Turk.

Snuff is tobacco in a powdered state, and in general use as an errhine. Other articles are sometimes added to vary its pungency, scent, etc. The snuff of Masulipatam was to be found throughout the Peninsula of India, where many Hindus and Muhammadans use it. Snuff is very little taken by the inhabitants of the Panjab plains, but the Baluchi and hill tribes of the Dehrajat use it more frequently. It is preserved in small egg-shaped boxes, with a little ivory stopper; some of them are very prettily carved out of the fruits of Feronia elephantum. Benares snuff is famous throughout India, and its manufacturers have made fortunes.—*Powell; Faulkner; M'C.*

SNUSSI, a society of darvesh of recent origin, but who have already obtained an influence in the region of Northern Africa corresponding to that exercised in Central Asia by the late Akhond of Swat. They are usually regarded as exceedingly fanatical.

SOAP.

Sabun,	Ar., Guj., Hind.	Sapo, ...	Lat.
Fan-kien, . . .	Chin.	Sabun, Sujah, .	Maleal.
Saebe, ...	Dan.	Sabao, ...	Port.
Zeep, ...	Dut.	Mulo, ...	Rus.
Savon, ...	Fr.	Saip, ...	Scotch.
Seife, ...	Ger.	Jabon, ...	Sp.
Sapone, ...	It.	Tval, Sapa, ...	Sw.

The manufacture of soap has long been practised in India, but the identity of its names in very many regions shows that its manufacture was learned almost from one source. Soaps are slightly alkaline, feel soft and slippery, and are detergent. The watery solution is readily decomposed by acids, also by earthy and many metallic salts; hence, when water holds any of them in solution, instead of dissolving, the soap becomes decomposed. Such waters are called hard, while those which are comparatively pure are called soft waters. Castile soap is composed of 9 to 10·5 of soda, 75·2 to 76·5 of oleic and margaric acids, and 14·3 to 14·5 of water. Common soap is made of tallow and soda, and yellow soap of tallow, resin, and soda. Chinese use the native soda (Fan-kien), or the pods of the Acacia concinna (Fei-tsau-toh). Soap seems to have been introduced by the Muhammadans into India, though the Hindus have long used alkaline leys, obtained from the ashes of plants, for many of the purposes of soap; and they have a substitute for soap in several berries. Soap is made at Daeca, of fine shell lime, 10 maunds; saji mittee, impure carbonate of soda, 16 maunds; common salt, 15 maunds; sesamum oil, 12 maunds; goats' suet, 15 seers. It is made of good quality at Saharunpur. The soap of Tranquebar was formerly an export to Mauritius, Penang, Sumatra, and the islands of the Indian Archipelago. In Oudh, a soap is made from cow's fat and the reh which effloresces on barren land. It sells at 8 seers the rupee. Soft soap, used in the arts, is made with caustic potash and fish-oil and tallow; is semi-transparent, of the consistence of honey, brownish-coloured, and nauseous.

SOAP-STONE, Pot-stone, Steatite, Talc.

Hwah-shih, . . .	Chin.	Sunkjiri, Sunkjeeru,	Hind.
Hwah-shwiu, . .	,,	Bulpam, . .	Tam., Tel.

This mineral has a soft and greasy feel; is of a yellowish-white or greenish-grey colo times spotted or veined, with little transparency. It is composed of silica, oxide of iron, and water in various pr It occurs in many parts of India and Bu is constantly for sale in the bazars, be to write with on black boards, as Europ chalk.—*M. E. J. R.*

SOAP-WORTS. The soap tree o Sapindus Chinensis, is a large tree bearin berries, resembling the fruit of the mel tree is called by the Chinese Wa-hwan-Fei-chu-tsze. The berries are sometimes making rosaries, and when roasted are e the Chinese, notwithstanding their appare ity. In the form of tincture of the berri were used in skin diseases. The followe Taou faith employ sticks of this tree to demons. Soap-worts, soap-fruits, and so in tropical climates furnish substitutes fo of a more or less useful character, and t berries are to be found in almost ever being used throughout India for washing hair, or woollens and cloths of various The soap-berries of the W. Indies and the c of America are from the Sapindus sapona in Java, S. rarak. In India, several sp S. laurifolius, S. acuminatus, S. emargina S. detergens, yield berries, used similarl fleshy part of these sapindus berries is and when dry and rubbed with water, th a lather like soap; and the bark and roo similar properties, though it is said that washed by the root and bark rapidly c Hindu physicians deem the endocarp a expectorant, and it is said the seeds, pounde water, and a small quantity put into the pat mouth, often put an end to the epileptic parox The tincture or extract of the soapy matter capsules of S. saponaria has been used in ch Its berries, which are about the size of ch enclose black shining nuts, which take a fine and were formerly much used in Engla making buttons, after having been tippe gold, silver, or other metal. They are also into beads, necklaces, etc. The kernel c an edible oil, which is sometimes used for b In India the nuts of the rheeta, S. emarg are eaten by young people; and in the West the fruits of S. Senegalensis and S. esculent deemed as palatable as the hazel-nut and al S. rubiginosus has a close-grained, hard and forms an excellent timber. Saponaria caria is well known in India, and is identi its properties with S. officinalis, a decoction root frothing like a solution of soap. Kritz, or kreess, the root of some parasitical plant of unknown origin, is used in Kashmir to the shawls, soap being used only for the shawls. It is used also medicinally, and for d the colour called na-furmanee.

Soap acacia is the Acacia rugata, *Buch.* dried pods of this plant are sold in the baza all the East Indies, and used as a substitut soap in cleansing the hair.—*Mason.*

Soap-berry, seeds of Sapindus saponaria. fleshy covering (pericarp) of the seeds of this and, in a less degree, the root, make a lath water, and serve all the purposes of soap, very generally employed by the poor in wa their coarse linens. The seeds are round, sm

d were at one time imported into rosaries, and tipped with gold, etc., seed-vessels are employed also the West Indies in washing linen, e said to cleanse more than would weight of soap.

ap-berry.

.	BENG.	Puvandie cottay, .	TAM.
.	HIND.	Manay pungung-kai,	,,
	MALAY.	Kumutti ghinzalu,	TEL.
.	PERS.	Kunk-kaia, . . .	,,
.	SANSK.		

us emarginatus, *Vahl.*, yields this capsules contain black seeds, which r sweetish-bitter taste, and a smell t of an over-ripe mango. They uised and agitated in water, a kind t of common soap, which is exten- the natives of India for washing heir head, and by washermen for Soap-nut and sikaya are exten- s detergents. They have all the perties of soap, and form a thick ater. They owe this property to the peculiar principle, which has been inæ or Esculic acid, and which can rom the seeds by alcohol. The black of receiving a high polish, and is d for making beads. As a substitute e two substances might become of are exceedingly abundant and cheap. seeds are said to be a valuable leptic paroxysms and other diseases. procurable in most bazars.

	HIND.	Poongum kai yennai,	TAM.
	nai,T.	Kooncoodi nunay, .	TEL.

emi-solid oil is used medicinally d is extracted from the kernel Its cost prevents its general use. e grows all over the East Indies. f Chili, from the Quillaja saponaria, ng silk and wool. Chemical science covered any equally efficient substi- rk, and it has accordingly come into oth in France and England.—*W. ts; M. E. J. R.; Simmonds; Smith.*

Loupo Soarez de Albergaria, a rtuguese in India in the early part ury. He succeeded Albuquerque, luced Aden, took and burned Zeila, an attack on Jeddah. In 1517 he a on the Somali coast, made the bo tributary, and obtained permis- ling sovereign, Dharma Pra Krama . 1505–1527), to erect a fortified entrance of Colombo.

TI-NAGARA, the birthplace of the ka-muni, identified with Subhay-

a small village in Lahore district, W. bank of the Sutlej (Satlaj), in d long. 74° 54′ E. Opposite this east bank of the river, in the ct, lies the battlefield where Sir ds Lord) Gough gained his decisive February 1846, which brought to t Sikh war, and led to the occu- re by a British force. The Sikhs strong position on the east side of ecting the Hariki ford, while their rear rested upon the village of Sobraon. The battle took place on the Ferozpur side, where the Sikhs gallantly held their earthworks until almost their last man had fallen. Comparatively few made their way back across the river. — *Imp. Gaz.*

SOCOTRA lies between lat. 12° 19′ and 12° 42′ N., and long. 53° 20′ and 55° 2′ E., with an area of 1520 square miles. It was known to the ancients as Dioscorida, a name supposed to have been derived from the Sanskrit Dwipa Sakhadhara, *i.e.* island, the abode of bliss. The S.E. coast of Arabia is held by the Mahra tribe, in a narrow strip of land from Misenat to Ras Nus, lying between the sea and the mountains of Subhan, their sovereign being the sultan of Keshin, and the Mahra hold also Socotra. It was long occupied by Christians. It was temporarily occupied by the E. I. Company from 1834 to 1839. It has only three towns of any magnitude. The Bedouins, nomade shepherds, are the original inhabitants. They are tall men and well made, with open countenances, and peaceful. They dwell in caverns in the limestone rocks. Aloes and dragon's blood from Pterocarpus draco are the chief exports.

SOCRATES, B.C. 468-399, the Sokrat of the Arabs, a philosopher of Greece, born at Athens B.C. 468. His father was a sculptor and his mother a midwife. He served bravely as a soldier, but it is as a philosopher that he is famous. He does not seem to have written any book, but Plato digested his discourses, in the form of conversations. He was accused of treason, and was condemned to death by drinking hemlock juice.

SODA BIBORAS, Borax, Tincal.

Boorak, ...	ARAB.	Sohaga, ...	HIND.
Let-khya, . . .	BURM.	Catteri, Pijar, .	MALEAL.
P'ung-sha, . . .	CHIN.	Tankar, ...	PERS.
Yueh-shih, . . .	,,	Tincana, . . .	SANSK.
P'wan-shah, . . .	,,	Velligaram, . . .	TAM.

Borax is supposed to have been known to the Greeks and Romans, and to have been the chrysocolla of Pliny. The Hindus have long been acquainted with it; it is their sohaga, Sanskrit tincana, and one of the kinds of boorak of the Arabs. It is produced by spontaneous evaporation on the shores of some lakes in Tibet, and is brought across the Himalayan passes into India, and imported into other countries by the names of tincal and crude borax. It is also obtained by saturating the boracic acid of the lagoons of Tuscany with carbonate of soda. Crude borax is in pale-greenish pieces, covered with an earthy coating, and feels greasy to the touch. The natives of Tibet are said to cover it with some fatty matter, to prevent its destruction by efflorescence. It is purified by calcining, which destroys the fatty matter, or by washing with an alkaline ley, which converts it into a kind of soap, then dissolving and re-crystallizing. Sp. gr. 1·35. It is colourless, transparent, somewhat shining. It has an alkaline reaction on turmeric. The crystals, efflorescent slightly in the air, are soluble in 12 parts of cold and 2 of boiling water. When heated, they lose water, swell up into a porous substance called Borax usta v. calcinata, and at a red heat run into a transparent glass called glass of borax, much used as a flux. Another variety, more useful in the arts, crystallizes in octohedra, which are permanent in the air.—*Royle's Mat. Med.; Smith's Mat. Med.*

SODA, Carbonate of Soda.

Kan, Kien, . . . CHIN.	Choutoo munnoo, . TAM.
Kohlensaures natron, GER.	Karum, ... ,,
Neter, ... HEB.	Punhir-karum, . . ,,
Soud, Soudoo, . . HIND.	Ovar-munnoo-karum, ,,
Chowr ki matti, . ,,	Poong karum, . . ,,
Khar, Sajji noon, . ,,	Savitimunnoo ooppoo, TEL.

The soda of commerce was formerly obtained from kelp or barilla, made by burning sea-weeds and species of salsola. It was known to the early Hindus, and is by them now called Sajji noon (*i.e.* Sajji salt or soda salt). Plants mostly of the natural family of Chenopodeæ, and chiefly of the genera Salsola, Salicornia, Suæda, and Chenopodium, are burned to obtain the ash. This is barilla, and contains 25 to 40 per cent. of carbonate of soda. Various saline plants of the Salsola tribe abound in the thals or deserts during the rainy season. The Indian article, though a natural product, could not compete with the manufactured in the market.

The mineral carbonate of soda, dhobi's earth, occurs abundantly in many parts of India, in a whitish soil over granitic rocks or over alluvium. The earth is collected and used by washermen instead of soap for washing cloth. There is from 5 up to 30 per cent. of dry carbonate of soda obtainable; but in the earth this is mixed with muriate of soda and other salts.

Kelp used to be prepared on the coasts of Europe by burning a great variety of algæ or sea-weeds. Kelp is in hard cellular masses, of a bluish-grey colour, and of a disagreeable alkaline taste, containing from 3 to 8·5 per cent. of carbonate of soda and other salts, as in the case of barilla, but also some potash and iodine.

SODA, Muriate of, Common Salt.

Malh, ... ARAB.	Chlor natrium, . . GER.
Theing-dau-hsa, . BURM.	Namak, Nun, Lun, HIND.
Shih-yen, . . . CHIN.	Sodæ chloridum, . . LAT.
Chloride of sodium, ENG.	Garam, ... MALAY.
Chlorure de sodium, FR.	Uppu, . . . TAM., TEL.

The common salt is obtained as rock-salt from the mines of the Salt Range, from the saline lakes and wells of many parts of Asia, in China and British India, from the sea water by evaporation, and from the saline soils by solution. Mineral salt or earth salt of very fair quality is made in Bangalore, Bellary, Hyderabad, Guntur, and Nellore districts, where it is almost invariably accompanied with gypsum, magnesian limestone, sandstone, sulphur, red and brown iron ores, and alum slate. Muriate and carbonate of soda is obtained from the Loonar lake in the Hyderabad territories.

SODA, Nitrate of.

Cubic nitre, . . . ENG.	Wurfelsalpetre, . GER.
Nitrate de soude, . FR.	

It consists of nitric acid and soda, and is similar in its properties to saltpetre, differing chiefly in being more pungent in taste, more soluble in cold water, more inclined to attract moisture from the atmosphere, and in crystallizing in a rhomboid form. It is highly esteemed as a manure for pastures, and for all other sorts of agricultural produce, except that grown in heavy wet soils. It is also applied to many of the purposes for which saltpetre is used. It answers well for some descriptions of fireworks, though, being more deliquescent than saltpetre, it is not adapted for the manufacture of gunpowder. This salt is found in immense quantities in deposits in South America, particularly in the districts of Atacama in Peru. It was exported from [illegible] tons in 1875. Indifferent samples [illegible] exhibited at the Madras Exhibition [illegible] Bellary and Hyderabad, where it [illegible] natural efflorescence.—*Waterston, M. E. J. R.*

SODA, Sesquicarbonate of.

S. bicarbonas.	Bicarbon[illegible]
Sodæ carbonas.	Carb. of s[illegible]

The trona found near Tripoli [illegible] natron of the country to the west of [illegible] Nile, and that of the Loonar lake de[illegible] late Dr. Malcolmson, are all sesqui[illegible] soda. The bicarbonate of soda is [illegible] as the sesquicarbonate of soda. [illegible] met with in commerce is usually a [illegible] occasionally mixed with a small [illegible] carbonate. It exists in some m[illegible] highly acidulated with carbonic acid, [illegible] Vichy. As usually sold, it is colourle[illegible] or in minute scale-like crystals, hav[illegible] slightly alkaline taste and reaction.—

SODA, Sulphate of, Glauber's Salt.

Malh, ... ARAB.	Khara nam[illegible]
Sulphate de soude, FR.	Khari nun, [illegible]
Schwefelsaures natron, GER.	Sal catharti[illegible]
	Sodæ sulph[illegible]

The Chinese names are, for min[illegible] P'oh-siau and Pi-siau; and for artifi[illegible] Hiuen-ming-fen and Peh-lung-fen [illegible] in sea water, in the ashes of ma[illegible] found effloresced on the soil in [illegible] water of some lakes and mine[illegible] glauberite, and in some animal [illegible] Bengal, an impure sulphate of s[illegible] from earth in which the salt [illegible] portion of from ten to fifty pe[illegible] pared in large quantities by si[illegible] earth. It is usually sold in crysta[illegible] masses. These are purified by a [illegible] In the Chinese provinces of Cheng[illegible] chuen, and Ts'ing-chau-fu in Shan-tu[illegible] native as an efflorescence on the soi[illegible] it is brushed up, dissolved in wate[illegible] crystallized. In this form it is a na[illegible] the reh of the doab of Northern[illegible] used to make the pure sulphate of s[illegible] it is confounded with nitre obtained[illegible] source.—*Smith's Mat. Med.*

SODHA, a Rajput clan, scattered [illegible] desert. The Sumaicha is a Muha[illegible] selyte from the Sodha. Sir H. El[illegible] amongst this tribe the Wairsi was [illegible] and a cognate clan was called Waisa[illegible] or Soda tribe is an offshoot of the [illegible] for many centuries has been an oc[illegible] desert tracts of Western India, int[illegible] have been driven forward from the [illegible] Indus by more powerful arrivals. [illegible] one time held possession of Amerk[illegible] they were expelled by the Talpur d[illegible] The representative of the Sodha [illegible] the title of rana. He resides at [illegible] miles N.E. of Amerkot, but shorn [illegible] and hard pressed for the means [illegible] The Sodha Grassia are Rajputs [illegible] tribe, whose women are famed fo[illegible] and are much sought for by surrou[illegible] madans and Rajputs. They sell [illegible] children to the Muhammadans.

ulth by his number of daughters. occupy Parkar, engage in cultiva- a who has retained the name of ar discarded Brahman teachings, k from the same vessel and smoke hookah with a Musalman, laying ube that touches the mouth. With e Sodha lost his reputation for ng only the merit of being a nd joining the hordes of Seorai owled from Daodputra to Gujerat. e arms of the Sodha were the hield, with a long knife in the rved either as a stiletto or a carver ew had matchlocks, but the primit- was a general weapon of offence, and very expert in its use. Their dress he Bhatti and Muhammadan costume, and is peculiar to themselves. The be found scattered over the desert; are offsets of his tribe, now more than the present stock, of which the is the most conspicuous, whether of are still Hindu, or who have become Islam.

the confluence of the Panjab rivers, iled down the Indus to the realm of *Sodi*, where, according to Arrian, 'he ity.' Diodorus, describing the same Continuing his descent of the river, he submission of the Sodæ and ns on opposite banks of the stream, nother Alexandria, in which he habitants.' From these accounts, gham considers that the Sogdi of Sodræ of Diodorus are the same the former have been identified ajputs by Tod and M'Murdo, the now servile Sudras by Mr. Vaux. cupy the south-eastern district of merkot, but, according to M'Murdo, eld large possessions on the banks of to the northward of Alore. Abul hat the country from Bhakar to peopled by the Sodha and Jhareja Akbar; and General Cunningham the Massanæ of Diodorus are the Ptolemy, whose name still exists in the zarka, to the west of the Indus below He identifies the Sogite or Sodræ le of Seorai, which was captured by Arghun on his way from Bhakar to his time, A.D. 1525, it is described as fort in that country.' In this very s about 8 miles to the north-east of old maps insert a village named may possibly represent the Seorai ory. It is 96 miles in a direct , and 85 miles above Alore, or ay between them.—*Tod's Rajas- Cunningham's India*, p. 253; . 531, 532.

endant of the Sikh Guru Govind. ted to infanticide.

ANSK. Called Sobhacritu in the y written Sodhyum. A constant bstracted in certain computations, to a particular epoch, being the epa.

N. A garment of leaves, which, hats, is fabricated by the agricultural labourers of Northern China, from the leaves of Chamærops excelsa, a palm indigenous in the northern and central parts of that country; but in the southern districts of China the So-e is made from the leaves of the bamboo and of other broad-leafed grasses.

SOENAIR. Colonel Tod relates that a Rajput ruler in the fulness of his pride had divine honours paid him in the rite Soenair. This distinction, which involves the most august ceremony, and is held as a virtual assumption of universal supremacy, had in all ages been attended with disaster. In the rite of Soenair, every office, down to the scullion of the Rusorah or banquet-hall, must be performed by royal personages.—*Tod's Rajasthan*, ii. p. 8.

SOFALA, a district on the African coast to which the ships of the Hebrews voyaged.

SOFARIDES, a dynasty who ruled in Khorasan and Seistan for thirty years, from A.D. 872 to 903. They displaced the Tahirides. Their founder, Yakub son of Leis, was a brazier (Soffar means a worker in copper) of Seistan, who first raised a revolt in his native province, and afterwards overran all Persia to the Oxus, and died while on his advance against the khalif in Baghdad. His brother Umar was defeated and made prisoner by the Samani, which put an end to the greatness of the family, though a younger member maintained himself in Seistan for a few years after the loss of their possessions (A.D. 903, A.H. 290).—*Elph.* p. 271.

SOFIAN, a little place which is within the lines of a dreadful battle fought [redacted] 1585, between the Turks and Persians, and which gave a signal overthrow to the former power by the arms of Hamzeh Mirza, who commanded the Persians. The distance from Sofian to Tabreez is 24 miles.—*Porter's Travels*, i. pp. 219, 220.

SOGDIA or Sogdiana, an ancient dominion. It comprised the mountainous part of Transoxiana (which may be described as the extreme western spurs of the Tian-Shan), with no definite frontier on the east, but bordering westward on Miyankal, southwards on Kesh, and northwards on Osrushna. The capital was Samarcand, undoubtedly the Maracanda of the Greeks, which they specify as the capital of Sogdia. Samarcand, throughout the history of Transoxiana, has been the rival of Bokhara. According to Bunsen (iii. p. 584), the separation of the Aryans was prior to their leaving Sogd. The Aryan emigration from Sogd to Bactria, after the separation, took place, he says, B.C. 5000, consequently before the time of Menes. Their immigration into the Indus country was, he says, about B.C. 4000; and Zoroaster's reform in Bactria about the time of Menes, or half a century later. Sogd is said to be the birthplace of Arsaces I. of the Arsacidæ. Sogdiana in Samarcand formed the first settlement of the Aryans. Sughda, afterwards spelled Sugdia, and commonly Sugdiana, is pre-eminently the country, as being the home of the fire-worshippers. It is described in the Vendidad as in the 38th degree of latitude, where Mara Kanda (Samarcand) is situated, a paradisiacal land, fertilized by the river Sogd, so that Sogd and Paradise are used synonymously by the later writers. The Vendidad (ii. verse 5) says it was created as the second best of the regions and countries.—*Vambery; Bunsen*, iii. 584, 586.

SOH and Wang. CHIN. The first and

fifteenth days of the month, kept as holidays by the Chinese.

SOHAG. HIND. Ornaments worn by married women while their husbands are alive. Sohagin, a married woman whose husband is alive.

SOHAGA. HIND. A clod-crusher, also called dah. A flat piece of heavy wood dragged over fields after ploughing and sowing, to smooth down the clods.

SOHAGIN or Sogheea, a sect of Muhammadan fakirs who assume women's clothes, and dress as women.

SOHAR, a town of Oman, on the E. coast of Arabia, with about 20,000 inhabitants.—*Findlay.*

SOHAWAL. This state was entered in the sunnud granted to raja Kishore Sing as a feudatory of Punnah. Separate sunnuds were granted to the chiefs of Koti and Oocheyra on the British occupation of Bundelkhand. The area of Sohawal is about 300 square miles, and the population about 50,000; the revenue is Rs. 30,000.—*Aitchison's Treaties*, p. 247.

SOHNA, a small town of 7507 inhabitants, with a sulphur spring, in the Gurgaon district of the Panjab, in lat. 28° 14′ N., and long. 77° 7′ E., at the foot of the Mewat Hills. The water has a temperature varying from 115° to 125° F., and it is considered a specific for the Dehli boils. A large bath has been constructed for the use of Europeans.—*Imp. Gaz.* viii.

SOIL. The gross revenue of British India in 1881 was £72,559,978, and the land revenue in that year was £21,112,995; so that alike for the agricultural rent-payers and for the Government receivers it is important to have the fullest acquaintance with the soils, seeing that, since 1872, the land revenue, being then £20,520,377, has but little risen, though agricultural farms and new products had been introduced, and more land brought under cultivation. The soils of British India are not multitudinous, though from the variety of languages the names are manifold.

Peninsula.—Throughout its entire extent, there are four markedly distinct kinds of soil in which cultivation is conducted. These may be briefly named as the red soil over the granitic, gneissic, and syenite tracts; the black soil or regur, also called cotton soil, over the rocks of volcanic origin; the alluvial soil; and the sandy soils along the coasts and in beds of rivers. There are patches of regur or black soil in various parts of the Ceded Districts and in Tinnevelly, and it is to be seen over all the great volcanic outburst in the Dekhan. The red soil tract lies over the granitic regions in eastern and southern parts of the Peninsula. The regur or black soil is very retentive of moisture, and very fertile, and all the country where it is found is well under cultivation. The field crops grown on it are cereals, pulses, and cottons. Dr. Heyne remarked (Tracts, p. 349) that red soil prevails where syenite forms the apparent ground rocks; and Mr. H. F. Blanford says the colour and appearance of the soil is an excellent indication of the presence of certain rocks throughout the districts.

The *plateau* of the Peninsula, from Central India southwards to the Godavery and Kistna rivers, is a great outburst of volcanic rocks, and the soil which is formed from their detritus is exceedingly fertile, when well combined, as it commonly is, with the salts and double salts formed by the union of the organic acids with bases of alkalis, earths, and oxid become soluble, and been brough from below by capillary attrac basaltic plateaux are often surm deposit of laterite, the detritus of promote fertility in the soil. Ther other deposit than this iron clay o the basaltic plateaux. The cent table-land of the Dekhan for around Beder is covered wit laterite, which occurs also nort Berar, also near Madras, along th and at Rangoon. Near Musery, o the Cauvery, black soil, with its calcareous strata of marl and tuff, rests on granite.

Ceylon.—The rocks of the interior of C granite, gneiss, and greenstone. The body of the island, and the soil cons disintegrated or decomposed materials felspar and quartz greatly preponderat in some parts by vegetable accretions.

Laterite, called Kabuk in Ceylon, several parts of the island, and the gr of felspar occurring in parts of the to the soil of those tracts a hard clay with a smooth and firm surface.

Owittes, Dutch or Singhalese? a only cultivable every three to seven

Wattocrawes, low, muddy ground reeds, only cultivated in dry season

Moelaries? high, steep ground, after rains.

Dedennies, sandy plains planted

Madras.—In the *Tamil* country uncultivated lands are classed as or capable of cultivation, and lying waste from time immemo cannot be profitably cultivated.

The greater part of the Madra covered with soils formed by the decom metamorphic rocks, gneiss, etc., and s inferior quality. Stretching across in a N.E. direction from Trichino a wide belt of rocks belonging to t formation, over which a very p rests.

The black cotton soil occurs s patches, in others extending over pl dreds of square miles.

The red soil of the Madras distr places covers extensive plains with a surface, in others it is open, friable, e and generally fertile. These parts with cotton and cereals; the gr varagoo, Panicum Italicum, and th with Penicillaria spicata and Sorgh

The soil of that part of the Ca nearest to the sea, is loam and mixed with marine remains, a formed from the debris of the gra mountains inland. The rocks of contain a very small proportion o seems to account for the want admixture of clay, and for the of iron. It is either a loam mixed gravel, and strongly impregnated w low and wet places, a stiff red loa vegetable earth and fine sand, or, gravel and sand; and it is often so in

n salt that it presents a saline
y weather.
it is a heavy sterile salt loam
ious sand; and along the sea-
ome miles inland, sea-shells are
k black tenacious clay from 10 to
e surface.
Thomas Mount and Vellore, par-
e higher tracts, the soil is equally
that of the valleys is more fertile,
m the more valuable parts being
hem.
alleys along the Eastern Ghats and
e ranges of hills, the soil is chiefly
d with sand, and with a considerable
f vegetable mould, which imparts to
ade of brown. The vegetable admix-
miness are owing to the great quantity
th which it is inundated for a great
ear for the rice cultivation.
e has black soil, red soil, calcareous
y-coloured soil, the last being from
ks, gneiss, mica, and hornblende, and
poor. Cumboo, the Penicillaria
own on red and grey soils; sorghum
ed soils. Calcareous soil yields well
ate but regular rainfall. Black cott
t power of absorbing and retaining
Ir. Robertson found it capable of
than one-third of its entire weight
l that it has in a very remarkable
wer of absorbing moisture from the
night, black soil absorbed 1¾ per
dy soil only three-fourths per cent.
placed in an atmosphere saturated
took up 7·99 per cent. of water in
Its value as a top-dressing merits

erry group of mountains is uniformly
a thick stratum of clayey, grey-
able vegetable earth, overlying a
m of red earth.
valleys and flats at the foot of these
so in the declivities of the hills,
f a black or deep-brown colour, of
sistence when moist, crumbling into
often splitting into masses when dry.
the black soil forming the swampy
at bogs, and also resembles the black
ains of India, from which, however,
containing a large quantity of car-
natter and much oxide of iron. Dr.
sed it for an hour to an intense heat,
it lost 25 per cent. of its weight, and
o an ochry-red powder, but it did not
e Dekhan black soil does.
lands are classed as yielding 20 fold;
l 10 fold.
for a great part of the level surface of
and, has a red ferruginous arenaceous
over syenite. White kaolin is frequently
ween the two. It has a soft greasy
is sometimes mixed with a fine sand.
fine white colour is found in many parts

arese-speaking natives of Mysore dis-
ht different soils, viz.:—

ick cotton soil, quite free from stones.
e same but stony.
Kempu, red soil mixed with loam and
table mould.
Morallu or Molalu, sandy soil.
Kallu, Murbu, stony and gravelly soil.
Bila, Carlu, white stiff loam.
Maska, Masbu, Cabbou, garden soil.
Soudu, Choudu, salt ground.

The tops of the rising hummocks are usually very barren, producing nothing but a small jungle, chiefly composed of Dodonæa viscosa, Convolvulus cuneatus, Erythroxylon areolatum and a thorny species of Barleria. The soil of the valleys is a good and loamy mixture, in which rice and sugar-cane are grown, the latter demanding the best soil, while the rice requires an abundance of water. All other grains in Mysore are grown under the natural rains.

Salem.—Muriate of lime is found in the well water and the soil of the Bara Mahal or Salem district, also in Mysore and other parts of the Peninsula. The soil containing it rapidly absorbs moisture, is very fertile, and gardeners apply it to the roots of the egg plant. In Mysore it is found largely in the water from which salt is made.

The soda soils of the Bara Mahal or Salem district are in patches, seldom more than half a mile square, and generally resting on a bed of kankar. The soil is sandy, and incapable of supporting vegetation, only a scanty scrubby grass growing on them. The natives call the soil of these patches Chour mannu, and extract the soda to be used as a flux of quartz in bangle-making; and washermen dissolve it, add quicklime to it to make it caustic, and use it in washing clothes. The bangle-makers extract the impure soda by mixing the earth with water in a pot and allowing it to settle. The solution is [illegible] and evaporated by sprinkling [illegible] on the surface of granite [illegible] has become about half a [illegible] taken off and broken int[illegible] under the name of Chou[illegible] the rate of 17½ rupees th[illegible] per cent. of insoluble matter. [illegible] contain 15 per cent. of sulpha[illegible]

The soil in the wide plai[illegible] district is largely the black co[illegible]

The *Dekhan* soils, besi[illegible] as Lal-Barad, red [illegible] yellow soil; and Ma[illegible] Mattiari-Barad, clay[illegible] prevailing on the hig[illegible] heavy rich aluminous c[illegible] plains is principally a light and fertile loam, in either case of no great depth, and resting upon a rocky substratum. These two soils are derived from the wearing away of the surface rocks, the basalt going to form the stiff dark soils, whilst the amygdaloid greenstone disintegrates into a friable earth. The two mixing, form rich loamy lands. Such is the fertility of basaltic soils in general, that some are said to bear wheat cropping for thirty years in succession without a fallow.

The *Mahabaleshwar* Hills have a cellular ferruginous claystone as a surface rock, which disintegrates into a red clay. The soil consists of this red clay intermixed with the débris of trap-rock, and in many places with a considerable portion of decayed vegetable matter, forming a very productive brown mould.

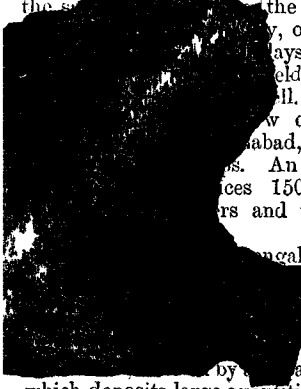
Gujerat is one extensive plain, with many different soils. The prevailing varieties are the black cotton soil, and the light gorat, a grain-

producing soil. On the eastern side of the gulf, the black soil is chiefly confined to the collectorate of Broach and the few parganas of Surat which lie north of the Tapti. The light soil prevails throughout the state of Baroda, the collectorate of Kaira, and some of the northern parganas of Ahmadabad, becoming more and more mixed with sand as we proceed northward from the Mhye. The western and southern parganas of Ahmadabad, lying to the westward of the gulf, abound in black soil, as do many of the numerous valleys of Kattyawar.

Gujerat, in the open districts, where the black soil abounds and cotton is most raised, has no boundary trees or hedges between the villages; the dividing line always consists of a strip of uncultivated land varying in width from 5 to 150 feet.

Bengal.—The general soil of Bengal is clay, with a considerable proportion of silicious sand, fertilized by various saline minerals, and by animal and vegetable products in a state of decay.

In all the Gangetic lowland, the upper layer of a well-raised tract always consists of alluvial mould, but the subsoil is sandy. The rivers which have had the longest course from the hills, deposit mud; the others leave behind them beds of sand; but the Ganges forms alternate layers of each. Hence a flood from the Gogra or the Sarju is injurious to the fields, while an inundation of the Ganges benefits the crops. Lands that are annually inundated or are thrown up by the action of rivers, are of various degrees of fertility, according as mould or sand predominates; where the [illegible] the mixed autumn crops, [illegible], or peas and grain, are [illegible]ays abound, as in the [illegible]elds are low-lying, the [illegible]ll. The tamarisk and [illegible]w on the alluvial lands [illegible]abad, often yield as good [illegible]s. An average acre of such [illegible]ces 150 bundles of sticks, [illegible]rs and the proprietor share



[illegible]ngal are good, and water [illegible]ajpur, four crops are

[illegible]il, formed from the [illegible] which bound it on [illegible] by [illegible]arak or Soorma river, which deposits large quantities of silt. Teelah, in Assam, and Cachar, are low ranges of hillocks covered with dense tree forest, intermatted with reeds, grasses, canes, and creepers.

In *East Oudh* and in the *Benares* districts, the loams are called doras or domat and kapsa doras. In Gorakhpur the doras is called bangar. The best is the doras. The kapsa doras contains more adhesive clay, and gives less produce. Both these soils take much manure, irrigation, and labour, but produce two crops, and of every variety.

Mattiyar is the prevailing name of the soil of Oudh, Jounpur, Azimgarh, Gorakhpur, and Basti. It embraces all good argillaceous earth, from the brown to the black humic or relmic deposit found in the beds of tanks, but the black soil of Bundelkhand is also known by this name. It is of a darker colour than doras, is more capable of absorbing and retaining moisture; is slippery when wet, very hard when dr[illegible] manured. It is the finest nati[illegible] yield is equal to the doras [illegible] together. Mattiyar is arranged [illegible] tiyar, this being again classed as [illegible] and kapsa kalar. It also includes [illegible] and bijar. Mattiyar karail is found [illegible] tanks and *jhils*. Mattiyar kapsa k[illegible] to mattiyar, but has orange-colour[illegible] hence called kahis and sandurya. Its [illegible] Mattiyar uparwar kapsa lies at a [illegible] and yields less.

Bijar is as hard as mattiyar, but [illegible] with very fine gravel. It resembles th[illegible] but usar produces reh or sajji in the [illegible] which bijar does not yield. Only diff[illegible] of rice are sown in it, and even these [illegible] the mattiyar is unusually abundant. S[illegible] the mattiyar retain moisture in Gora[illegible] indigo sowings go on in March and Ap[illegible] being commonly rolled in, keep in t[illegible] Mattiyar when irrigated is held to [illegible] productive of all soils; when unirriga[illegible] the worst.

Khalar soils of Oudh are low lands [illegible] moisture.

The *Saharunpur* district lands are [illegible] kach'ha, pahara, and tarai. The first [illegible] the two last. The Tarai soil is low [illegible] lying along the river banks.

Rotation.—It is a popular error to [illegible] double crop in the year is only obtai[illegible] best manured lands, called goind or go[illegible] fact is, wherever the water supply [illegible] outlying lands, two crops are take[illegible] N.W. Provinces, the agriculturist is [illegible] tent with one good heavy rabi or[illegible] from the inlying lands. The very l[illegible] last are reserved for wheat, sugar-can[illegible] Wheat may be grown two or three y[illegible] in such land, but natives are quite [illegible] value of rotation of crops, and a[illegible] change is wheat one year, to be foll[illegible] Cytisus cajan as a spring crop, but m[illegible] is also sown urd (Dolichos pilosus), [illegible] palum frumentaceum), or Sorghum v[illegible] autumn crop. These last grow quickly [illegible] before the Cytisus cajan has made mu[illegible] that is then weeded, and the plough [illegible] it, and left to mature in the spring. [illegible] rests the land much, as the leaf drop[illegible] supplement the usual manure.

Another rotation for wheat is (2) [illegible] crop of makra in the rains (always a[illegible] crop), and when that is cut, to put i[illegible] peas for the spring.

In the two crop lands proper, *i.e.* t[illegible] and low-lying lands near a swamp or ot[illegible] ant water supply, rice (dhan) is gr[illegible] rains, and so soon as that is cut, barley [illegible] are sown, as a mixed or separate crop at [illegible] they can be irrigated; or if they cannot [illegible] yet there still be sufficient moisture in [illegible] warrant the seed being sown, grain o[illegible] put in, and occasionally a sprinkling o[illegible] thrown in with them.

In *Sind* the soil near the banks of t[illegible] in many places of a loose sandy descri[illegible] where this does not form the principa[illegible] teristic, it consists of a fine loamy [illegible] exceedingly fertile. Large tracts of

however, impregnated with nitre, and are of course valueless for agricultural purposes. The hills in the back-ground are of sandstone and limestone, in which fossils occur.

In the *Panjab*, the classification of land is in two ways, viz. according to means of irrigation, and according to the nature of the soil. Even where terms descriptive of soil are employed, every class of land may also be described as chahi, if it be watered by wells; abi, if by ponds; or chalar, to be described hereafter; sailabi, if by flood and inundation of rivers; pani mar, if damaged by drainage floods; and barani, if dependent on rain.

The plain districts of the Panjab are subdivisions of doabs, *i.e.* tracts of country between two rivers. The names of the doabs are in all instances (excepting the first or Jalandhar Doab) the result of a rude attempt to join the names of the rivers on each side into one word. Thus, passing the Jalandhar Doab, between the Sutlej and the Beas, we come to the Bari Doab (Beas and Ravi). Then between the Ravi and Chenab, the Richnab Doab; between the Jhelum and Chenab is the Jach Doab. The last doab up to the Indus, takes its name from that river, and it is called Sind Sagar, the ocean of the Sind (Indus river). The Panjabi give the generic name Daman-i-koh or Kandi to the low hills that form the bases of the higher ranges, and in which such hill states as Kotahah and others are situate.

In the *hill districts*, including both hills and intramontane valleys, the best land is called bari; the second quality of land is called ekfasli; the third quality is distinguished by the name shand. This is allowed to lie fallow for two harvests, and is then cultivated only for the rabi. The fourth kind is math; it is a good quality of land, and is retentive of moisture, and will, if manured, yield two harvests in the year; the fifth kind is regi, that is, mixed with sand, or adjacent to the bed of a nullah or hill stream, shelah, which has washed down quantities of sand.

In the Panjab, deposits of moist alluvium extending along the bed of rivers, on which grow tamarisk (pilchi), sarkanda, and the munj (large grasses of the species Saccharum), are called bela. Land periodically inundated by the rise of the river is called bhet. It often has an efflorescence of reh or kalar (sulphate of soda), which renders it less productive.

Dushahi or dosahi is the same as rohi, except that it has some sand in it. Misi, again, has more sand, so that the soil is half and half sand and clay.

Shor is a kind of barren land, which swells after rain, and yields reh, an efflorescence which consists principally of sulphate of soda, and is fatal to the productiveness of any soil.

In the *Gujranwalla* district, the great subdivision of land is into high and low land, called utar, netar, the high lands being out of the reach of rivers, etc., the netar lands being on the banks, or otherwise subject to their influence. The netar lands are subdivided into bhet and dhaya, that is sailaba land subject to periodical inundation from the river, and land not so subject, respectively.

Rohi is the finest natural soil, a stiff loam which breaks up into large clods.

Doshahi is the dumat of Hindustan, a clayey soil, generally of good quality, manured by cattle being folded on it. When manured, it grows cotton, fine wheat, barley, jowar, makai, melons, etc.

Mera, a mixture of clay and sand, the rusli of Hindustan, has many varieties, some very good, and equal to the best doshahi.

Tibbah, nearly all sand, the bhur of the provinces, worth very little, and only grows the inferior crops of moth, mash, etc.

Cis-Sutlej States have divisions of the soil, to a certain extent corresponding to the netar and utar, viz. the low lands, called khadar; lands which have at one time been the beds of the rivers, or have been flooded; and bangar, high land requiring irrigation by wells. These great divisions are subdivided, as nyain, loamy land cultivated with manure and artificial irrigation; rusli, good loam; dakar, a low-lying stiff clay, productive of rice and gram; and bhur, an inferior land with a large proportion of sand. Land that is inundated and generally unproductive for want of drainage, is called choil. In some of the sandy districts the names vary considerably. In the Gugaira district, for instance, where the soil is very bare, there is but little scope for all the varieties of inundated, irrigated, and other lands; if land is cultivable at all it is fortunate, and there is but little variety to distinguish. The most generally recognised names of the descriptions of culturable soil are gusrah, sikand, and retli. In the Settlement Records, the name dakar, which is locally unknown, was introduced by the Hindustani amins employed on the measurements. The equivalent term is gusrah. Retli, as its name implies, is land with an excess of sand, and sikand is a stiff clay soil suited for rice; it is called in some parts pakk chikni.

The following names are known as names of soils and in husbandry in the various linguistic areas:—

Abi, in the Panjab, is an irrigation rate on land watered from tank or stream. In the N.W. Provinces it is applied to land watered from ponds, tanks, lakes, or water-courses, in distinction to that watered from wells, as the supply from the former is liable to fail in the hot season. Abi land is assessed at a lower rate, in some cases at less than a half of that watered from wells.

Agadi, of Coorg, a field in which seed is sown; a nursery.

Aghani, in Bengal, the great dhan or rice crop of the year, sown in Asarh (June—July), and cut in the latter half of Aghan (December).

Agor batai, in Bengal, a division of the crop between the landlord and the cultivator of it, after it has been cut, stored, and threshed.

Ahar, of Bengal, is an embankment raised to catch surface drainage for purposes of irrigation.

Ail, of Bengal, a bank or ridge of earth forming a division between fields.

Aima, of Bengal, a land grant by the Moghul government, either rent-free or subject to a small quit rent, to learned or religious persons of the Muhammadan faith. Aima baz-yaft are such grants subsequently assessed.

Aitho, of Sind, exhausted land lying fallow.

Ajjar, of Bengal, land not subject to diluvion.

Akasia, of Bombay, land dependent on the natural rains, or casually watered from tanks or rivers.

Aman, of Bengal, a rice crop sown on low wet ground about July or August, and reaped in December.

Aman are low lands yielding one crop a year.

Awal, duam, siam, charam, panjam, shasham, haftam, are Persian words signifying, as applied to land, soils of the first to the seventh rate qualities. In Gujerat, previous to the survey, this was a mode of classifying land; its distance from the village and facility for irrigation were taken into account in the classification.

Bad'h, in Bengal, high-lying rice fields, which yield scantily.

Bagh, of Northern India, a garden, an orchard. Baghayat, garden or spade culture, for such articles as betel, chillies, garlic, ginger, hemp, plantain, saffron, onions, sugar-cane, pepper, tobacco, and other vegetables; it is assessed at a higher rate than arable lands.

Baghelkhand, the prevailing classes of soil are mair, sengawan, domat, and bhata. Mair is a black soil which retains water and moisture well, and needs no irrigation.

Bailu, of Bombay, the first sort of rice land, producing in general two crops of rice and one of dry grain or vegetables, or sometimes three crops of rice in the year.

Bajal, of Bengal, a rice crop sown in May or June, and reaped in October.

Balla or Bullah, of Coimbatore, a dry land measure = 166,464 square feet, or 3·83 acres.

Balsundar or Balthaar, of Bengal, sandy soil.

Ban, of Surat and Broach, land covered by salt water at spring tides, a salt-water marsh.

Band or Bandh, in Urdu, a dam, an earthen embankment. Bandara is a masonry dam.

Bangar, in Bengal, a variety of soils, high grounds, uplands, stiff clay irretentive of moisture. In Gorakhpur, bangar is a silicious soil, and bhat a calcareous soil.

Banjar, waste land, fallow land. Adi banjar, immemorial waste land. Banjar jadid, recently waste. Banjar kadim, culturable land long left uncultivated.

Bankar, a red soil of Bundelkhand, a mixture of sand and clay, and yields 191 lbs. of cotton per acre, two-sevenths being the proportion of cleaned cotton.

Bar; high and somewhat sandy tracts in the centres of doabs, and equidistant from river influence on both sides, are almost universally called bar.

Barad or Burrud, of the Dekhan, stony and sandy inferior land. Lal-barad is red gravelly soil; pila-barad [illegible]w soil; [illegible]l-barad, stony soil.

Barani, of Sind, unirrigated lands cultivated by the natural rains. In Mysore, lands sown at the beginning of the rainy season, 27th April to 2d May, when various grains are sown.

Barar, of Bengal, alluvium.

Barattu, of Bombay, unculturable land.

Bard or Bardi, of Berar and Central Provinces, stony soil near hills, a light sandy soil.

Barike, of Coorg, low swampy land adjacent to or below the rice fields.

Basmati, of N. India, the best kind of rice, meaning odorous. There are about 200 varieties of rice.

Bat, of Bengal, fallow land.

Belo, of Sind, forest.

Bena, of Bombay, grass land on the borders of cultivated land.

Besur or Beysur, of Bombay, a good, productive soil, with the gorat and kali qualities, but is inferior to pure gorat.

Bett, Betta, Boru, Belt, or Bhat, of Bombay, high-lying land imperfectly irrigated, yielding but one crop a year, and of inferior grain.

Bhadai or Bhadui, of Bengal, rainy weather rice crop, sown about Bysakh, and cut in Bhadai (August—September), autumn crops.

Bhaiyachara, of Oudh and N.W. Provinces, a coparcenary estate held in severalty.

Bhal, of the Indus delta, a kind of rice cultivation.

Bhar is sand of a white or greyish-white colour.

Bhata soil, to the north of the Ganges, which retains its humidity for a long time, and contains a large quantity of nitre; it is not found west of the little Gandak river.

Bhatha, of Bombay, literally flood deposit, alluvial deposit, left in the bed of a river either by the water receding or the river changing its course. Being always moist, it is very productive, and all the more valuable agricultural products can be produced. It is of the Goradu class of soils.

Bhit or Bhiti, of Bengal, raised ground near a tank, for planting the piper betel on.

Bhumi, of N. India, land, earth, culturable land. Bilu-bhumi, of Bombay, is waste land, and in Dharwar is arranged in six classes, viz. :—

Gairan, free grazing ground.
Gaothan, the village site.
Khrab, uncultivated waste land.
Kuran, grazing land.
Hulabamu, grass land which is farmed.
Turmandi, a vacant space in the village where cattle stand.

Bhur, Bhud, Bhuda, unproductive soil, seven-tenths sand, rest clay, sandy soil, not retentive of moisture. Bhud-khaki and Bhud-parani are varieties of it.

Bhur, answering to maira, is a light sandy soil; the better kinds of it produce bajra, moth, mash, and jawar.

Biali, of Orissa, a rice crop sown about May or June, and reaped in October.

Bid, of Bombay, grass land.

Bijar soil of N. India is a stiff clay soil lying low, chiefly sown with rice only; sometimes grain is also grown; sometimes, as in Rai Baraili, this land fetches high rents. It is the land classed as mattiyar, and is generally inferior to domat.

Bijibur, of Berar, failure of crop sown, owing to seed not germinating.

Bindi, of Sind, sailab lands in the river.

Burki, of Bombay, a masonry structure for drawing water from rivers.

Chah, PERS., a well. Chahi, land irrigated from wells.

Chahal, HIND., is a strong soil ranking between rousli and dakura.

Chanch, of Bombay, the Jeela or Jeelun and the Pe-cottah of the Madras Presidency, a contrivance for raising water, upright stand supporting a transverse beam, with a waterpot at one end of the lever, balanced at the other by a stone or clay.

Charsa, of Panjab, a leathern bag for raising water for irrigation.

Chasa, of Bengal, a cultivator, a husbandman, a ploughman.

Chatar, of Bengal, a blight.

Chatali, of Bengal, a pulse crop, reaped in March or April.

Chatan, of Bengal, uncultivated land on the bank of a river.

Chau-masa, of Oudh, lands tilled during the four rainy months of the S.W. monsoon, June to September, set aside for the best crops.

Chaytra, the Bengal month, parts of March and April. Chet, of Sind, is the spring crop.

Ch'hut, of Sind, lands sown broadcast.

Choil. Low lands that receive the drainage of neighbouring uplands, and cannot carry it off, so that it lies, are called choil. They are unproductive for want of drainage. High tracts from which the water drains off quickly, are called magra and thalli.

Chuni, of Sind, a ploughshare.

Dania, of the Central Provinces, is the Kumari of S. India, and Jhum of Burma and Chittagong Hill Tracts, land cultivated by burning down the forest woods or brushwood, and sowing seed on the ashes.

Dakra, Dakara, or Dhakar, HIND., of the Upper Doab, is a stiff dark clay lying in natural dips and hollows, where water collects and lies during its rains; it dries into hard cakes.

Daman, of Sind, shallow soil.

Dang, of Bombay, forest or jungle land.

Dangar, of Bombay, rice crop raised as one of the kharif or monsoon crops. It is sown in kyari or black soil, at first in Darnvadi or small beds of the richest soil, and in July or August transplanted into beds which had previously undergone three or four ploughings while in a flooded state. The crop ripens in October. There are six varieties,—alaichi, karnod, pankhali, sathi or vari, and sutarsal; the first and last are the most common.

Darya, a river. Darya barāmadi, of Sind, land thrown up by a river. Darya burdi, land eroded suddenly in large masses. Darya khurdi is land gradually eroded by running water.

Dhan, URDU, a growing rice crop, also unhusked rice; in Malay padi, English paddy. In Bombay, the dhan crop is the main grain crop, consisting of bajra (Penicillaria spicata), banti, bavta, jowari (Sorghum vulgare), and kodra (Paspalum scrobic.).

The dhan crop is in contradistinction to the kathal or pulse crop. Dhan khet and dhan marri mean a rice field.

Dehar and Kalyar or Khalar, in Oudh, are low lands flooded during the rains. Dehir are lands flooded in autumn.

Dhasa, of Midnapur, high land close to a village, yielding two crops.

Dhekudi, of Bombay, a contrivance for drawing water from the beds of rivers. Dhekudiat is land so irrigated.

Dhenkli, of Bengal, a lever used for raising water for irrigation. See Chanch.

Dhulna, of Orissa, a rice crop grown on low marshy ground during the cold weather, and reaped about March or April.

Diarah or Diyara, of Bengal, Benares, Ghazipur, alluvial soil, an islet in a river bed.

Do-fasla or Do-fusli, of N. India, land producing two crops in a year.

Dol, URDU, a leathern bucket used for drawing water from a well.

Done, of Bengal, low rice land.

Doomuteea, in N. India, is of a light-brown colour, soon powders into fine dust, and requires much more outlay in manure and labour than the mattiyar soil.

Doras or Dores, of Bengal, land half sandy and half clay.

Doshahi is the dumat of Hindustan, a clayey soil, generally of good quality, manured by cattle being folded on it. When manured, it grows cotton, fine wheat, barley, jowar, makai, melons, etc.

Dumat, of N.W. Provinces, a soft loam, land of first quality, consisting of clay and sand.

Dunbi kali, cracked black soil; it absorbs moisture largely.

Eri bhumi, of Dharwar, is black soil, of which five kinds are recognised, viz. :—

Uttama eri, first class black soil, without stone or impurities.
Kurli eri, hard or gravelly black soil.
Hulaka eri, a kind of black soil in valleys.
Sona burali, black soil mixed with lime.
Gocha eri, a very black kind.

Eri, TAM., the bund of a tank, the bank built for retaining water in a reservoir.

Eru kanike, of Coorg, a plough tax levied as an educational cess at 3 or 4 annas a plough.

Eru, URDU, manure.

Fasl, in the N.W. Provinces, a crop, a harvest. Fasli, the harvest or revenue year. There are two principal harvests in the year, the rabi and the kharif. The rabi or spring harvest consists of grains and pulses, wheat, barley, peas, grain (Dolichos, *sp.*), oil-seeds, arhar (Cajanus Indicus), and other crops, which are sown in October and November, and are reaped in February, March, and April. The kharif or autumn crops are sown before or at the beginning of the rains in June and July, and reaped at their close in October, November, and December; generally, in Bengal, all crops reaped at the closing months of the year. The outlying fields, which are lightly cultivated, yielding one crop annually, are called palo, also ek-fardi, also ek-fasli. Do-fasli, also Jutiyan, are lands which bear two harvests a year.

Gadde, of Coorg, an irrigated field. In Bombay, wet or paddy lands fit for rice cultivation, or on which rice is grown.

Gairan, of Bombay, open pasture ground unsuited for cultivation.

Gharbai, of Oudh, irrigation done by hand.

Goera or Nyain is a term applied only to lands in the vicinity of wells and villages, which are abundantly irrigated and manured. Actual desert soil is called thul.

Gohani, Gorat, Bhumi, and Goind, land round a village.

Goind, manured land around a village.

Gojai, of Bengal and Oudh, a crop of wheat and barley grown together.

Gomala, of Mysore, land set apart for grazing pasture land.

Goradu, of Bombay, land of light colour, varying from almost mere sand to soil of the richest quality. Its fertility depends on proper culture and abundant manuring. It somewhat resembles the gorad land of the Jambusar district of Broach Zilla. Goradu kanetar is goradu irrigated either from wells, rivers, or tanks; Goradu kuvetar is dry goradu; Goradu padar is the poorest description. The kharif crops are mostly grown on it,—arad, bajra, banti, baota, bhinda, begen or rigna, chana or gram, chola, chillies, cotton, dhangar or dry rice in small quantities, erandi, garden products, govar, jowar, kang, math, mung, pan, sugar-cane, tobacco, tur, tal, and val.

Gorat, of Bombay, seems to be the same as goradu. It is a sandy soil of a light-brown colour, and varying from a reddish-yellow to brown, quite free from stones. It absorbs the rain rapidly, and never presents a broken surface in the dry season nor a muddy one in the wet. Fine water is found in almost every part of it at 30 or 35 feet from the surface. This soil is often watered and used as baghait or garden land. It is one of the richest descriptions of soil, and produces in rapid succession the most luxuriant crops; it abounds with fine trees, growing to the largest size, and having the most flourishing appearance. It requires to be well manured. From its great fertility the weeding is more troublesome and expensive than in other lands, the cost of cultivating it being altogether double that of the inferior black soil. The crops mostly produced are the kharif crops, and very little cotton or rawi jawar is grown on it. Dhan or grain and kathor or pulse are sown in it at the same time. The other principal articles are bajra, baota, kodra, javar (a little), kapas (a little), dhangar, dry rice in small quantities, math, tuwar, tal, erandi, val, mung, arad, chola, govar, banti, chana (gram), kang, bhinda, pau (indigo), tobacco, sugar-cane, begen or rigna, chillies, plantains.

Gorcharan, of Bombay, common pasture.

Gothan, of Bombay, ground set apart for cattle pasturage.

Gowria, of Oudh, a variety of paddy sown in June and October.

Har, of Oudh, a block or tract of land in a village, of the same quality.

Hari, of Bombay, the third crop, succeeding the kharif or monsoon crop, and the rabi or second crop. It consists generally of kang (Panicum Italicum) and chana (Cicer arietinum), and the poorer kinds of grain, brought forward during the hot season by irrigation.

Harte kunta, of Coorg, a clod-crusher.

Hemanta, of Bengal, the cold months; a rice crop ripening in December.

Jaihan, of Oudh, nursery rice.

Jaisan, of Bengal, a kind of rice.

Jal, of Bengal, water. Jali-dhan, a rice crop sown in marshy land about April, and reaped about July.

Jawaru, of Central Doab, as much land as can be ploughed by a pair (jora) of bullocks at Dehli in half a day.

Jeelun, of Bombay, the Pe-cottah of the Tamil country.

Jethi-dhan, in Oudh, a rice sown in April along the banks of rivers, or where water is still lying, and cut in Jeth. Jethi sawan (Panicum frumentaceum).

Jot, in Bengal and N.W. Provinces, the land held by a cultivator. Jotidar, the actual cultivator.

Kabar, a black soil of the N.W. Provinces of inferior quality to mar.

Kach'hi, of Oudh, garden lands.

Kacho, of Sind, alluvial land thrown up by the river Indus.

Kali, of the Mahratta, is arable land in general, but named from its black colour. It is a black soil or mould, and land of a superior quality; the underlying ground in the Dang receiving and retaining moisture during the cold season, and especially fit for wheat and other spring crops.

Kali bhui, of Bombay, regur or black cotton soil; it is the soil of the great volcanic district of the Dekhan north to Malwa, Ahmadabad, Broach Collectorate, Kaira, Kattyawar, and Surat. It is very retentive of moisture. The crops sown on it are jowar (Sorghum vulgare), kapas or cotton, gahun or wheat, dan-

gar or dry rice, chana, the Cicer arietinum, Bengal gram, castor-oil plant, rape seed (Rata tallar tall), mung (Phaseolus mungo), and tour.

Kali chunkari, black cotton soil overlying lime, which renders it very unproductive.

Kalr, of N.W. Provinces, barren land unculturable from reh efflorescence, salt, or other reason.

Kalr is a salt efflorescence which is observed in many places. Sometimes it extends over large tracts of land, rendering them almost entirely unproductive; they are called kalri zamin.

Kalrati, saline land.

Kanwai, HIND., clayey soil, in Puranya, in muddy hollows, which in the dry season is formed into detached nodules by the action of underground springs.

Kapale, of Mysore, apparatus for raising water for irrigating fields from a well or tank, worked by oxen on an inclined plane.

Kar or Karu, in the south of the Peninsula, the chief rice crop, watered in October, November, and December by the rains of the N.W. monsoon. In the northern districts it is the crop sown in April, and reaped in June or July.

Karas, of Berar, land at foot and top of hills.

Kashtgar, of Sind; Kashtkar, of Bengal, a cultivator.

Kashthar mirasi, a hereditary tenant.

Kashthar pahi, a non-resident tenant.

Kashtkar dehi, of Bengal, a resident cultivator.

Katta. In the Northern Circars, katta regur is a stiff loam, and katta sauda a black soil, from Katta, a clod of earth.

Kewaldas, MAHR., is a black soil.

Khadar or Khadir, HIND., low or alluvial lands easy of irrigation, and especially fit for rice cultivation; also rice beds or patches of ground surrounded by low banks, so as to confine the water and moisten the ground for rice cultivation. In some places, moist, alluvial ground, on which barley and wheat are grown.

Khajan, a salt marsh or meadow land; land near the sea-shore or inlets, and liable to be flooded.

Khaki is a soil or land that cannot be irrigated, and depends wholly on rain.

Khalati, MAHR., low rice grounds about a village. Low country on the upper part of the Malabar coast, descending from the Sahyadri mountains to the sea.

Khar, Kshar, or Karu, alkali, alkaline earth, soda, impure carbonate of potash or soda.

Kharif, the autumnal harvest, the crops of which were sown before or at the beginning of the rains, in June or July, and reaped at their close, in October, November, and December.

Kharpi, of Bombay, a trowel, a spade, a small hoe.

Kharril, resembling the mar of Bundelkhand, is a black earth common in the lowlands and in the plateau south of the Ganges. It produces a good spring crop without irrigation, but its character is much improved if sand is spread over the surface; otherwise it is liable to dry up into deeply-fissured masses of hardened clay.

Khed-waluyak, of Bombay, arable, fit for cultivation.

Khejar zamin, of Sind, bad land.

Khet, HIND., a field. Kheti or Kheti wari or Khet karn, agriculture, cultivation.

Kiari, of Bombay, a bed in a garden or field.

Kollai, TAM., dry soil, high ground not capable of artificial irrigation. Kollai payir, grain growing on high ground.

Kolpe, of Bombay, a hoe drawn by bullocks.

Korkul, of Bombay, land spoiled for cultivation by running water.

Kos, of Bombay, a leather bag for drawing water from a well; these are of two kinds, the Ramia kos and Sundia kos.

Kshetra, a field cultivation, crop.

Kyadee or Kyado, the bed prepared for rice growing, with or without artificial irrigation.

Kyne, of Burma, vegetable cultivation.

Ky-ne-myay. garden land near water, not cultivated during the rainy season.

Laterite soil is not very productive, and if not continuously cultivated the laterite rock becomes hard and bare, and checks all vegetation.

Lavani, of Bombay, agriculture, cultivation. Lavanidar, cultivator.

Lay, of Burma, a paddy field.

Lewa, of Bengal, rice field prepared for broadcast sowing.

Made bhumi, of Bombay, land in the bed of a tank or river.

Maduri, SANSK., land beyond the influence of the sea, free from any saline impregnation; in opposition to namaki or saline lands, or such as, having been washed by the tide, salt can be made from.

Magani, KARN., TEL., wet cultivation by artificial irrigation.

Majal, of Mysore, a second class of rice land, yielding one crop of rice and one of vegetables or dry grains.

Makha, of Mysore, rains falling between 14th and 27th August; tobacco and wheat are sown at this time.

Makki, culturable land covered with thick jungle; the worst kind of rice land.

Malai, MAHR., alluvial deposits.

Mal-zamin, MAHR., open country, barren or uncultivated plain; lands of inferior quality or on the sides of hills or on ridges, which, although they can be ploughed, cannot be irrigated, and produce only autumnal crops.

Manal, TAM., sand. Manalachari, soil mixed with sand. Manal taram, sandy soil.

Manavari, of the Tamils of Madras, rice crop depending solely on rain, not being irrigated.

Mani, of Coorg, unculturable fields on a high level, on which water will not remain.

Manjh, HIND., or manjha land is that lying between the land in the immediate proximity of a village and that on the boundaries of its lands. It is considered the second sort of land in point of fertility. In Oudh, marsh land bordering on lakes or rivers.

Mannu, TAM., soil. Four kinds of rice-field soils are reckoned in Coorg, viz.—

- Adimannu, low-lying soil, which is considered the best, because it receives the nourishment from all above it.
- Karimannu, black soil unfit for rice culture.
- Talemannu, top soil (*i.e.* best soil).
- Nadumannu, middle (moderately good) soil.

Other nine kinds of soil are recognised in Coorg—

- Arasinamannu, yellow earth.
- Eremannu, clayey soil.
- Usubumannu, sandy soil.
- Kalur mannu, unproductive soil.
- Kallu mannu, stony soil.
- Kempu mannu, red earth.
- Choulu mannu, unproductive saline soil.
- Jedimannu, clay, potters' earth.
- Bilimannu, white earth, white clay.

Mar or Maar, HIND., in the N.W. Provinces, a stiff clay or loamy soil, with some sand and vegetable mould; a variety of it is called kabar. In Bundelkhand it means a rich, black loam. See Purwa.

Marul, MAHR., soil of a light-black colour on the banks of rivers.

Marwa, GUJ., one of the two principal sorts of soil in Gujerat; a sandy soil of a light-brown colour, rapidly absorbing rain, and having water at no great depth. It requires manure, but, treated properly, yields the best crops both as to quality and quantity; valuable for wheat and cotton.

Mattiara, HIND., a rich, clayey soil, mixed with a small proportion of sand, one-tenth of silex, and the rest alluvial mould. Matyar is the equivalent Hindustani term of rohi, misar of misi, and dumat of doshahi.

Mera, a mixture of clay and sand, the rusli of Hindustan; has many varieties; some very good, and equal to the best doshahi.

Metta, TEL., high and dry land not capable of irrigation, but depending on the rain; unfit for rice.

Misan, HIND., a soil mixed of clay and sand, sometimes considered as the best kind of soil.

Mowat or Mawat, MAHR., soil of a mixed kind, of a light-black colour.

Mula, of Mysore, rains falling between 12th and 25th December. Cumin, coriander, tobacco, and other seeds are sown at this time.

Mungari, of Bombay, the early crop which is sown about the beginning of the rains, and reaped early in the cold weather; in Mysore, the rains of the S.W. monsoon.

My-ai, BURM., land. My-ai-loot, of Burma, waste land.

Myal, MALEAL., lands on which rice plants are sown thickly for the purpose of transplanting; land watered by rain.

Nachchu, TEL., waste land overrun with knot-grass.

Nijuri, in the Hyderabad assigned districts, land lying fallow from exhaustion of soil.

Nunjah, Nanjai, in Madras, irrigated land in distinction to Punjah dry land.

Obar land is of two kinds, todah and khil. Todah are those little hanging fields like steps rising one above another, and are built up at their lower edge with stones, and which are liable to destruction by being washed down when the rain is violent. If the land be good, it is called 'awal kism' or first class; if stony and bad, 'duyam kism' or second class. Khil land is that which is broken up with the hoe on the steep slopes of a hill; it is too steep to be ploughed. These kinds of soil are observable through many hill districts. In the hill districts bordering on the Ambala divisions, and Kotahah in the Ambala district, the land is divided into kulahu, land watered by kul (water-courses supplied from an artificial pond formed by damming up the hill streams), and obar, which is the same as barani, land dependent on rain for its irrigation.

Oosur soil appears to be formed by a superabundance of one or other of the salts or their bases, which are brought to the surface from the beds below, and not carried off or taken back into these beds. It is known that salts of ammonia are injurious to plants, unless combined with organic acids, supplied to the soil by decayed vegetable or animal matter. This matter is necessary to combine with, and fix, the ammonia in the soil, and give it out to the plants as they require it. It is possible that nitrates may superabound in the soil from the oxidizement of the nitrogen of a superfluity of ammonia. The natives say that all land may become oosur from neglect; and, when oosur, can never be made to bear crops, after it has been left long fallow, till it has been flooded with rain-water for two or three seasons, by means of artificial embankments, and then well watered, manured, and ploughed. When well tilled in this way, all but the very worst kinds of oosur are said to bear tolerable crops. In the midst of a plain of barren oosur land, which has hardly a tree, shrub, or blade of grass, are seen small oases, or patches of low land, in which accumulated rain-water lies for several months every year, covered with stout grasses of different kinds, a sure indication of ability to bear good crops under good tillage. From very bad oosur lands, common salt or saltpetre, or both, are obtained by digging out and washing the earth, and then removing the water by evaporation. The clods in the mattiyar soil not only retain moisture, and give it out slowly as required by the crops, but they give shelter and coolness to the young and tender shoots of grain and pulse. Trees, shrubs, and plants of all kinds everywhere derive carbonic acid gas and ammonia from the atmosphere, and decompose them for their own use in the same manner.

Pada, Padusara, Padakara, Uttarapada, Padit, and Padya are Mahrati terms for fallow or uncultivated lands.

Paiwast, in N.W. Provinces and Bengal, alluvial accretions.

Pallamu, TEL., low-lying ground.

Parampa or Paramba, MALEAL., garden land, a private estate.

Parampoku, in Mysore, uncultivable land.

Parti, in N.W. Provinces, fallow land.

Pasama or Pasama kur, of the Malealam country, from Pasa, paste or glue, is the best quality of soil; it is adhesive and tenacious.

Patla, TEL., is rice land yielding an intermediate crop between the first and second crops, being under water during the wet season.

Pilota is a poor, friable, yellow or dark-red coloured soil, which does not retain moisture.

Podu, TEL., land cleared recently from thicket and prepared for cultivation.

Punchanilam, TAM., also Punchppattam, MALEAL., wet land, or land capable of irrigation and of bearing rice crops.

Punja, properly Punshey, TAM., land not admitting of complete irrigation, and unfit for rice crops, but bearing dry crops. It is the converse of nanjai.

Pur, of Oudh, a large leather bucket for drawing water from wells, by bullocks or by hand.

Purua, of Bombay, a spud.

Purvabhadia, in Mysore, a rain commencing between the 2d and 14th March. Purvashadha, a rain between 26th December and 7th January. Cumin, coriander, tobacco, and other seeds are then sown. Pushia, a rain between 17th and 30th July, when grain is sown.

Purwa is a reddish soil in Bundelkhand, a mixture of sand and clay, yielding 191 lbs. of cotton per acre, two-sevenths being the proportion of cleaned cotton.

Mar or Maura, black marl of Bundelkhand, of the first quality, is the most productive soil in the country for cotton, and yields on an average 286 lbs. of cotton per acre, one-third being the produce of clean cotton to the raw produce. See Mar.

Rabi. See Kharif.

Rakar is the poorest of all the soils, and is only productive when the rains are abundant. It has a large mixture of kankar in it.

Rakh or Rakhai, URDU, a grazing and timber preserve.

Ramp or Rampadi, of Bombay, a weeding plough or hoe. The Ramph or Kalpi, Hathia, Rampdi, and Danda are of different sizes.

Ranwa, waste or woody ground in the vicinity of a town or village.

Rasi, MALEAL., is a mixed soil, consisting of sand and clay. Rasi kur, poor light soil. Rasi pasama kur, middling sort soil.

Rausli is a light loam, producing all crops except rice. It is soft and easily worked, consisting of clay and sand; it is mostly like, though superior to, the doshahi in the Panjab series.

Reg, PERS., also Ret, HIND., sand.

Regur, also Kali bhumi, HIND., Regati, CAN., and Regada, Regatti, TEL., the cotton soil and black cotton soil of Europeans, is a black soil, the wonder of all who have seen it. David Boswell Reid says (Edin. Phil. Journ., 1829) it consists of silica in a minute state of division, with portions of lime, alumina, and oxide of iron. The proportion of vegetable and animal débris appears to be very small; minute portions of the roots of vegetables are seen with the naked eye. It fuses readily before the blow-pipe into a dry, black slag. Dr. Voysey fused it into a thick glass. In composition it nearly resembles that of basalt. It is spread over the great volcanic outburst of the Dekhan, varying in depth from 2 to 30 feet. It is the larger part of the soil of Western Gujerat, occurs largely in Malwa, through Berar, over all the Western Dekhan, in the valleys of the Hyderabad territories. It is observed in the Southern Mahratta country, and in large tracts of the Ceded Districts. It is less common in Mysore, but farther south is again seen in continuous sheets from 6 to 20 feet thick below the Salem break, covering the lower plain of Coimbatore, Madura, Salem, Trichinopoly, Tanjore, Ramnad, and Tinnevelly, to the vicinity of Cape Comorin. The purest regur is of a deep bluish-black colour, or greenish or dark-greyish black, shining; when placed in water, it crumbles slowly, with emission of air bubbles, and forms a tenacious paste. When moistened, it gives out an argillaceous odour. Before the blow-pipe it melts into a greenish glass or dark slag. Mr. Reid fused some of it in a large covered crucible placed in a furnace into a solid mass, on the surface of which a crust of oxide of iron formed. Dr. M'Leod found it composed of

Silex,	48·2	Oxide of iron,	1·0
Alumina,	20·3	Water and extractive,	4·3
Carbonate of lime,	16·0		
Carbonate of magnesia,	10·2		100·0

The muriate and carbonate of soda are frequently accidental ingredients in the composition of the regur. They render it sterile when in large quantities. Captain Allardyce informed Captain Newbold that the regur of Trichinopoly does not

fuse, and contains imbedded crystals of pure mineral carbon, which are converted before the blow-pipe into a white ash. The best kinds of this soil are rarely suffered to lie fallow, except by accident, and never receive manure, which is even supposed to lessen its fertility. It has yielded annually, crop after crop, for upwards of 2000 years (usually in triennial rotation), of cotton, sorghum, and wheat, or bajri (Penicillaria), without receiving any aid from the hand of man, except an annual scratching with a small plough, and a decennial, or still more seldom, clearing of nuth grass by means of the large plough. It is irrigated solely by the dews and rains of heaven. It is remarkably retentive of moisture. Dr. Turnbull Christie thoroughly dried a portion of it by a heat nearly sufficient to char paper. He then exposed to the atmosphere of a moderately damp apartment 2615·6 grains of it, and found after a few days it had gained 147·1 grains. He now exposed it to an atmosphere saturated with moisture, and found that the weight increased daily till the end of a few weeks, when it was found to weigh 2828·4 grains. The soil had therefore gained 212·8 grains, or about 8 per cent. In wet weather the surface is converted into a deep tenacious clay. During the dry season, when the crops are off the ground, the surface of regur exhibits a black, drear aspect. Contracting under the powerful heat of the sun, it is divided, like the surface of dried starch, by countless and deep fissures, into figures usually affecting the pentagon, hexagon, and rhomboid. While the upper part for a few inches in depth is dried to an impalpable powder, raised in clouds by the wind and darkening the air, the under portions, at the depth of 8 or 10 feet, retain their character of a hard black clay, approaching a rock, usually moist and cold, when the surface dust has a temperature of 130°. The purest beds of regur contain few rolled pebbles of any kind. Professor Orlebar informed Captain Newbold that in Gujerat it is distinctly stratified, and in the Beder district it is distinctly in layers, sometimes separated by thin layers of sand or gravel. Regur is undoubtedly the best soil of the Peninsula, and its absorbent quality bears out the result of Sir Humphrey Davy's experiments, which showed that the absorbent power of soils with respect to atmospheric moisture, is greatest in the most fertile soils. He dried 1000 parts of a celebrated soil from Ormiston in East Lothian by a heat amounting to 212° Fahr., and found that by one hour's exposure to air saturated with moisture at a temperature of 62°, it gained 18 grains.

Regur, in the Bellary district, produces two kinds of crops, called mungari and kingari. It covers one million of acres, from 1 to 12 feet deep. It has, mixed with it, decomposed felspar, gritty particles of quartz, and is often covered with angular quartzose pebbles; ferruginous quartz and jasper; water is rarely found in these black lands, except at great depths. In the Cuddapah district, the decomposition of the limestones, calcareous veins, clayslate, and sandstones imparts a lighter colour and a looser texture to the regur. Underneath it generally is a kankar deposit resembling white gravel.

The garden soil of Bellary generally consists of regur and mussub soil, mixed with manure of decayed animal and vegetable matter.

In breaking up black soil, the farmers use a heavy plough drawn by five to eight pairs of the strongest cattle, generally buffaloes, and plough it 15 inches deep. The labour and expense is enormous. The ploughshare is a heavy three-cornered block of hard wood; the bar is 12 feet long, and besides the ploughman, two or more drivers manage the bullocks.

Mussub or mixed soil in the Ceded Districts is double that of the regur. Red soil in Bellary district, 2¼ millions of acres.

In the neighbourhood of granitic elevations or protruding beds of gneiss and large pegmatitic veins of quartz and felspar, the débris of these rocks decomposes into a light red soil, termed mussub by the natives, which is only capable of producing the mungari crop. This soil is sometimes extensively deposited in low situations by the force of streams or torrents of rain, when it becomes a terrein de transports or alluvial soil.

Reh, saline inflorescence, salts of soda abounding in some soils, and rendering them unproductive. In the N.W. Provinces, the deterioration of land by reh first attracted serious attention in the villages along the Western Jumna Canal and its branches, about Dehli, Panipat, Rohtak, and Karnal. In 1857, Mr. Sherer, Joint Magistrate of Aligarh, went on deputation to examine the tracts of country deteriorated, and the picture presented by him of the suffering in some of the villages was truly deplorable. Out of 580 canal villages, 59, or nearly 10 per cent., had been injured in degrees ranging severely to partially, 6 per cent. being severely injured. The maximum appeared to be reached in Panipat, where 46 villages, or 19 per cent., were injured out of 242. The salt effloresces in several parts of the Panjab where there are no canals at all; in these places it appears in land irrigated from wells, where the water is very far from the surface. The salt itself consists of sulphate of soda, with a variable proportion of chloride of sodium (common salt). In some of the instances given by Dr. O'Shaughnessy, the percentage was high; at Jagu, in Panipat, it was 20 per cent., and this consisted of abundance of carbonate of soda with sulphate and chloride of sodium and lime. As far as experience goes, lands near canals, like the old Hosli, in the Lahore district, constructed at, but not below, the ordinary level of the watershed, are usually found to be free from reh efflorescence. Drainage is to a certain extent a palliative and a cure, but, generally speaking, the farmers assert that fully impregnated reh land is incurable and valueless. In gardens and small plots, it has been found useful to dig out the soil to the depth of two feet or so, entirely, and put in fresh. Dr. Brown, chemical examiner for the Panjab, has demonstrated that nitrate of lime would succeed.

Rohi is the finest natural soil, a stiff loam, which breaks up into large clods.

Sada or Sara, HIND., the surface of land long under water, and covered with smooth, decaying vegetation.

Sailabi, of N.W. Provinces, land watered by floods or inundations, and thoroughly soaked.

Sankhu, of Bombay, fallow land.

Seota is a rich loam or mould of varying fertility.

Seri, MAHR., arable land originally, for some cause, excluded from the village assessment; in Telingana, land cultivated by ryots for the state; also waste land or in dispute; also ploughed land.

Shola, of Neilgherry Hills, a grove, a copse.

Shor, of N.W. Provinces, barren land, saline, salt, brackish.

Singa, in Bengal, second-class rice lands, inferior to garha, and superior to bad'h.

Siwai, HIND., a mixture of clay and sand, suited for any soil except rice.

Suggi, of Coorg, harvest time, spring harvest.

Tadal, PANJ., TAM., high land, incapable of irrigation.

Tal, pl. Tallaon, HIND., low ground. Tal-chua, light land above clay, which soon becomes soft and spongy in wet weather.

Talayari, MALEAL., a chief, a headman.

Tarai, in N.W. Provinces, low, moist lands; moist, marshy ground along the banks of rivers or at the foot of the Himalayas, but especially the tract running along the foot of the first range of the Himalayas for several hundred miles, and two to fifteen miles broad.

Taram, of Southern India, different kinds of arable land.

Taw myay, of Burma, jungle land.

Thal, of the Panjab, grazing ground.

Tibbah, nearly all sand, the bhur of the provinces, worth very little, and only grows the inferior crops of moth, mash, etc.

Toung, of Burma, a hill. Toung gya, literally hill garden, kumari cutivation.

Udave, in the Nuggur and Hasan division of Mysore, a jungly tract, fit for coffee planting; jungle allotted to a village for pasture, etc.

Ugala, SANSK., land always saturated with moisture.
Uratiya, BENG., land unfit for cultivation.
Urava matti, HIND., free loose mould.
Utera, of Bengal, a supplementary crop grown amongst the principal crops; it is sown in rice after its transplanting.
Valara, GUJ., land on which the weeds have been burned previous to sowing.
Vasel or Vaselo, of Bombay, fallow; warkas, of Bombay, dry cultivation; the poorer grains, all except rice and pulse.
Vilai, TAM., high ground not supplied with water. Vilai-nilam, fertile arable ground.
Walras, GUJ., a spot of land in a jungle prepared for tillage by burning the bushes and brushwood, and leaving the ashes as manure.
Warkas, MAHR., is a common term for all the grains except rice and the varieties of pulse, and Warkas-zamin is soil suited for their cultivation. Warkas-zamin, also land suited for the dry cultivation.
Yerra-chakku, TEL., a red sort of soil, containing a small quantity of lime.
Zamin, Jamin, land, earth. Gamati jamin, in Bombay, is waste land in a Bhagdari village that has been taken up and cultivated after the settlement was made.

—*Newbold; Bradley, Report on Circar Dowlatabad; Dr. Turnbull Christie in Madras Journal, Lit. and Science*, October 1836; *Cal. Review; Dr. D. B. Reid; Heyne's Tracts; Carnegy; Ward, quoting Colebrooke*, iii. pp. 105, 115.

SOJA HISPIDA. *Mœnch., W. and A., Grah.*

S. Japonica, *Savi.* | Dolichos soja, *L., Roxb.*

Gari kulay, . . . BENG. | Soy bean, ... ENG.
Hwang-ta-tau, . CHIN. | Sahuca bean, . . ,,
Mau-tau, . . . ,, | Bhut, ... PANJ.

This plant is one of the natural order Leguminosæ. It grows in the N.W. Himalaya, in Nepal, at Taong Dong, in China, Japan, and the Moluccas. It is found in the Sutlej valley between Rampur and Sungnam at an elevation of 6000 feet, and abundant in the Peninsula of India, though probably introduced there. The seeds resemble those of the haricot, French, or kidney bean, and are used by the Chinese to form a favourite dish, called 'ten-hu' or 'tan-hu,' which looks like curd, and which, though insipid in itself, yet with proper seasoning is agreeable and wholesome. The Japanese call the seeds 'miso,' and put them into soup, of which they sometimes partake three times a day. They likewise prepare with them the sauce termed 'sooja,' which has been corrupted into 'soy.' Soy is only sparingly used as a sauce in Great Britain. It has the character of being a useful stomachic, but not more so than any of the other condiments when used with moderation. It is the well-known Chinese bean, which constitutes such a large article of trade between the northern and southern parts of China. Of all vegetable substances, it is richer in nitrogenous or flesh-forming matter than any yet discovered. There are two varieties, a white and a black, of which the composition in 100 parts is as follows:—

White Variety.		Black Variety.	
Moisture,	8·04	Moisture,	10·40
Nitrogenous matter,	39·18	Nitrogenous matter,	41·54
Starchy,	30·31	Starchy,	30·82
Fatty or oily matter,	18·30	Fatty or oily matter,	12·31
Mineral constituents,	4·16	Mineral constituents,	4·93

In China the ripe ovoid yellow beans are made into bean curd, which is largely consumed by the Chinese when vegetables are scarce; it is the cheese of that race; they are also pressed to extract bean oil or pea oil.—*Eng. Cyc.; Powell, Indian Museum; Smith.*

SOJNA or Dawut. HIND. The science of exorcism.

SOKA. HIND. A blight from want of water, when the sugar-cane dies.

SOKHA, among the Ho of Kolhan, a witch-finder.

SOK-PA, a colony of pure Mongols, who have located themselves on the frontier of China and Tibet. The words in Tibetan mean people of the pasture. On the same frontier, likewise, are the Gyami, Gyarung, Takpa, Manyak, Thochu, Sok-pa, and Horpa.

SOLA. BENG., HIND.

Æschynomene aspera, *L.* | Hedysarum lagenarium, *R.*
Æ. lagenaria, *Lour.* | Sola, Phul sola, . HIND.

A plant of Bengal, Sylhet, Assam, Saharunpur, Southern India, common in moist places in the rainy season. The lower part of the stem is rough and scabrous, as well as the legumes. The plants are remarkable for their light and spongy texture, and seem indeed to be composed almost entirely of pith. The thicker stemmed plants are collected in the dry months of April and May, and the light pith substance applied to making some kinds of toys, the floats of fishermen's nets, and cut into thin slices and pasted together, for making hats, which, being light and having broad brims, are well suited for protecting the head from the influence of the powerful Indian sun, especially if a handkerchief be put loosely into the crown of the hat. This substance has also been employed for lining drawers of natural history, and in its texture very much resembles the substance called rice-paper, which is the pith or stem of a malvaceous plant cut into thin slices. The larger plants are particularly light, white, and spongy.—*Roxb.; Voigt.; M. E. J. R.*

SOLANACEÆ. *Lindl.* The nightshade tribe of plants. The following are grown in Southern and Eastern Asia:—

Lycium Chinense, *Milt.*, Cochin-China, Canton.
Capsicum annuum, *L., Roxb.*, South America.
C. baccatum, *L.*, Tropical America, Guinea, India.
C. chamæcerasus, *Nees*, Moluccas.
C. fastigiatum, *Blain*, South America.
C. frutescens, *L.*, East Indies.
C. grossum, *Willde.*, Nepal.
C. Sinense, *Jacq.*, China.
Solanum Æthiopicum, *L.*, Ethiopia, China, Japan.
S. macrodon, *Wall.*, Khassya mountains.
S. crassipetalum, *Wall.*, Nepal.
S. denticulatum, *Blain.*, Sylhet.
S. giganteum, *Jacq.*, Neilgherries.
S. auriculatum, *Ait.*, Madagascar, Bourbon, Mauritius.
S. decemdentatum, *Roxb.*, Singapore, China.
S. ferox, *L.*, South Konkan, Coromandel, Bengal, Penang, Singapore.
S. incertum, *Dun.*, Bengal, Sylhet.
S. Indicum, *L.*, all British India.
S. Jacquini, *Willde.*, all British India.
S. macrocarpon, *L.*, Peru.
S. melongena, *L.*, Palestine.
S. nigrum, *L.*, Europe.
S. nodiflorum, *Jacq.*, Brazil, Guinea, Mauritius.
S. pentapetaloides, *Roxb.*, Brazil.
S. pseudocapsicum, *L.*, Madeira.
Lycopersicum cerasiforme, *Dun.*, Peru.
L. esculentum, *Mill.*, America.
L. Humboldtii, *Dun.*, South America.
Physalis Peruviana, *Linn.*
P. stramonifolia, *Wall.*, Gosainthan.
P. tuberosum, *L.*, W. coast of S. America
P. verbascifolium, *L.*, all India.
P. rubrum, *Mill.*, British India.
P. spirale, *Roxb.*, Sylhet, Assam.
P. torvum, *Swz.*, Bengal.
P. alkekengi, *Linn.*, Europe, Persia.

P. angulata, *L.*, East and West Indies.
P. minima, *L.*, all East Indies, Archipelago, Nepal, New Holland.
P. Peruviana, *L.*, Peru, East Indies.
P. pubescens, *L.*, America, India.
P. somnifera, *Nees*, Coromandel, Konkans, Gujerat.
Nicandra physaloides, *Gærtn.*, Peru, Chili, North America.
Datura alba, *Rumph.*, all India.
D. ferox, *L.*, Himalaya, Nepal, Cochin-China, China.
D. inermis, *Jacq.*, Abyssinia.
D. metel, *L.*, Canaries, Africa.
D. stramonium, *L.*, South America, Europe, North Africa, North Asia.
D. suaveolens, *Willde.*, Peru, Chili, Mexico.
D. tatula, *Linn.*, America.
Nicotiana Bonariensis, *Lehm.*, Buenos Ayres.
N. cerinthoides, *Hornem*, —?
N. fruticosa, *L.*, —?
N. glutinosa, *L.*, Peru, South America.
N. paniculata, *L.*, Peru.
N. plumbaginifolia, *Viv.*, Rio Grande.
N. quadrivalvis, *Pursh.*, North America.
N. rustica, *L.*, Europe, Asia, Africa, America.
N. tabacum, *L.*, all the world.
Petunia nyctaginiflora, *Juss.*, South America.
Hysociamus albus, *L.*, Europe, Tauria.
H. Canariensis, *Ker.*, Canaries.
H. muticus, *L.*, Arabia, Egypt.
H. niger, *Linn.*, Europe, Caucasus, North India.
Atropa belladonna, *Linn.*, N. Europe, Kanawar.
Mandragora officinarum.

Some of this family are deleterious, some have narcotic qualities. The tubers of such as produce them are amylaceous and nutritive. The leaves are generally narcotic, but lose that quality by boiling. The fruits which are red or yellow are acid and eatable, as the alkakengi, tomato, and capsicum; those which are black or purple are deleterious, as the mandrake, belladonna, thorn-apple, henbane, cestrum, etc. Atropa belladonna, *L.*, the suchi of the Sutlej, is found wild in Kanawar at 8500 feet. It is stated to be burned in order to kill fleas.

A Chinese plant called Tso-na-ts'au, one of the Solanaceæ, with an appended account of a similar drug called Yah-puh-lu, from the country of the Hun or Uigur, is described in the Pen-Ts'au as a plant producing profound anæsthesia, during which operations may be performed with perfect freedom from pain. The effects are said to last for three days, and to resemble those from the Atropa mandragora.—*Stewart; Voigt; Smith.*

SOLANKI or Chalukya. The history of this branch of the four Agnicula Rajputs cannot be traced to such periods of antiquity as the Pramara or Chauhan. The tradition of the bard makes the Solanki important as princes of Suru on the Ganges, before the Rahtor obtained Kanouj. Their capital was to India what Venice was to Europe, the entrepot of the products of both the eastern and western hemispheres. It fully recovered the shock given by Mahmud and the desultory wars of his successors; and Sid Rae Jye Singh, the seventh from the founder, was at the head of the richest, if not the most warlike, kingdom of India. The lieutenants of Shahab-ud-Din disturbed the close of Komarpal's reign; and his successor, Ballo Muldeo, closed this dynasty in S. 1284 (A.D. 1228), when a new dynasty, called the Baghela (descendants of Sid Rae) under Beesildeo, succeeded. Though the stem of the Solanki was thus uprooted, many of its branches (Sachæ) had fixed themselves in other soils. The most conspicuous of these is the Baghela family, which gave its name to an entire division of Hindustan; and Baghelcund has now been ruled for many centuries by the descendants of Sid Rae. Besides Bandugurh, there are minor chieftainships still in Gujerat of the Baghela tribe. Of these, Pitapur and Theraud are the most conspicuous. One of the chieftains of the second class in Mewar is a Solanki, and traces his line immediately from Sid Rae; this is the chief of Rupnagurh, whose stronghold commands one of the passes leading to Marwar, and whose family annals would furnish a fine picture of the state of border feuds. The Solanki is divided into sixteen branches. The name of the Baghela subdivision is from Bhag Rao, the son of Sid Rae, though the bards have another tradition for its origin. Tod (Rajasthan, pp. 80 and 97) styles the Anhalwara family Solanki and Chalukya.

SOLANUM, a genus of the natural order Solanaceæ. Upwards of 400 species of plants belonging to this genus have been enumerated, including many with apparently very opposite properties. The tomato, the egg-plant, and the potato, with the various species of poisonous nightshades, are found united so closely by botanical characters, that it is impossible generally to separate them. The properties of these plants, however, do not differ in kind but in degree; and the berries and leaves, and even the tubers when uncooked, of the potato, possess in a mild degree the narcotic properties of the poisonous nightshades. Many of them have also very handsome flowers. S. Jacquini is considered by the native practitioners of India as an expectorant. S. Æthiopicum, *Willde.*, is a native of Ethiopia, China, and Japan. Two varieties are recorded,—one, the S. violaceum, is a native of China, and the fruit is frequently eaten in that country as a dessert. It has a large spheroid oval berry of a red colour. The other variety is the S. æsculentum, having a prickly stem, and small yellow berries of the size of peas. —*Eng. Cyc.; Roxb.; Mason; Voigt.*

SOLANUM DULCAMARA.

Shuh-yang-ts'iuen, CHIN. | Ruba-barik, . . HIND.
Ku-kia, ... ,, |

This is a native of Europe, Asia, and North America, in hedges and amongst bushes. It is plentiful in Great Britain, and it or a variety of it is found on the Chur mountain, and in the Panjab Himalaya, at 7000 to 7500 feet. Its leaves, etc. (or those of S. nigrum), are officinal under the above name. It has purple flowers, and scarlet, oval, bitter, and juicy berries. These are acrid narcotics, and poisonous in moderately large quantities.—*Eng. Cyc.; Royle; O'Sh.; Stewart.*

SOLANUM FEROX. *Linn.*

S. involucratum, *Bl.* | S. hirsutum, *Roxb.*
S. lasiocarpum, *Dun.* | S. mammosum, *Lour.*
Ram began, . . BENG. | Ana chunda, MALE., TAM.
Vatarajakulo, . . CAN. |

A scarce shrub, but found on the coast line of Southern India, Bengal, Cochin-China, Penang, Singapore.—*Voigt.*

SOLANUM INCERTUM. *Dun.*

Ruba-barik, . . . HIND. | Mannuttha-kalee, . TAM.

Cultivated by the natives of India. The leaves are used as a pot-herb; the fruit and leaves in the preparation of chatnis. It contains a peculiar alkaloid, solanine, and acts as a diaphoretic, diuretic, and alterative, especially in skin diseases as lepra.—*Jaffrey's Hints; Powell.*

SOLANUM INDICUM. *L.* Indian Nightshade.

S. violaceum, *Jacq.* | S. canescens, *Bl.*, *Rheede.*

Byakur, Bakur, . BENG. | Mulli, ... TAM.
Hwang-kia, . . . CHIN. | Kaka machi, . . TEL.
Kolsi, ... DUKH. | Tella mulaka, . . . ,,
Kandyaree, . . . HIND. | Tella nela mulaka, . ,,
Cheru-chunda, . MALEAL.

This grows all over India. The root is used in infusion as stimulant in cases of fevers and coughs; the juice of the leaves, boiled with the juice of fresh ginger, is administered to stop vomiting.—*Roxb.*

SOLANUM JACQUINI. *Willde.*

Var. α. S. diffusum, *Roxb.* | S. virginianum, *Jacq.*
Var. β. S. xanthocarpum, *Willde.*

Chudra kanta kari, BENG. | Kundun-ghatri, . . TAM.
Kanta kari, . . . ,, | Vakuda-kaia, . . TEL.
Dorle ka phal, . DUKH. | Pinna mulaka, . . ,,
Kutaya, Kathila, HIND. | Tella nela mulaka, . ,,
Kandan-gatri, . . TAM.

This is a low growing, prickly (medicinal) plant, the fruit used only by the poor. The whole plant is used in decoction as expectorant in coughs and consumptive complaints.—*Roxb.*

SOLANUM MELONGENA. *Linn.* Egg-plant.

Var. S. ovigerum, *Dun.* | *Var.* S. longum, *Roxb.*
,, S. pseudoundatum, *Bl.* | ,, S. insanum, *Linn.*
,, S. esculentum, *Dun.*

Badangan, . . . ARAB. | Nila valuthana, MALEAL.
Kooli begoon, . . BENG. | Valoothala, . . . ,,
Wangee, . . BOMBAY. | Budanjan, . . . PERS.
Kha-yan, . . . BURM. | Hingolee, Vartta, . SANSK.
Niu-sin-kia (white variety), . . . CHIN. | Bong, ... ,,
Kia (purple fruited), ,, | Bartakoo mahotee, ,,
Kia tsze, ... ,, | Wangau, ... SIND.
Brinjal, Mad-apple, ENG. | Wambatoo, . . . SINGH.
Jew's apple, . . ,, | Kuthirikai, . . . TAM.
Baingan, ... HIND. | Valuthalay vankai, ,,
Mala insana, . . LAT. | Vanga, Chiri vanga, TEL.
Trong, . . . MALAY. | Metta vankai, . . ,,
| Niru vanga, . . . ,,

Several varieties of this are everywhere cultivated in the E. Indies, Persia, and Arabia. The fruits large, ovoid, firm, innocent, and insipid. It is one of the most useful of Indian vegetables, and is used in culinary purposes in various ways. The large Cape varieties are the best; require good soil and abundance of water. Flowers purple, and bears large, smooth, shining berries, which are the shape and size of a small hen's egg. S. ovigerum has the stem, calyx, and leaves without thorns; and in S. esculentum, these parts are more or less covered with thorns. Several sub-varieties of both these vary in the shape and colour of the fruit. The berries are white, yellow, red, purple, and black. The fruit of this plant, the oval-shaped white, the globular-shaped white, and the purple or violet coloured of both forms, are used in stews and soups. The natives of the Panjab regard this vegetable as hot and dry; it is said to prevent sleep and produce unpleasant dreams, owing to vitiated bile. Leaves are said to be narcotic.—*Roxb.; Eng. Cyc.; O'Sh.; Gen. Med. Top.; Jaffrey; Riddell; Powell.*

SOLANUM NIGRUM. *Linn.* Nightshade.

Anub-us-sal, . . . ARAB. | Pilak, Kaknachi, . HIND.
Tien-pau-tsau, . . CHIN. | Ruba tarbuc, . . PERS.
Lung kwei, ... ,, | Kaka machie, . SANSK.
Communie, . . DUKH. | Munnatakali pallam, TAM
Mako, Mackoe, . . HIND. | Canchie pandu, . . TEL.

Solanum nigrum grows in waste places. Throughout Europe it is a weed in cultivated ground, and is found in Africa and Asia. It has white flowers, producing small berries of a black colour, and is employed as a narcotic by the hakims of India. The fruits are very dangerous, and act in the same manner as those of the belladonna and mandrake. It is considered by natives cool and moist, and is used in fever, diarrhœa, and ulcers, also in disorders of the eyesight, and in hydrophobia, both externally and internally. It contains a small amount of solanine in the juice of the stem and berries, but it may be eaten as food, as in France.—*O'Sh.; Ainslie; Eng. Cyc.; Powell; Voigt.*

SOLANUM PUBESCENS. *Willde., Roxb.*

S. verbascifolium, *L.*

Urusa, ... BENG. | Sunday-kai, . . . TAM.
Shondek pulla, . DUKH. | Wustay-kaia, . . TEL.
Mallum-chunday, MALEAL. | Kasi uste, ... ,,
Katubie, . . . SANSK. | Rameswara uste, . ,,
Chunday-kai, . . TAM. | Rasa gadi manu, . ,,

This is about the size of a small marble, and grows wild in the woods. It is somewhat bitter, and, like the toodoo-vullay (its congener), is commonly eaten fried, having been previously sprinkled with a little salt and water.—*Ainslie; Useful Plants; Roxb.*

SOLANUM RUBRUM. *Mill.*

Var. α. S. erythropyrenum, *Roxb., W.*
,, β. S. melanospermum, *Roxb., W.*

Gorkhi, ... BENG. | Kachi; Erra and Nalla
Gaju chettu, . . TEL. | kamanchi, . . . TEL.
Kamanchi chettu, . ,,

The gorkhi is the red-seeded variety; both have small white flowers. They grow throughout the E. Indies and E. Archipelago.—*Roxb.; Voigt.*

SOLANUM SANCTUM. *Linn.* Lot's lemon.

Leimun lut, . . . ARAB. | Bari mauhari, . . HIND.
Palestine egg-plant, ENG. | Mahori, Tingi, . . ,,
Maraghune, . . . HIND.

Grows in Palestine, west of the Indus, and in the Salt Range. Supposed by Dr. Wilson to be the vine of Deuteronomy xxxii. 32. Stem shrubby, tomentose; leaves ovate-repand, oblique at the base, clothed with hoary tomentum on both surfaces. Berries nearly globose. In some places the fruit is eaten fresh and in pickle.—*Panjab Plants*, p. 160.

SOLANUM SODOMEUM. *Linn.* Sodom egg-plant, apple of Sodom, is a native of the north of Africa, the S. of Europe, N. Holland, and Brazil. Fruit white, and about the size of a walnut. It is very subject to the attacks of an insect, which deposits its eggs within the germen, and, as the fruit enlarges, the larvæ of the insect destroy and pulverize the whole of the interior, whilst the rind is left unchanged and entire. When the fruit is gathered under these circumstances, it is crushed to pieces by the hand; or if conveyed to the lips, the mouth becomes filled with an ash-like powder, exceedingly bitter to the taste. To these berries remarkable properties have been assigned by Josephus, Tacitus, and others. Mandeville, an old English writer, says, speaking of the Dead Sea, 'And there besyden grown trees that baren fulle faire apples and faire of colour to beholden, butte whosoe breaketh them or cuttethe them in two, he shall find within them coles and cyndres.' Milton alludes to this fruit in the lines:

'Greedily they pluck'd
The fruitage fair to sight, like that which grew
Near that bituminous lake where Sodom flamed.
This more delusive, not to touch but taste
Deceived; they, fondly thinking to allay
Their appetite with gust, instead of fruit
Chewed bitter ashes.'

It seems to be quoted in Deuteronomy xxxii. 32, 33, and in Isaiah, who says of the future Israelites, their vine is from the vine of Sodom, and from the fields of Gomorrah.—*Harris' N. H. of Bible*, p. 187; *Voigt; Hogg.*

SOLANUM TORVUM. *Swz.*

Goto-begoon, . . BENG.	Wusta-kaia, . . . TEL.
Sunday-kai, . . . TAM.	

A weed used as a vegetable by the natives. It has several synonyms.—*Voigt.*

SOLANUM TRILOBATUM. *L., Roxb., W. Ic.*

S. acetosæfolium, *Lam.*

Achudah? Alarkah, SANSK.	Uchinta kura, . . TEL.
Tuda valle, . . . TAM.	Tella uste, Uchchinta, ,,
Mulla muste-uste, . TEL.	

Root-leaves and tendril shoots used medicinally. The fruit, Toovullay kai, TAM., Moondlamoostekaia, TEL., is round and small, being not much larger than a marrow fat pea. It has a somewhat bitter taste, not unlike that of its congener the choonday kai, and is commonly eaten fried, having been previously sprinkled with a little salt and water.—*Roxburgh; Ainslie; Useful Plants; Voigt.*

SOLANUM TUBEROSUM. *Linn.* Potato.

Alu, . . . DUKH., HIND.	Rata-inula, . . SINGH.
Ubi, Kantang, . MALAY.	Alu gaddalu, . . TEL.

The potato is found native in the greatest abundance on the western coast of South America. Like most plants which are much cultivated, an abundance of varieties have been produced from the original plant; and in the leaves, colour of the flowers, shape, size, and colour of the tubers, it has a great tendency to depart from its normal character. The potato is a useful esculent, contains a large amount of starch, and when dried it is used as a substitute for salep. It is cultivated throughout British India as a cold-weather crop, in Burma, and in the Himalaya up to 9000 feet, where it is cooked and eaten with buckwheat. Two other species, namely, S. Valenzuela and S. montanum, produce edible tubers, but they are little used. The most formidable potato disease of the 19th century, from the Peronospora infestans, seems to have originated from guano. From potatoes is made British gum, an altered condition of potato starch, used for postage-stamps; starch, or English arrow-root, etc.—*Roxburgh* ii. p. 216; *English Cyclop.; Mason; Powell; Panjab Plants; Voigt.*

SOLANUM VERBASCIFOLIUM. *Linn.*

S. pubescens, *Roxb.*

Ola, . . . BEAS, RAVI.	Mullum chande, . . TAM.
Urus, ... BENG.	Rusa gadda manu, . TEL.
Tiari, . . . CHENAB.	Karawune, . TR.-INDUS.
Kala mewa, . . HIND.	

This is a native of Asia, America, and the tropical parts of Australia. Grows in the Siwalik tract up to 4000 feet, and west of the Indus. It is frequently cultivated. Every part is covered with a powdery white tomentum. The flowers are white, and the berries are of the size of small cherries, and used in curries.—*Roxb.; Useful Plants; Panjab Plants; Hogg; Voigt.*

SOLANUM VIRIDE. *Br.*

S. anthropophagorum, *Seeman.*

One of the plants of the Fiji Islands and New Zealand, the tubers of which were used when eating human beings.

SOLANUM XANTHOCARPUM. *Willde.*

Var. S. Jacquini, *Willde.*

Kandari, ... BEAS.	Kharian maragheone,
Mamoli, Pilak, . . ,,	HIND.
Unt-katara, . . . HIND.	Chhoti mauhari, . RAVI.
Chat-khatai, . . ,,	Mahori, ... ,,
Warumba, . . . ,,	Harnauli, . . SUTLEJ.

Grows common throughout the Panjab plains, and occasionally to 5000 feet in the outer hills. The seeds are eaten, they are applied for bruises and earache, and the fruit, Katela, Bat-kateya, HIND., is bruised and applied for pain. Considered an expectorant useful in coughs, asthma, and consumption.—*Roxb.; Powell; Panjab Plants.*

SOLAR RACE. In the northern part of British India, there were, in times long prior to the Christian era, two dynasties who strove for mastery, viz. the Solar dynasty, descended from Rama, which entered India B.C. 2300; and the Lunar dynasty, descended from Yadu, which entered India about B.C. 1300. The Solar dynasties at present remaining in India are three, viz.:—

Grahilote or Gehlote or Geholote, with 24 saca or branches, of which the Sisodia is the most distinguished. The rana of Udaipur or Mewar is a Grahilote, descended from Loh, Rama's eldest son.

Rahtor, said to be descended from Rama by Kusa, his second son. It has 24 branches, and the maharaja of Jodhpur or Marwar belongs to this tribe.

Kachwaha also sprang from Kusa. The raja of Jeypore is of this tribe. It has 12 kotri or houses.

The Lunar dynasty is sprung from the moon, through Yadu or Jadu, and is called Yadu or Jadu. It has eight branches, of which the Jhareja and Bhatti in Cutch and Jeysulmir are the most powerful.

The Agnicula, a third race, have four tribes and eighty-seven branches, viz.:—

Pramara with 35 branches.	Chalukya with 16 branches.
Parihara ,, 12 ,,	Chauhan ,, 24 ,,

The following list names the thirty-six royal races of Rajasthan:—

Ikshwaku, Cacoostha, or Soorya.
Unwye, Indu, Som, or Chandra.
Grahilote sacæ, . 24
Yadu, ... 4
5. Tuar, ... 17
Rahtore, . . . 13
Cushwaha or Cutchwaha.
Pramara, . . . 35
Chahuman or Chauhan, ... 26
10. Chalook or Solanki, 16
Purihara, ... 12
Chawura, single.
Tak, Tauk, or Takshak.
Jet or Gete.
15. Hun or Hoon.
Catti.
Balla.
Jhala.
Jaitwa or Camari.
20. Gohil.
Sarweya.
Silar.
Dabi.
Gor.
25. Doda or Dor.
Gerhwal.
Birgoojur, . . .
Sengar, single.
Sikerwal, ,,
30. Byce, ,,
Dahia.
Johya.
Mohil.
Nicoompa.
Rajpali.
36. Dahima, single.
Extra,
Hool,
Dahirya.

In the thirty-six royal tribes, there are some, the origin of which is not known, such as—

Chaura or Chawara.	Sarwaya or Sariaspa.	Sengar.
Tak or Takshak.	Jetwa.	Sikharwal.
Jit or Jat of Panjab.	Kamari.	Bais.
Jumna & Ganges.	Dabi.	Dahia.
Hun.	Gor.	Johya.
Katti.	Doda.	Mohil.
Batta.	Garhwal.	Nikumba.
Jhalamakwahana	Chandela.	Rajpati.
Gohil.	Bundela.	Dahirya.
	Bir-gujar.	Dahima.

Rama had two sons, Loh and Cush; from the former the family of the rana of Mewar claim descent. He is stated to have built Lahore, the ancient Loh-kote; and the branch from which the princes of Mewar are descended, resided there until Keneksen emigrated to Dwarica. The difficulty of tracing these races through a long period of years is greatly increased by the custom of changing the appellation of the tribe, from conquest, locality, or personal celebrity. Sen, an army, seems to have been the martial termination for many generations; this was followed by Dit, or Aditya, a term for the sun. The first change in the name of the tribe was on their expulsion from Saurashtra, when, for the generic term of Suryavansi, was substituted the particular appellation of Gehlote. This title was maintained till another event dispersed the family; and when they settled in Ahar, Aharya became the appellative of the branch. This continued till loss of territory and new acquisitions once more transferred the dynasty to Sisodia, a temporary capital in the western mountains. The title of Ranawut, borne by all descendants of the blood-royal since the eventful change which removed the seat of government from Chitore to Udaipur, might in time have superseded that of Sisodia, if continued warfare had not checked the increase of population; but the Gehlote branch of the Suryavansa still retain the name of Sisodia.

Most of the cula or races are divided into numerous branches or saca, and these saca are subdivided into immediate clans or gotra. A few of the cula never ramied; these are termed eka or single, and nearly one-third are eka. Ikshwaku was the first king in the Solar line, and, according to Hindu mythology, reigned at the commencement of the Tretu-yug. He was the son of the 7th Menu or patriarch, the offspring of the sun. His posterity was called, in consequence, the dynasty of the Solar princes, in the same manner as Budha was reputed the head of the Lunar line. Modern commentators bring the time of his accession down to the year B.C. 1320. A passage in the Agni Purana indicates that the line of Surya, of which Ikshwaku was the head, was the first colony which entered India from Central Asia. But the patriarch Budha was his contemporary, he being stated to have come from a distant region, and to have married Ella, the sister (or daughter) of Ikshwaku. Amongst the Aryan Hindus, the Kshatriya was a warrior branch taking social rank after the Hindu Brahmans. Menu, writing of their duties, says, to defend the people, to give alms, to sacrifice, to read the Vedas, to shun the allurements of sexual gratification, are in a few words the duties of a Kshatriya. How this soldier branch broke up is extremely obscure, but it is generally supposed that none of the races now in India can trace their lineage to that tribe of Aryans, though most of the Rajput families doubtless belong to them. Their quarrels amongst themselves seem to have led to their own destruction. These martial Kshatriya do not appear to have adopted Brahmanism readily, and the Brahmans to overcome them, consecrated by fire, on Mount Abu, a warrior body who still remain, and are known as the four Agnicula Rajput tribes.

Vyasa gives but fifty-seven princes of the Solar line, from Vaivaswata Menu to Rama; and no list which had come under Colonel Tod's observation exhibits for the same period more than fifty-eight of the Lunar race.

Ikshwaku was the first who moved to the eastward and founded Ayodhya.

Budha (Mercury) founded the Lunar line, but we are not told who established their first capital, Poorag, though we are authorized to infer that it was founded by Pooru, the sixth in descent from Budha.

A succession of fifty-seven princes occupied Ayodhya from Ikshwaku to Rama.

From Yayat's sons the Lunar races descend in unequal lengths.

The lines from Yadu, concluding with Krishna and his cousin Kansa, exhibit fifty-seven and fifty-nine descents from Yayat, while Yudishtra, Sul, Jarasandha, and Vahoorita, all contemporaries of Krishna and Kansa, are fifty-one, forty-six, and forty-seven generations respectively, from the common ancestor Yayat. The author, after the invocation to the mother protectress, Om! sacombari mata! says, 'I write the name of the thirty-six royal tribes.' The bard Chund says, 'Of the thirty-six races, the four Agnicula are the greatest: the rest are born of woman, but these from fire.'

Rama of the Ramayana is described as the son of Ikshwaku and grandson of Menu. His original abode is described as the mountains of the west. He was the first of the dynasties of Oudh. And the Solar dynasty held sway in Ayodhya, the modern Oudh, till the result of the great war, the Mahabharata, when they were forced to give way by their cousins of the Lunar line.

The Rajput race was at an early period divided into the two great Solar and Lunar dynasties, the former having its seat of empire in Oudh, and the latter in Dehli. Struggles for the pre-eminence were carried on with sanguinary obstinacy between these tribes. To fight, was the duty of the Kshatriya, as Krishna told the hero Arjuna, smitten with sorrow at the idea of slaughtering his own kinsmen in battle. 'O Krishna,' said the hero, 'I seek not victory nor a kingdom. I will not fight! What shall we do with a kingdom, or with life itself, when we have slain all these?' Krishna had no such qualms. 'You belong,' he replied, 'to the military class, and your duty is to fight.' And Arjuna fought.

The dynasties which succeeded the great beacons of the Solar and Lunar races, are three in number,—1st. the Suryavansa, descendants of Rama; 2d. the Induvansa, descendants of Pandu through Yudishtra; 3d. the Induvansa, descendants of Jarasandha, monarch of Rajgraha. The Bhagavat and Agni Puranas are the authorities for the lines from Rama and Jarasandha; while that of Pandu is from the Raj-Taringini and Rajaoli. The existing Rajput tribes of the Solar race claim descent from Lava and Cush, the two elder sons of Rama; and Colonel Tod does not believe that any existing tribes trace their ancestry to his other children, or to his brothers. From the eldest son Lava, the rana rulers of Mewar claim descent; so do the Bir-gujar tribe, formerly powerful within the confines of the present Amber, whose representative now dwells at Anupshahr on the Ganges. From Cush descended the Cushwaha princes of Nirwar and Amber, and their numerous clans. Amber, though the

first in power, is but a scion of Nirwar, transplanted about the 9th century, whose chief, the representative of the celebrated prince Nala, enjoys but a small district of all his ancient possessions. The house of Marwar also claims descent from this stem, which appears to originate in an error of the genealogists confounding the race of Cush with the Causika of Kanouj and Causambi. Nor do the Solar genealogists admit this assumed pedigree. The Amber prince in his genealogies traces the descent of the Mewar family from Rama to Sumitra through Lava, the eldest brother, and not through Cush, as in some copies of the Puranas, and in that whence Sir William Jones had his lists. Whatever dignity attaches to the pedigree claimed by the Amber prince, every prince and every Hindu of learning admits the claims of the princes of Mewar as heir to the chair of Rama; and a degree of reverence has consequently attached, not only to his person, but to the seat of his power. When Madhaji Sindia was called by the rana to reduce a traitorous noble in Chitore, such was the reverence which actuated that (in other respects) little scrupulous chieftain, that he could not be prevailed on to point his cannon on the walls within which consent established the throne of Rama. The rana himself, then a youth, had to begin the attack, and fired a cannon against his own ancient abode. In the very early periods, the princes of the Solar line, like the Egyptians and Romans, combined the offices of the priesthood with kingly power, and this whether Brahmanical or Buddhist. Many of the royal line, before and subsequent to Rama, passed great part of their lives as ascetics; and in ancient sculpture and drawings, the head is as often adorned with the braided lock of the ascetic, as with the diadem of royalty. Ferishta, also translating from ancient authorities, says to the same effect, that 'in the reign of Mahraj, king of Kanouj, a Brahman came from Persia, who introduced magic, idolatry, and the worship of the stars;' so that there is no want of authority for the introduction of new tenets of faith. Even now the rana of Mewar mingles spiritual duties with those of royalty, and when he attends the temple of the tutelary deity of his race, he performs himself all the offices of the high-priest for the day. In this point a strong resemblance exists to many of the races of antiquity. There seems to be no doubt that amongst the Aryans, whilst they were approaching India, and whilst the worship of nature under the Vedic system of religion prevailed, the householder was his own priest, and performed all the religious duties in sacrifices and worship. The head of the house was, in fact, his own household priest, and to the present day every head of a Hindu house performs all the religious sacrifices of his household. — *Wilson's Glossary; Tod's Rajasthan*, i. p. 215.

SOLE. The Plagusia of Tenasserim is a small fish of the sole family, that grows to nine inches or a foot long. It has no pectoral fins, and the dorsal, caudal, and ventral fins are united. The natives think that two of them always swim together, with their flat, uncoloured sides united. —*Mason.*

SOLEGNATHUS BLOCKII. *Bleeker.* The sea-needle of Block, a long, spindle-shaped fish, with round, needle-shaped body.

SOLENOCARPUS INDICA. *W. A.* This tree, when in blossom, is a perfect mass of white flowers. It grows on the Animallays (2600 feet elevation), also on the Tinnevelly ghats. When in leaf only, it much resembles the Spondias mangifera.—*Beddome, Fl. Sylv.*

SOLENOSTEMMA ARGEL, Arghel of Egypt, a native of Syria. The leaves are purgative, and are employed in Egypt to adulterate senna.—*Hogg*, p. 5; *Simmonds.*

SOLFATARA, the Hwang-kung of the Chinese. There are three of these in the north end of Formosa. There are also solfataras in the Japanese island of Kiu-siu, and at the south end of Satsuma is the burning sulphur island of Ivoo-sima. See Sulphur.

SOLOMON, properly Sulaiman or Suliman, the son of David, was king over the Judah and Benjamin tribes of the Hebrews or Israelites. He is famed in history for building the temple of Jerusalem, for his great wisdom and great wealth. He began to build the temple B.C. 1014. He founded Hamath, in the country of Galilee, and fortified Tadmor or Palmyra in the wilderness, and many other cities of store (1 Kings ix. 18; 2 Chronicles viii. 4), or emporia, for the commerce of India, and Tyre, Sidon, and all the surrounding nations. His father had introduced the custom of a vast polygamy, which Solomon continued. His commercial transactions extended down the Red Sea and the Euphrates valley, to India and the Aurea Chersonesus.

A port of departure and arrival was Ezion-geber (1 Kings ix. 26) on the banks of the Euphrates, the Hasn Jabir of the Arabs, also called Kalat Jabir or Castle Jabir, of which the vast ruins still exist not far from the ancient Roman town of Beles. Catafago says the translation ought to be, 'And king Solomon made a navy of ships in Ezion-geber, besides that of Eloth.' The modern Arab name of Tadmor or Palmyra is Sulaymaniyah. Solomon is fabled to have been king not only of men, but of the angels, genii, elements, beasts, and birds, and they have many traditions as to the queen of Sheba. Solomon's pools are three large reservoirs built on the slope of a hill about 7 miles S. from Jerusalem. Solomon's temple in Jerusalem was dedicated to Baal, and all the idolaters of that day seem to have held to the grosser tenets of modern Hinduism—

> 'Peor his other name, when he enticed
> Israel in Sittim, on their march from Nile.'

Solomon's temple, of Kashmir, stands on the summit of a hill to the east of Srinuggur city. Its height is 6263 feet above the level of the sea.—*Arrian, Periplus*, p. 152; *Pennant's Hindustan*, i. p. 4; *Tod's Rajasthan*, i. p. 76; *Paradise Lost*, Book I.

SOLOMON ISLANDS, discovered by Dampier, 1699, form an extensive chain which stretches to the N.W. from the E. point of San Christoval Island, in lat. 10½° S. and long. 162° 27′ E., to the N. point of Banka Island, in lat. 5° S. and long. 154° 38′ E. They are part of the extensive chain which, commencing to the N. of New Hebrides, extends in a N.W. direction towards New Ireland, and thence along the N. side of New Guinea. San Christoval or Arsacides is the most south-easterly. The people are cannibals. They murdered Lieutenant Bower and his crew, and massacred the native assistants of Mr. Brown,

the missionary, but Mr. Walter Powell lived amongst them.

SOLOR is an island lying to the east of Flores, and to the north of Timor, under which presidency of Netherland India it is placed. The inhabitants of the coast are Muhammadans in name, but they are hard arrack drinkers. They are hardy mariners and fishers. The village which most applies itself to the whale fishery is Lamakera, on the north-east part of the island of Solor, and lying within the Strait. They are remarkable for their skill in managing their prahu and canoes, and are the most expert fishermen in these seas, frequently capturing the black-fish, which no other fishermen in these seas will venture to attack. The blubber or fat obtained from them is used as food, and also as an article of barter with the inland inhabitants; and the oil and spermaceti is sometimes disposed off to the Bughi and Macassar traders, who prefer it to cocoanut oil for burning in their prahus.—*Journ. Ind. Arch.*, December 1850.

SOLPUGA ARANEOIDES and S. intrepida are two species of Phalange of the Kirghiz steppe, of a yellowish or reddish-brown colour, with long hair. The bite is said to cause death. When walking, it seems as large as two fists. They live in the sand.

SOLTYKOFF, PRINCE, a Russian noble who travelled in India in 1841, and wrote Voyage dans l'Indie.

SOMA was an ancient Aryan rite, a sacrifice to Indra (Zeus) of an intoxicating potion, consisting of fermented juice of plants mixed with milk. Soma juice and its effects are repeatedly mentioned in the Vedas (i. pp. 21, 139, ii. pp. 169, 233, 260, iii. p. 470). The Soma sacrifice now-a-days is not made with any spirituous fluid, but in Vedic times it seems to have been a distilled alcoholic fluid, and was offered to their deities,—

'The gods themselves with pleasure feel
King Soma's influence o'er them steal;
And Indra once, as bards have told,
Thus sang in merry mood of old:—
This Soma is a god; he cures
The sharpest ills that man endures:
He heals the sick, the sad he cheers,
He nerves the weak, dispels their fears,
The faint with martial ardour fires,
With lofty thoughts the bard inspires,
The soul from earth to heaven he lifts,
So great and wondrous are his gifts:
Men feel the god within their veins,
And cry in loud exulting strains,—
"We've quaffed the Soma bright,
And are immortal grown;
We've entered into light,
And all the gods have known.
What mortal now can harm,
Or foeman vex us more?
Through thee beyond alarm,
Immortal god, we soar."'

The Rig Veda, ix. says, 'The purifying Soma, e the sea rolling its waves, has poured forth gs, and hymns, and thoughts.' Thus perified, the Soma god bears a certain analogy the Greek Dionysus or Bacchus. The two ses above are a nearly literal translation of Veda, viii. 48, 3. The Soma plant of the las is the Sarcostemma viminale, a leafless lepiad, with white flowers in terminal umbels, ich appear during the rains in the Dekhan. It was gathered by moonlight, hence its name, from Soma, SANSK., the moon, and carried to their homes on carts drawn by rams, and a fermented liquor was prepared by mixing its juice, strained through a sieve of goat's hair, with barley and clarified butter or ghi. This beer or wine was used at all their religious festivals, and was used by the rishis at their meals.

Indra, according to Bunsen (iii. p. 587, 8, iv. p. 459), is the prototype of Zeus, and was a personification of ether. The Soma juice is the oblation or libation of the Vedic worship, and the Homa of the Parsee; and Prof. H. H. Wilson (Introduction to the Rig Veda, p. 36) says, 'Almost the whole of the Soma Veda is devoted to its eulogy, and this is no doubt little more than a repetition of the Soma Mandala of the Rig Veda.' The veneration of the Soma plant does not appear to have proceeded from any worship of the moon or planets, which are not, like the sun, objects of special adoration in the Veda. The Soma is mentioned in Menu, iii. pp. 85, 158, 180, 197, 257, v. p. 96, vii. p. 7, ix. p. 129, x. p. 88, xi. pp. 7, 12. All the ancestors of the Brahmans are styled Soma-pa, 'moon-plant drinkers;' and the Soma sacrificial priests, the Soma Yaji and Soma Devi.

Haug says the Homa was a nasty drink. Windischmann suggests that the Soma plant may be identical with the gogard tree, which enlightened the eyes, and Ampelus, the vine of Bacchus, is also mentioned.—*Bunsen's Egypt; Rig Veda; Williams' Nala*, p. 247.

SOMA, in Hindu mythology, is the son of the Rishi Atri by his wife Anasuya, but also said to be son of Dharma and Prabhakara. He married 27 daughters of Daksha (which are the 27 lunar asterisms). He carried off Tara, wife of Brihaspati (Jupiter), who bore a son, and named him Budha, the parent of the Lunar race. Soma, also Chandra, the moon, is chiefly celebrated in the Vedas in connection with the Soma plant, but in the Mahabharata is the mythical progenitor of the great Lunar race of Bharata. These heavenly bodies entered into the elemental worship of the Vedic times.—*Dowson.*

SOMA DEVA BHATTA, of Kashmir, collected the popular stories current in his time, and published them towards the beginning of the 12th century, under the title of Katha-sarit-sagara, the Ocean of the Rivers of Stories.

SOMAJH. From the religious scepticism which is the most remarkable result of western education in British India, has sprung several sects among the more thoughtful and earnest of the Hindus. The Brahmo society resembles in its organization of preachers, members, and hearers, the various sects of Christians. They eschew idolatry in every form, build chapels on the model of a Christian church, and, except that the Bible is seldom referred to, and Christ is only treated as a great and good man, would seem to be an Indian form of theism. They have fixed, paid ministers, lay itinerating agents, who receive no salary for their labour of love, and have adopted the missionary agency of the European churches, and send out trained missionaries for the propagation of theism. The census of 1881 showed their numbers in British India to be 1147, energetic, well-informed, and respected of their countrymen, amongst them men of social position and wealth.

SOMAL or Beer-us-Somal, the country of the Somali, to the south of Cape Guardafui, between the equator and lat. 11° N.; on the west is separated from the Galla nations by the Jub, a large and fertilizing stream which rises in the mountains of Southern Abyssinia, and debouches in the Indian Ocean. Capt. Speke states that the Somali are the descendants of a band of Muhammadans who were driven from Mecca in A.D. 1413, and crossed over to their present site, from which the Galla and Abyssinians were subsequently dispossessed. The Somali in their own land are pastoral nomades, but have settled villages on the coast line, with a patriarchal government. When the mother perishes in child-birth, the parents claim a certain sum from the man that killed their daughter. Twins, here called Wapacha, and by the Arabs of Zanzibar Shukul, are usually sold or exposed in the jungle, as amongst the Ibos of West Africa. A mother, when carrying her offspring, bears in her hand a kirangozi, a guide or guardian, in the form of two sticks a few inches in length, bound with bands of parti-coloured beads. This article, made by the Mganga or medicine-man, is placed at night under the child's head, and is carried about till it has passed the first stage of life. They trade at Berbera and other places on their coast, or sail to Aden during the N.E. monsoon, bringing gum, myrrh, ostrich feathers, ivory, etc. They are a good-tempered, though indolent race; but easily excited to anger. In Aden they are inveterate thieves and gamblers. They are handsome, active, and long-limbed, with woolly hair, capable of undergoing great privation and fatigue. In 1827, a British vessel trading at Berbera was plundered by the Habr Owul tribe of Somali. Berbera is a port to the east of Zaila and Tajowra, and nearly opposite to Aden. In consequence of unhealthy winds, it is deserted for six months every year. During the rest of the year it is visited by caravans of different tribes from the interior of Africa. A vessel of war was sent to punish the tribe for the outrage which they had committed. On 6th February 1827, a treaty of peace and commerce was signed by the elders of the tribe. An expedition was sent in 1854 to explore the country between Berbera and Zanzibar, but on the 18th April 1855 the party were suddenly attacked by Somali of the El Moosa tribe; two British officers were wounded, one was killed, and the entire property of the expedition was carried off. The murderers were not delivered up, but a treaty was entered into. In 1855, the elders of the Habr Gerhagi and the Habr Taljala tribes of Somali entered into an engagement with the Political Resident at Aden to prohibit the slave trade. — *Aitcheson's Treaties,* vii. p. 319.

SOMENDILLA. TAM., MALEAL. The Berrya ammonilla tree, yielding the most useful wood in Ceylon for naval purposes. It is commonly called Halmilile and Hameniel by the Dutch and Portuguese. It grows straight, from 20 to 40 feet high, and from 12 to 30 inches in diameter. Superior to any wood for capstan bars, cross and trussel-trees, cask-staves, battens for yards, fishes for masts, boat-building, etc. At Madras it is highly valued for coach-work, from the toughness and fineness of its grain. It is the Trincomalee wood of commerce.—*Edye, Ceylon.*

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The country near Somnath is full of memorials of Krishna, and at a spot to the east of the city, near the union of three beautiful streams, the body of the hero is said to have been burned. Before its capture by Mahmud of Ghazni, A.D. 1024-1026, little is known of the history of Somnath.

The country of Soreth, a province of the peninsula of Gujerat, now more generally known under the name of Kattyawar, is celebrated in the Puranas for containing five inestimable blessings. First, the river Gumti; second, beautiful women; third, good horses; fourth, Somnath; and fifth, Dwarka. Among the many places in Soreth that are held sacred by the Hindus, Somnath Pattan has always been one of the most remarkable. It stands one or two miles from the sea, at the junction of three rivers, the Hurna, Kupula, and Sersutty, at a distance of three miles to the east of the port of Belawul. Somanatha or Someswara is a name of the type of Siva, and the worship of Siva under this type prevailed throughout India at least as early as the 5th or 6th century. The Somanath idol, in fact, was one of the twelve great lingams then set up in various parts of India, several of which were destroyed by the early Muhammadan conquerors; and it has been mentioned that Somnath temple was the counterpart of Baalbek; and the idol is related to have been brought to India from the Kaba, on the advent of Mahomed. Brahmanical records, however, refer it to the time of Krishna. Somanath is the title of Swayam-nath, or self-existing, and the religion was, of old, common to Arabia and India; and there is reason for believing, what the early Muhammadan authorities assert, viz. that the Lat, worshipped by the idolaters of Mecca, was a similar deity to the Swayam-nath of the Hindus. The idol itself, Somnath, is stated to be one of the twelve symbols of Siva, which are said by Hindus to have descended from heaven to the earth. The temple of the idol was supported by 56 pillars in rows, the idol was of polished stone, about five cubits high, of proportionate thickness, and two cubits were below ground. General Cunningham says the Pattan Somnath temple of Siva enshrined a figure of the god, bearing a crescent on his head, as Somnath or the lord of the moon. This appellation w[illegible] therefore the proper name of the temple, and n[illegible] of the city, which he concludes must have b[illegible] Elapura or Erawal, the modern Virawal.

The image was, according to Muhammad[illegible] authors, destroyed by Mahmud; but in late ye[illegible] Ahalia Bhai, the widow of a prince of the Mahr[illegible] family of Holkar, erected a new temple on the ex[illegible] site of that which was demolished. A symbol[illegible] Siva Mahadeo has been placed in this temp[illegible]

SON or Sugun, in Sind, is a kind of divination by means of the position of birds and beasts, their cry, the direction of their flight, and other such particulars.

SONAI. HIND. Water in which the jute plants have been steeped.

SONAR, HIND., from Sona, gold, a worker in gold and silver. One of the five artisan castes of the Hindus, the other four being the blacksmith, coppersmith, stone-mason, and carpenter. The Sonar, or goldsmith, is a caste or hereditary avocation. He is not a jeweller, but an artisan, and works entirely by weight, charging from one anna to one rupee per rupee of the out-turned manufactured article, the rate varying according to his skill or the art required, the standard of intrinsic value being that of payment. The Sonar usually has the gold or silver with which he is to work delivered to him, and he must return in the ornament the same quality and quantity he received. He cannot work with much alloy, which is the best security against fraud, and his best work is with the purest gold and silver, and in these the metal is treated with quicksilver again and again, until it has become soft and perfectly ductile. The Kanari 'Panchala' and the Kokanasth 'Sonar' claim to be Brahmans. They wear the sacred cord, and have the Vedas read to them by their own priests. The Sonar of the south of India all claim to be of higher birth than the Brahmans. In Benares they claim to derive their origin from the Kshatriyas.

SONARGAON, in the Dacca district, the ancient Muhammadan capital of Eastern Bengal, but now an insignificant village called Páinam, situated about two miles from the Brahmaputra, in lat. 23° 39' 45" N., and long. 90° 38' 20" E. It was here that Azm. Shah, the son of Sikandar, proclaimed his independence, and invited the poet Hafiz to his court. The town gave its name to one of the three great sarkárs or provinces.—*Imp. Gaz.*

SONARI, a little village situated on a low spur of a sandstone hill between the Betwa and Besali rivers, 6 miles to the S.W. of Sanchi, 21 miles N.E. of Bhopal. It contains numerous Buddhist topes. See Bhilsa.

SONCHUS CILIATUS. *Lam.* Sow thistle.

Sonchus oleraceus, *Roxb.*, *Wight Icones.*

Dodak, ...	HIND.	Etrinta, ...	TEL.
Ka't mulingi kiri, .	TAM.	Adavi mullangi, . .	,,

A native of Europe, up to 8500 feet, of the Panjab, also of Peninsular India. It yields a milky juice on incision. Cattle are fond of it. Used in the Neilgherries as a pot-herb by the natives. Also the Kashmir people are said to use it as a vegetable; and it is probably the dwarf sow thistle, the shoots of which the Ladakhi use in a similar way, according to Moorcroft, though this may be the Tragopogon.

Sonchus Orixensis.

Bhangra, ...	HIND.	Dughdika, . . .	HIND.
Kala bhangra, . .	,,	Sahadevi, . . .	,,

Bari (H.) Jangli-tamaku. Similar to Lactuca in its properties.—*Powell; Jaffrey; Stewart, M.D.*

SONDIA. The principal among the illegitimate Rajputs in Central India, of mixed caste, are the Sondia, who have spread from Sondwarra in Malwa (a country to which they give the name) to many adjoining districts. This tribe is divided into many families, which take their name from Rajput ancestors; but all intermarry. Second marriages among their women are very common, and from the strict usages of the Rajputs upon this point, there is none on which they deem the Sondia to have so degraded the race from which they are descended. The Sondia have been either cultivators or plunderers, according to the strength or weakness of the government over them; but they have always had a predatory tendency, and have cherished its habits even when obliged to subsist by agriculture. Their dress is nearly the same as that of the other inhabitants, though they imitate in some degree the Rajputs in the shape of their turbands. They are, in general, robust and active, but rude and ignorant to a degree. No race can be more despised and dreaded than the Sondia are by the other inhabitants of the country. A considerable number occupy the districts of Dig Puch-pabar and Gungrar or Chowmela. They are Hindus, but abstaining from the flesh of kine is their only feature. They drink, use opium, and are of vicious habits; their women are bold and immoral; widows remarry. During the rebellion of 1857–58, they gave considerable trouble. Another tribe, the Bhilalah, who have sprung from Rajputs of the Bhil tribe, derive their name from associating with the Bhils, among whom, from the superior rank of their sires, they obtain respect and consequence. The chiefs of the Bhils in the Vindhya mountains are almost all Bhilalah. This class combine with the pride and pretensions of the Rajputs the cunning and roguery of the Bhils; and appear to be, almost without exception, a debauched and ignorant race, often courageous from constant exposure to danger, but invariably marked by an equal want of honour and of shame. The Bhilalah and Sondia chiefs were the only robbers in Malwa, whom under no circumstances travellers could trust. There are oaths of a sacred but obscure kind among those that are Rajputs, or who boast their blood, which are almost a disgrace to take, but which, it is asserted, the basest was never known to break, before Mundroop Singh, a Bhilalah, and some of his associates, plunderers on the Nerbadda, showed the example.—*Malcolm's Central India*, ii. pp. 15, 153.

SONDRI BRERI or Sondi Breri, an ebbing and flowing spring near the Berengi river in Kashmir. It appears about the vernal equinox. It seems to be an underground continuation of the Berengi river.

SONE. The fishermen settled along the coast from Gheriah to the north, near Surat, and at Colaba, in Bombay, are Koli of the Sone tribe; a few of them are mariners, but the vessels must be manned by natives, the Sone fearing to lose caste, which would take place did they sail with Europeans. The chief Patel of this tribe resides at Angria; he is looked on as a legislator, being endowed with power to adjust the affairs of the Sone Koli, settle their disputes, etc. The women of the Sone Koli wear choli or jackets, and have a number of glass bangles on their left hand; they are frequently seen in Bombay assisting their husbands in fishing and carrying fish to market. When they marry, the ornaments which were intended to adorn their right wrists are consecrated, and thrown into the sea as an offering to the deity who presides over that element, and an invocation to defend her husband from the dangers of the ocean. Not a caste meeting of the Sone

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SOMNATH or Somanath is an ancient town situated in lat. 27° 7′ N., and long. 71° 34′ E., at the eastern extremity of a bay on the south coast of the peninsula of Kattyawar, in the Bombay Presidency. The western headland of the same bay is occupied by the port of Virawal, which gives to the locality its more common name of Virawal Pattan, also known as Deo Pattan, Pattan Somanath, Somnath Pattan, Prabhas Pattan. On the west, the plain is covered with Muhammadan tombs; on the east are numerous Hindu shrines and monuments.

The country near Somnath is full of memorials of Krishna, and at a spot to the east of the city, near the union of three beautiful streams, the body of the hero is said to have been burned. Before its capture by Mahmud of Ghazni, A.D. 1024-1026, little is known of the history of Somnath.

The country of Soreth, a province of the peninsula of Gujerat, now more generally known under the name of Kattyawar, is celebrated in the Puranas for containing five inestimable blessings. First, the river Gumti; second, beautiful women; third, good horses; fourth, Somnath; and fifth, Dwarka. Among the many places in Soreth that are held sacred by the Hindus, Somnath Pattan has always been one of the most remarkable. It stands one or two miles from the sea, at the junction of three rivers, the Hurna, Kupula, and Sersutty, at a distance of three miles to the east of the port of Belawul. Somanatha or Someswara is a name of the type of Siva, and the worship of Siva under this type prevailed throughout India at least as early as the 5th or 6th century. The Somanath idol, in fact, was one of the twelve great lingams then set up in various parts of India, several of which were destroyed by the early Muhammadan conquerors; and it has been mentioned that Somnath temple was the counterpart of Baalbek; and the idol is related to have been brought to India from the Kaba, on the advent of Mahomed. Brahmanical records, however, refer it to the time of Krishna. Somanath is the title of Swayam-nath, or self-existing, and the religion was, of old, common to Arabia and India; and there is reason for believing, what the early Muhammadan authorities assert, viz. that the Lat, worshipped by the idolaters of Mecca, was a similar deity to the Swayam-nath of the Hindus. The idol itself, Somnath, is stated to be one of the twelve symbols of Siva, which are said by Hindus to have descended from heaven to the earth. The temple of the idol was supported by 56 pillars in rows, the idol was of polished stone, about five cubits high, of proportionate thickness, and two cubits were below ground. General Cunningham says the Pattan Somnath temple of Siva enshrined a figure of the god bearing a crescent on his head, as Somnath or the lord of the moon. This appellation w therefore the proper name of the temple, and n of the city, which he concludes must have b Elapura or Erawal, the modern Virawal.

The image was, according to Muhammac authors, destroyed by Mahmud; but in late ye Ahalia Bhai, the widow of a prince of the Mahr family of Holkar, erected a new temple on the ex site of that which was demolished. A symbol Siva Mahadeo has been placed in this temp

which is deemed peculiarly propitious to those who desire offspring. Not far from this, the Hindu pilgrim is shown a solitary pipal tree, on the bank of the Saraswati river, which he is assured stands on the exact spot where the Sri Krishen received the mortal wound from an arrow, that terminated his incarnation.

About a century after their expulsion from Balabhi, about A.D. 758, Bappa or Vappaka founded a new kingdom at Chitore, and his son Guhila or Guhaditya gave to his tribe the new name of Gubilawat or Gahilot, by which they are still known. About the same time a chief of the Chaura tribe, named Ban raja, or the jungle lord, founded a city on the bank of the Saraswati, about 70 miles to the south-west of Mount Abu, called Anhalwara Pattan, which soon became the most famous place in Western India. Somewhat earlier, or about A.D. 720, Krishna, the Pahlava prince of the Peninsula, built the fort of Elapura, the beauty of which, according to the inscription, astonished the immortals. In it he established an image of Siva adorned with the crescent. Following this clue, General Cunningham inclines to identify Elapura with the famous city of Somnath, which, as the capital of the Peninsula, was usually called Pattan Somnath. General Cunningham takes it to be the same as Elapura or Elawar, which, by a transposition that is very common in India, would become Erawal. Thus Nar-sinh has become Ran-si, and Ranod is used indifferently with Narod, and the ancient Verul is the modern Elur or Ellora.

There is nothing in the Vedas, Puranas, and other Brahmanical books to illustrate the origin and history of the Somnath temple. The earliest notice is contained in the brief account of the successful campaign of Mahmud of Ghazni. According to Ferishta, the fortified city of Somnath was situated on a narrow peninsula, washed on three sides by the sea. It was the residence of the raja, and Naharwala (a transposition of Anhalwara) was then only a frontier city of Gujerat. This agrees with the native histories, which place the close of the Saura or Chaura dynasty of Anhalwara in S. 998, or A.D. 941, when the sovereignty passed into the hands of the Chalukya-prince, Mula raja, who became the paramount ruler of Somnath and Anhalwara. When the Somnath temple was plundered by Mahmud of Ghazni in A.D. 1024, Byram Deo (Brahma Deva) of Gujerat was deposed. Mahmud left Ghazni, on his expedition against Somnath, in September A.D. 1024; his numerous army was accompanied by crowds of volunteers, the flower of the south of Turkestan. Ajmir and Anhalwara fell before him. Advancing against Somnath, for two days his most devoted followers were beaten headlong back by the valour of the Rajputs fighting for hearth and altar. On the third day, Mahmud led a furious charge in person, 5000 Hindus lay dead, and the day was won. When he entered the shrine of Someswara, he beheld a superb edifice of hewn stone, its lofty roof supported by pillars curiously carved and set with precious stones. In the adytum, to which no external light penetrated, and which was illuminated only by a lamp suspended from the centre by a golden chain, appeared the symbol of Someswara, a stone cylinder which rose 9 feet in height above the floor of the temple, and penetrated 6 feet below it. Two fragments of this object of idolatrous worship were, at the king's order, taken off, that one might be thrown at the threshold of the public mosque, and the other at the court gate of his own palace of Ghazni. Other fragments were reserved to grace the holy cities of Mecca and Medina. The tradition says that while Mahmud was thus employed, a crowd of Brahmans offered an enormous ransom if the king would desist from further mutilation. Mahmud hesitated, but, after a moment's pause, he exclaimed that he would be known by posterity not as the idol-seller, but as the destroyer. The work of destruction then continued, and was rewarded by the discovery in the vaults below the adytum of untold treasures. Thus fell Somnath. But this traditional story is quite unworthy of credence; the linga is never hollow. Its gates were taken to the mosque of Ghazni, from which they were removed when the British troops returned from the occupation of that country in 1842.

After the time of Mahmud, Somnath would appear to have been abandoned by its rulers in favour of Anhalwara, which is mentioned as the capital of Gujerat in the time of Muhammad Ghori and his successor Aibeq. It was still the capital of the kingdom in A.H. 697, or A.D. 1297, when the country was invaded by the army of Ala-ud-Din, Muhammad Khilji, which occupied Anhalwara, and annexed the province to the empire of Dehli.—*Postan's Western India; Bird's Hist. of Gujerat; Cunningham's Geog. of India; Prinsep; History of Persia; Wilson; Town. Outram and Havelock; Imp. Gaz.*

SOMNATHPUR, a village in Mysore State celebrated for its temple of Prasanna Ch[illegible] Kesava. An inscription at the entr[illegible]ance shows that it was completed in 1270 by [illegible] prince of the Ballala dynasty. The whole [illegible] is most elaborately ornamented, and the [illegible] structure is completed by three simānas [illegible] or pyramidal towers surmounting the triple shrine. Round the exterior base are portrayed the leading incidents in the Ramayana, Mahabharata, and Bhagavata, carved in relief in potstone, the termination of each chapter and section being indicated respectively by a closed and half-closed door. The number of separate sculptured images is 74. The workmanship is attributed to Jackanachari, the famous sculptor and architect of the Ballala kings, under whom Hindu art in Mysore reached its culminating point. There is also at Somnathpur a large temple to Siva in ruins.—*Imp. Gaz.*

SON. To have a son, a male child, is the great desire of the married Hindu; and if a son be not born, he may adopt one. The Sanskrit word meaning a son is said to mean deliverer from hell, since the son delivers his father from hell (Menu, ix. p. 138). This accounts for the extreme desire entertained by the Hindus for male offspring. Thus Bhima, like Dasaratha in the Ramayana, and many others, performed the holiest acts for the sake of obtaining a son. The son alone by the offering of the funeral libation (Srad'ha) is supposed to procure rest for the departed spirit of the father. The Hindu law recognised 12 kinds of sons. A son may be born of a wife or adopted. The Dattaka putra, or adopted son, properly renounces all claim to direct inheritance from his natural father and paternal relations, except through any affinity he may have acquired through his adopted father.—*Williams' Nala*, p. 178.

SON or Sugun, in Sind, is a kind of divination by means of the position of birds and beasts, their cry, the direction of their flight, and other such particulars.

SONAI. HIND. Water in which the jute plants have been steeped.

SONAR, HIND., from Sona, gold, a worker in gold and silver. One of the five artisan castes of the Hindus, the other four being the blacksmith, coppersmith, stone-mason, and carpenter. The Sonar, or goldsmith, is a caste or hereditary avocation. He is not a jeweller, but an artisan, and works entirely by weight, charging from one anna to one rupee per rupee of the out-turned manufactured article, the rate varying according to his skill or the art required, the standard of intrinsic value being that of payment. The Sonar usually has the gold or silver with which he is to work delivered to him, and he must return in the ornament the same quality and quantity he received. He cannot work with much alloy, which is the best security against fraud, and his best work is with the purest gold and silver, and in these the metal is treated with quicksilver again and again, until it has become soft and perfectly ductile. The Kanari 'Panchala' and the Kokanasth 'Sonar' claim to be Brahmans. They wear the sacred cord, and have the Vedas read to them by their own priests. The Sonar of the south of India all claim to be of higher birth than the Brahmans. In Benares they claim to derive their origin from the Kshatriyas.

SONARGAON, in the Dacca district, the ancient Muhammadan capital of Eastern Bengal, but now an insignificant village called Painam, situated about two miles from the Brahmaputra, in lat. 23° 39′ 45″ N., and long. 90° 38′ 20″ E. It was here that AZIM Shah, the son of Sikandar, proclaimed his independence, and invited the poet Hafiz to his court. The town gave its name to one of the three great sarkars or provinces.—*Imp. Gaz.*

SONARI, a little village situated on a low spur of a sandstone hill between the Betwa and Besali rivers, 6 miles to the S.W. of Sanchi, 21 miles N.E. of Bhopal. It contains numerous Buddhist topes. See Bhilsa.

SONCHUS CILIATUS. *Lam.* Sow thistle.

Sonchus oleraceus, *Roxb.*, *Wight Icones.*

Dodak, ...	HIND.	Etrinta, ...	TEL.
Ka't mulingi kiri, .	TAM.	Adavi mullangi, . .	,,

A native of Europe, up to 8500 feet, of the Panjab, also of Peninsular India. It yields a milky juice on incision. Cattle are fond of it. Used in the Neilgherries as a pot-herb by the natives. Also the Kashmir people are said to use it as a vegetable; and it is probably the dwarf sow thistle, the shoots of which the Ladakhi use in a similar way, according to Moorcroft, though this may be the Tragopogon.

Sonchus Orixensis.

Bhangra, ...	HIND.	Dughdika, . . .	HIND.
Kala bhangra, . .	,,	Sahadevi, . . .	,,

Bari (H.) Jangli-tamaku. Similar to Lactuca in its properties.—*Powell; Jaffrey; Stewart, M.D.*

SONDIA. The principal among the illegitimate Rajputs in Central India, of mixed caste, are the Sondia, who have spread from Sondwarra in Malwa (a country to which they give the name) to many adjoining districts. This tribe is divided into many families, which take their name from Rajput ancestors; but all intermarry. Second marriages among their women are very common, and from the strict usages of the Rajputs upon this point, there is none on which they deem the Sondia to have so degraded the race from which they are descended. The Sondia have been either cultivators or plunderers, according to the strength or weakness of the government over them; but they have always had a predatory tendency, and have cherished its habits even when obliged to subsist by agriculture. Their dress is nearly the same as that of the other inhabitants, though they imitate in some degree the Rajputs in the shape of their turbands. They are, in general, robust and active, but rude and ignorant to a degree. No race can be more despised and dreaded than the Sondia are by the other inhabitants of the country. A considerable number occupy the districts of Dig Puch-pabar and Gungrar or Chowmela. They are Hindus, but abstaining from the flesh of kine is their only feature. They drink, use opium, and are of vicious habits; their women are bold and immoral; widows remarry. During the rebellion of 1857–58, they gave considerable trouble. Another tribe, the Bhilalah, who have sprung from Rajputs of the Bhil tribe, derive their name from associating with the Bhils, among whom, from the superior rank of their sires, they obtain respect and consequence. The chiefs of the Bhils in the Vindhya mountains are almost all Bhilalah. This class combine with the pride and pretensions of the Rajputs the cunning and roguery of the Bhils; and appear to be, almost without exception, a debauched and ignorant race, often courageous from constant exposure to danger, but invariably marked by an equal want of honour and of shame. The Bhilalah and Sondia chiefs were the only robbers in Malwa, whom under no circumstances travellers could trust. There are oaths of a sacred but obscure kind among those that are Rajputs, or who boast their blood, which are almost a disgrace to take, but which, it is asserted, the basest was never known to break, before Mundroop Singh, a Bhilalah, and some of his associates, plunderers on the Nerbadda, showed the example.—*Malcolm's Central India*, ii. pp. 15, 153.

SONDRI BRERI or Sondi Breri, an ebbing and flowing spring near the Berengi river in Kashmir. It appears about the vernal equinox. It seems to be an underground continuation of the Berengi river.

SONE. The fishermen settled along the coast from Gheriah to the north, near Surat, and at Colaba, in Bombay, are Koli of the Sone tribe; a few of them are mariners, but the vessels must be manned by natives, the Sone fearing to lose caste, which would take place did they sail with Europeans. The chief Patel of this tribe resides at Angria; he is looked on as a legislator, being endowed with power to adjust the affairs of the Sone Koli, settle their disputes, etc. The women of the Sone Koli wear choli or jackets, and have a number of glass bangles on their left hand; they are frequently seen in Bombay assisting their husbands in fishing and carrying fish to market. When they marry, the ornaments which were intended to adorn their right wrists are consecrated, and thrown into the sea as an offering to the deity who presides over that element, and an invocation to defend her husband from the dangers of the ocean. Not a caste meeting of the Sone

Koli can take place without large potations of mahwa flower arrack being imbibed; and they frequently give any quantity of fish for half a tumbler of raw brandy. The chief tribes of Koli are the Raj, Solesy, Tonkry, the Dhour, Dungry, the Bhil, Mullar, the Ahir, Murvy, and the Sone Koli, with a few others. In Bombay, Tannah, Bhewndi, Kallian, Bassein, Daman, etc., are a number of Christian Koli, said to have been of the Sone section, and to have been forcibly converted by the Portuguese, but, terrified by the cholera in 1820-21, a portion reverted to paganism.

SONE, a tributary to the Ganges. It rises on the Amarkantak table-land, in lat. 22° 41′ N., and long. 82° 7′ E., 3500 feet above the sea. Length, 465 miles; receives the Koel, 140; Kunher, 130; Johila, 100 miles. Including the Phalgu and other rivers falling into the Ganges above Rajmahal, 42,000 square miles drained. The navigation of the river is not considered available. It is the chief tributary of the Ganges on its right bank. The Amarkantak table-land also supplies the sources of the Nerbadda and the Mahanadi, and is included in a tract of wild country transferred to the state of Rewah. In the rainy season native boats of large tonnage occasionally proceed for a short distance up stream; but navigation is even then rendered dangerous by the extraordinary violence of the stream, and during the rest of the year becomes impossible, owing to the small depth of water. There is one characteristic common to the Baghel of Rewah, the Bundela of Bundelkhand, and the Rajput of Gwalior and Malwa, a dislike to labour or service away from their homes; they generally leave tilling of the soil to the servile classes, and are regarded as the heads of the local society. Many of the Rajputs in the states of Central India give themselves up to sloth and the immoderate use of opium. In Malwa, Bhopal, Ujjain, Mundipur, Rutlam, Dhar, Jowra, Augur, Nemuch, Shoojawulpur, and Bhilsa are the principal marts. It is the Hyranyabhya of the ancient Magadha and Prachii, and the Erranaboas of Strabo, Arrian, and Pliny. Palibothra was situated, as stated by Megasthenes, at the junction of the Ganges and Erranaboas, and it is believed to be the modern Patna, the same as the Pataliputra of the Chinese pilgrim Hiwen Thsang.—*Tr. of Hind.* i. p. 225.

SONG.

Sir, ... HEB.	Sur, Gata, . . . SANSK.
Geet, ... HIND.	

Out of the 64 sciences of the Hindus, five, Nos. 22 to 26, belong to music, viz. the modulation of sounds, art of playing on stringed instruments, of playing on wind instruments, of beating the tambourine, and of beating the cymbals. The musical notation extensively used by Curwen resembles the Hindu system. Sir William Jones' Essay on the Musical Notes of the Hindus was published in the third volume of the Asiatic Researches, p. 55, and J. D. Patterson on the Gramal, or Musical Scales of the Hindus, ibid. ix. p. 445; and the chief points established in these essays are thus given in the fourth volume of Lassen's Indische Alterthumskunde, §§ 832, 833. The native musical literature is tolerably copious, and the Indians are acquainted with four systems, whose founders, as usual with them, are mythical personages. The first system is ascribed to Devarshi Narada, who in the epic poetry appears as well skilled in stories, and goes about between the gods and men, to recite tales to them. From him Iswara or Siva received this system. The author of the second system is Bharata, the mythic inventor of the dramatic art; the author of the third is the divine ape Hanuman; and that of the fourth Kapila, the founder of the Sankhya philosophy. These assertions, of course, only mean that the Hindus attached a high value to the practice of music, and this view is confirmed by the circumstance that in the epic mythology the Gandharvas appear as musicians in Indra's heaven. For the antiquity of song amongst the Hindus, it is important to observe that the Udgatar, *i.e.* the priest who sings the saman, belongs to the Vedic period. As to later times, we may refer to the fact that, in the Mrich' chakatika, Rebhila is praised as a renowned singer. The Hindus are acquainted with the European scale of seven tones, and denote them by letters (sa, ri, ga, ma, pa, dha, ni). They admit, moreover, six raga or modes, and the musical treatises contain minute directions as to the employment of them in the six seasons into which the year is divided. The Hindus have also mythologized these ideas, and regard the six raga as god-like beings, whose consorts are called Ragini, and are eight in number. These couples produce 48 sons, called Ragaputra, by whom the various mixtures of the chief modes are denoted. This view furnishes a very striking example of the boundlessness of Hindu imagination, as it is impossible really to distinguish so many modes from one another. In some MSS. are found portraits of these two and 60 male and female genii. The people of India generally take no advantage of the wonderful power, range, flexibility, and sweetness of the musical sounds producible by the human larynx, especially in the female sex. Singing amongst the Muhammadans of India is never indulged in by any but professional men and public women; no woman of the Muhammadans sings even to her infant child. Individuals of some Hindu sects, particularly the Jain, are occasionally heard singing, but it is confined to the Hindu women of the temples of their deities, and to the singing bands of the Muhammadan women and Burmese. With the uncultivated aboriginal races, the efforts at singing is a mere howling.

SONG BIRDS. The European visitor to the E. Indies is much struck with the prevailing silence of the jungle, and the paucity of small birds even in the cold season, so different from the woods and gardens and hedgerows of Britain, teeming with small feathered inhabitants, among which are so many pleasing songsters of all degrees and merit. The chief families amongst whom the faculty of song is found are Merulidæ, Saxicolinæ, Sylviadæ, larks, some finches, a few shrikes and fly-catchers, and some starlings.

SONG-FAI, a money of account of Siam, the half of a fuang, and worth about 1½d.—*Simmonds.*

SONMEANEE, in lat. 24° 27′ N., and long. 66° 39′ E., a small fishing village, as its name Meanee implies. It is in Baluchistan, on a low shore at the mouth of the Poorali river. It is supposed to be the site of the place named by Nearchus the Port of Alexander. In the early part of the 19th century it contained about 250 huts. It is completely defenceless, and, on the side towards Bela, is overlooked by hillocks of sand. The bar at the

mouth of the river has only two fathoms on it at low water, but boats lie close to the village in six and seven. In the early part of the 19th century the inhabitants generally subsisted by fishing, and, with the exception of a few Hindus, were wretchedly poor.—*Pottinger's Travels*, p. 11; *Findlay.*

SONNERAT, a French naturalist and good draughtsman, who settled at Pondicherry, and made immense botanical collections, which seem to have been transmitted to France. These have not been described in any regular form, but such specimens as were presented to Lamarck were introduced into his Encyclopedie Methodique, a work from which much information is obtainable, although its alphabetical arrangement renders it very difficult of consultation, particularly in those genera which have been much subdivided of late years. Sonnerat wrote Voyage à la Nouvelle Guinee, and Voyages aux Indes Orientales et à la Chine, and he made known many new plants.

SONNERATIA ACIDA. *Willde., Linn.*

Rhizophora caseolaris, *Lin.*	Mangium caseolare, *Rump.*
Orchaka, . . . BENG.	Blatti, MALEAL. of Rheede.
Polai, Plye . of BORNEO.	Tewar, ... SIND.
Ta bu, Ta mu, . . BURM.	Gedde killala-gass, SINGH.
La-moo, ... ,,	Paga-pate of SONNERAT.

This tree grows 40 feet high. It grows near the tidal creeks and littoral forests of the region from the Indus to New Guinea, and has an acid eatable fruit. In British Burma it abounds in the mangrove swamps and on the banks of almost every stream on the coast as far as tide-waters reach. The natives use it for various economical purposes. It is said to be a better substitute for coal in steamers than any other kind of wood. In Ceylon it grows to a large handsome tree along the marshy banks of the large rivers. Spindle-shaped excrescences, called Kirilimow in Singhalese, rise from the surface of its roots, four or five feet above the surface of the ground. They are of a firm and close texture, nearly devoid of fibrous structure, and take a moderate polish, some of the transverse cuttings being two feet long and two to three inches wide. The finest pin passes in with ease, and the thin slices are invaluable for linings of insect boxes. The roots of S. acida, S. alba, and S. Griffithii spread far and wide through the soft mud of the marshy banks on which they grow, and at various distances send up, like the avicennia, extraordinarily long spindle-shaped excrescences.—*Roxb.; Hooker; W. and A.; Voigt; Mason; Thw.*

SONNERATIA ALBA. *Sm.* A tree of the Andamans. S. Griffithii, *Kurz*, the Tapyu of the Burmese, grows in Burma.

SONNERATIA APETALA. *Buch.*

Khoura, Keora, . BENG.	Thaum-nia, . . . BURM.
Kam-ba-la, . . . BURM.	Myouk-guo, . . . ,,
Kan-pa-la, . . . ,,	

A pretty large and elegant tree, which grows in the western side of India, in the delta of the Ganges, and under the parallel of Rangoon. It flowers in the hot season. It yields a strong, hard wood of coarse grain. It is the timber of a red colour of which boxes for packing beer and wine are made in Calcutta; is strong, and adapted for house-building. It grows in the low wet lands near the mouths of some of the Tenasserim rivers, bears a strong resemblance to the weeping willow, and is one of the most graceful trees in the country. The casuarina has been removed from the coast to compounds in India, and the sonneratia is quite as deserving.—*Roxb.; Voigt; M'Cl.; W. and A.; Mason.*

SON OF HEAVEN, a title of the emperor of China.

SONO KLING, of the Malaya, a tree of Java; the colour of its wood is a deep brown, inclining to black; used for furniture. Sono kombang of Java, used for furniture, which has some resemblance to the lingoa wood of the Moluccas.

SONPAT, a town in lat. 28° 59′ 30″ N., and long. 77° 3′ 30″ E., 25 miles N.W. of Dehli city. Population (1868), 12,176. It is of great antiquity, and is said to have been founded by the earliest Aryan settlers. Popular tradition identifies it with one of the five 'pat' demanded by Yudishtra, in the Mahabharata, from Duryodhana as the price of peace, and it has derived its name from Raja Soni, the son of Bhopat, who reigned B.C. 920. A little image was here turned up in December 1864 when sinking a well. It is of clay, baked and polished like chunar pottery. The figure is sitting cross-legged with a club in each hand. Below the left knee is a very short inscription in a very old Nagari character. General Cunningham has read this inscription, and supposes the idol to be an aditya or image of the sun. The age of it he thinks to be at least 1200 years. This agrees with the period of the seventh century, when the Hindu Puranic theology had assumed a hundred heads and forms to contend with Buddhism. There were then followers of Brahma, Indra, Ganesha, Surya, Chandra, and a host of gods, all of whom succumbed to the powerful Saivites and Vaishnavites. The only trace of the worship of Surya found in the 19th century, in Northern India, is in Benares, where, in the corner of the quadrangle of the temple of Anna Purna, is a small shrine dedicated to the sun. The idol representing that luminary, however, is seated in a chariot drawn by seven horses, with a glory round his head, a representation of the old Sol of Homer.—*Tr. of Hind.* ii. p. 384.

SONPUR was formerly a chiefship subordinate to Patna, but was constituted a separate state by Raja Madhukar Sa of Sumbulpur about the year A.D. 1560. Since then it has been counted among the cluster of 18 Garhjat states. It is now attached to the Sumbulpur district, and is situated between lat. 20° 41′ and 21° 10′ N., and long. 83° 20′ and 84° 18′ E. It is bounded on the north by Sumbulpur proper and a portion of Rairakhol, on the south and south-east by Bod, on the east by Rairakhol, and on the west by Patna. The non-agricultural castes are Brahman, Mahanti, Rajput; and the agricultural castes are Tassa, Kolta, Agharia, and Gond.

SONTA or Asa. HIND. A club carried by Muhammadan devotees. Sonta-bardar, a mace-bearer.

SONTHAL, Mundah, Bhumij, and Ho speak languages nearly identical. They occupy most of the British districts of Chutia Nagpur, Singbhum, Manbhum, and the hilly part of Bhagulpur, now known as the Sonthal Parganas; also parts of West Bardwan, Midnapur, and Cuttack,—an extensive country west of Calcutta. The Sontha[illegible] are a simple, industrious people, honest and truthful, and free from caste prejudices. Their country is healthy, their numbers are increasing, and the[illegible] are much prized as labourers by the Bengal indig[illegible]

planters, in the Assam tea plantations, and on the railways and other works of Western Bengal. The tribes live apart in detached houses or isolated hamlets. The Sonthal are a branch of the Mundah Kol. They seem to have separated from the Mundah, and fell back on Chutia Nagpur from the Damuda river, which the Sonthal call their sea, and they preserve the ashes of their dead until an opportunity occurs of throwing them into that stream or burying them on its banks. The Sonthal are now most numerous in the Sonthal Parganas, but there are many in Mohurbhunj, and there are several colonies of them in the Singbhum district. In 1881, the total in British India was 210,661. They are an erratic race, but Lieutenant-Colonel Dalton thinks that they left their chief settlements on the Damuda river from having been pressed by the Kurmi. The Sonthal, Bhumij, and Mundah tribes have long been known to be intimately connected, and they have affinities with the wild clan of the Korewah of Sirguja and Jushpur, with the Kheriah tribe of Chutia Nagpur, and the Juanga of the Cuttack Tributary Mahals. Since the beginning of the 19th century they have intruded themselves into some of the Rajmahal districts, which therefore now contain two populations, allied to each other, but speaking languages said to be mutually unintelligible. The close relationship of the Kur and Sonthal, and their separation from the Dravidian, may be illustrated by a few examples :—

English.	Kuri.	Sonthal or Kol.	Gond dialects.	Tamil.
Dog.	Situ, Chita.	Seta.	Nei.	Nay.
Ear.	Lutur.	Lutar.	Kavi.	Kathu.
Hair.	Op, Up.	Up.	Meir.	Mayer.
Nose.	Mu.	Mu.	Muku.	Mukku.
Belly.	Lai.	Lar.	Per.	Walru.
Fire.	Singal.	Sengel.	Narpu.	Nerappu.
Water.	Da.	Da.	Tanni.	Tannir.
House.	Ura.	Ora.	Row.	Vidu.
Star.	Epal.	Ipil.	Sukum.	Tarakai?
Man.	Koro.	...	Manwal.	Manidan.
Two.	Barku.	Bara.	Rand.	Erandu.
Three.	Apkor.	Apia.	Mund.	Mundru.

The Sonthal and Bhumij races have suffered in esteem in consequence of the human sacrifices offered at the shrine of Kali as Runkini, but these races personally do not much care for this goddess, at whose shrine the establishment and ritual are essentially Brahmanical. The Sonthal and Rajmahali are markedly different in habits, appearance, manners, and national characteristics, and on the Chutia Nagpur plateau these differences are very marked. The Sonthal are a very ugly race, with flat, broad-nosed features. They are a more simple, mild, industrious race than the Rajmahali, Gond, or Khond. Though the Sonthal are geographically near the plains, they seem to be more shy and more socially isolated than the Mundah, Bhumij, and Ho. They have kept much to themselves, preferring locations surrounded by jungle and segregated from the world, and cultivating the lower lands of their country, but they have latterly taken to labour for hire.

SOOBI, a religious sect in Turkish Arabia. At a village not far from the junction of the Tigris and Euphrates, forming the Shat-ul-Arab, in 1872, lived the Sabæan chief priest. He had ancient books which he asserted to be inspired, and a ritual which he refused to divulge. His followers, numbering 500 or 600, are scattered about over the province, and call themselves Soobi, but are popularly styled 'Christians of St. John,' or 'Baptists.'

SOOMURUN or Gujta. HIND. Bracelets made of coloured thread, worn at the Maharram, and of flowers worn on other occasions.

SOONDA, a district in the south of the Bombay Presidency, bordering on North Canara. It contained large forests, but by A.D. 1850 the timber had greatly decreased in amount. In the transfer of Canara to Bombay, this district was re-transferred along with it.—*Gibson's Bombay For. Reps.*, 1849.

SOPHAGESENUS, the name given to Asoka by the Greeks. Evidence exists that Antiochus the Great was slain by an Indo-Scythian prince, called by the Greek writers Sophagesenus. See Kābul.

SOPHIST of India, a term applied to the Brahmans by Arrian (lib. vi. chap. xvi.) and Strabo. The religious ascetics are spoken of as Brachmanes, Germanes or Sarmanes (Sramana), and Sophists. Onesicritus was sent by Alexander to converse with a body of ascetics, in consequence of their refusing to come to him. (Strabo, lib xv.). He found fifteen persons two miles from the city, naked, and exposed to a burning sun; some sitting, some standing, and some lying, but all remained immoveable from morning till evening in the attitudes they had adopted. He found Calanus lying on stones, and to him he first addressed himself. Calanus received him with an affectation of independence, and told him, if he [illegible] verse, to throw off his clothes and sit [illegible] on the stones. But Mandanis, the oldest [illegible] party, reproved Calanus, and offered to instruct in the Indian philosophy as far as the means of intercommunication admitted. Alexander failed to prevail on Mandanis to accompany him; Calanus, however, did so, but, falling sick in Persia, and refusing to observe the regimen prescribed to him, he determined to burn himself alive. Alexander in vain opposed this intention, and he was carried to the pile, with a garland on his head, singing hymns. When he had ascended the heap, he ordered it to be set on fire, and met his fate with a serenity which made a great impression on the Greeks. A similar instance of self-immolation is related by Strabo (lib. xv.) of Zarmanochegus, an Indian of Bargoza, who had accompanied an embassy from his own country to Augustus, and burned himself alive at Athens.—*Elphin.* p. 238.

SOPHORA, a genus of plants belonging to the natural order Leguminosæ, said to be so named from an Arabic name (Sophera) of one of the species. Some species are ornamental shrubs and trees, found in Central and Tropical Asia, also in the warm parts of North America and the equinoctial and sub-tropical parts of South America. The species best known in England are S. Japonica and S. Chinensis. It has been proposed to engraft the Nepal S. velutina on the Japonica. Being handsome trees, with both leaves and trees differing much from European trees, they are well adapted for standing singly in lawns. They are raised from layers, but also from seeds, and require a little protection when young. Wight gives Sophora glauca, heptaphylla, and robusta. S. glauca, *Lesch.*, the smooth-leaved Sophora, is a Neilgherry plant, with middle-sized white flowers, tinged with rose colour. S. tetraptera, one of the few leguminous trees of New Zealand, is

variable in habit. S. mollis, the Arghawan of the Afghans, is a handsome, yellow-flowered shrub of the Panjab and N.W. Himalaya.—*R. Brown; Hogg; W. Ic.; Voigt; Gamble.*

SOPHORA JAPONICA. *Linn.* Hwi-shu, CHIN. This is an ornamental tree common in Japan and Central and Northern China, and about Pekin. Its leaves could be substituted for senna. The pods are used in China in preparing a yellow dye; the greenish-yellow, unopened flower-buds are used in dyeing cloth of a yellow colour, or in rendering blue cloth green. The wood was formerly used in China for making fire-frictors. An extract is made from the leaves to adulterate prepared opium.—*Smith; Von Mueller.*

SOPHORA TOMENTOSA. *Linn.*

S. occidentalis, *Linn.* | Downy-leaved Sophora.

A shrub (Hwang-ki, CHIN.), native of Southern Asia, with pretty yellow flowers. In China all parts of this plant are used in medicine as a tonic, pectoral, and diuretic.—*Smith.*

SOPHYTES, or Sophites, or Sopeithes, an ancient king of the Western Panjab, including the Salt Range of mountains.

SORAB, a village in the Shimoga district of Mysore, in lat. 14° 22′ 45″ N., and long. 75° 7′ 55″ E., on the right bank of the Dandavati river, 46 miles north-west of Shimoga town, where boxes, caskets, and cabinets are made by the Gudigar, and which they cover with minute and complicated reliefs. The native designs consist of vege[illegible] and scroll [illegible] work, interspersed wi[illegible]n the Hindu Pantheon; but any [illegible] pattern can be copied to order. The wo[illegible]ship is considered finer than that of Bombay or Canton, and commands a high price.—*Imp. Gaz.*

SORANI, a ferocious tribe, who call themselves Yezedi, after a khalif of Damascus of that name. They inhabit the mountains of Sindjar, a country to the north-west of Bilbos. They are the greatest robbers of all the Kurdish tribes.—*Porter's Tr.* ii.

SORECIDÆ, the family of shrews, comprising the genera Sorex, Soriculus, Crossopus, and Corsira.

Sorex cærulescens, *Shaw, Blyth.*

Sorex Indicus. | S. Sonnerati, *Geoff.*
S. giganteus. | S. myosurus, *Gray.*
Sondeli, ... CAN. | Musk-shrew, . . . ENG.
Musk-rat, ... ENG. | Chachundi, . . HIND.

All India.

Sorex murinus, *Linn., Blyth.*

S. Swinhæi, *Blyth.* | S. myosurus, *Pallas.*
S. viridescens, *Blyth.* | Mouse-coloured shrew.

Sorex nemorivagus, *Hodgson.*

S. murinus, *Horsf.* | Nepal wood shrew, . ENG.

Nepal, Sikkim.

Sorex Griffithii, *Horsf.*, Khassya Hills.

Sorex serpentarius, *Is. Geoff.*

S. kandianus, *Kelaart.* | Rufescent shrew.

Ceylon, S. India, Burma, Tenasserim.

Sorex heterodon, *Blyth*, Khassya Hills.

Sorex saturatior, *Hodg.*, Darjiling.

Sorex Tytleri, *Blyth*, the Dehra shrew.

Sorex soccatus, *Blyth, Hodgson*, hairy-footed shrew, Nepal, Sikkim, Mussoori.

Sorex niger, *Ell., Horsf.*, Neilgherry wood shrew, Neilgherry Hills.

Sorex leucops, *Hodgs.*, long-tailed shrew, Nepal.

Sorex Hodgsonii, *Blyth*, Nepal pigmy shrew, Nepal.

Sorex Perroteti, *Duvernoy*, Neilgherry pigmy shrew, Mysore, Neilgherries, Dekhan.

Sorex micronyx, *Blyth*, small-clawed pigmy shrew of Western Himalaya.

Sorex melanodon, *Blyth*, black-toothed pigmy shrew of Calcutta.

Sorex Sikkimensis, *Hodg.*; S. homourus, *Hodg.*; S. oligurus, *Hodg.*; S. macrurus, *Hodg.*; S. holosericeus, *Hodg.*; and S. tenuicaudus, *Hodg.*, all of Darjiling.

Sorex ferrugineus, *Kel.*; S. montanus, *Kel.*; S. Kelaarti, *Kel.*; S. purpurascens, *Temp.*; S. Horsfieldii, *Tomes*, all of Ceylon.

Sorex fuliginosus, *Blyth*, and S. nudipes, *Blyth*, Tenasserim.

Sorex atratus, *Blyth*, Khassya.

Sorex albinus, *Blyth*, China.

Sorex pulchellus, *Licht.*, Central Asia.

Soriculus nigrescens, *Jerd.*

Corsira, *Gray, Blyth.* | S. soccatus, *Hodg.*
S. aterrimus, *Blyth.* | S. Sikkimensis, *Horsf.*
Ting-Zhing, . . . BHOT. | Tang-Zhing, . . LEPCH.

Mouse-tailed shrew of Sikkim, Nepal.

Crossopus Himalaicus, *Gray.*
Choopitsi, ... BHOT. Jong-la-gniyu, . . LEPCH.

The Himalayan wat[illegible]-shrew of Sik[illegible]kim.

Corsira alpina, *Jerdon.*
Sorex caudatus, *Hodg., Bl.* | Alpine shrew, . . . ENG.

Europe, Sikki[illegible].

Corsira Nwera-elia, *Kel.*, of Ceylon.

Feroculus macropus, *Kel.*
Sorex macropus, *Blyth.*

Ceylon.

Snakes are said to avoid the neighbourhood of the shrew. In Jeypore the body of a small mu[illegible] of the is regarded as a powerful talisman. It is dr[illegible]sk-rat enclosed in a case of brass, silver, or gold, acc[illegible]ed, is ing to the means of the individual, and is s[illegible]ord-around the neck, or tied to the arm, to rend[illegible]lung individual proof against all evil, not exce[illegible]r the sword and other cut, musket shot, etc.—*Lubbock, Origin of Civil.* p. 167; *Jerdon; Blyth; Hodgson.*

SORGHUM BICOLOR. *Willde.*

Holcus bicolor, *Linn.* | Andropogon bicolor, *Roxb.*

Cultivated in India (Kalo-deb-dhan, BENG.) grain much used as food.—*Voigt.*

SORGHUM CERNUUM. *Willde.*

S. halepense, *Pers.* | Andropogon cernuus, *Roxb.*
Holcus cernuus, *Willde.* | A. laxus, *Roxb.*
Koonkie, . . . E. BENG. | Soondia . . of BROACH.

Cultivated by the natives of Munipore and other mountainous districts immediately east of Bengal. It is one of the Guinea corns, and reaches a height of 15 feet, with leaves 3 feet long. The grain is white, and forms an article of food of the races N. of Bengal.—*Von Mueller.*

SORGHUM SACCHARATUM. *Pers.*

Andropogon saccharatus, *Roxb.?* | Holcus saccharatus, *Linn.* Broom corn? of America?
A. caffrorum, *Kunth.?*
Deo-dhan, . . . BENG. | Sorgho-sucre, . . . FR.
Luh-suh, Tih-che, CHIN. | Joar-valaiti, . . HIND.
Shaloo, ... DUKH. | Salu, ... MAHR.
Sorgho, Sorgo, . . . ENG. | Devata dhanyamu, TEL.
Chinese northern sugar-cane, ... ,, | Jonna, ... ,,

This is a plant of Northern China. About the year 1855 it was introduced into the south of France and England, and since then into the United States. It was introduced into the Madras Presidency by the Editor in the year 1859. Dr.

Birdwood, however, says it is simply the Shaloo of the Dekhan and the Deo-dhan of Bengal. But Roxburgh (i. p. 271) doubts if his A. saccharatus or Deo-dhan is the H. saccharatia of Linnæus, and describes it as having oval seed, and Voigt calls it Sada deo-dhan, white; whilst the plant which the Editor introduced in 1859 has a black grain different from that of the Imphee and the Sorgho, which the Editor also introduced from the Cape of Good Hope, all of which were yellowish-white. In China, the black seeds are sown in April, but the plant is largely propagated by cuttings. It grows to the height of 12 to 18 feet, with an ample inflorescence, consisting of eight or ten separate stems, which group together to form the tuft of the plant. The large leaves, which make excellent green food or dry fodder for cattle, spring from the nodes of the gradually tapering stems. The seeds, at first green, become brown, and finally of a purplish-black colour, being produced only on the head of the plant. They are very nutrient, and the colouring matter has been used in China to tint wine of a deep colour. Since the efforts made in Madras, the Sorghum saccharatum has been grown for making syrup in almost every part of the United States. The usual machinery, consisting of three rollers, either vertical or horizontal, and driven by steam or horse power. It is believed that cane in a high latitude will degenerate if grown continuously from its own seed. The Minnesota early amber variety is said to combine the characteristics of the Chinese Sorgho and the Imphee or white Liberian, and its kindred African varieties. Its early ripening and the bright amber colour of its syrup give its name. It is very rich in saccharine matter, the flavour very similar to that of pure honey. The syrup granulates readily, and yields sugar equal to the best ribbon-cane of Louisiana. Chinese Sorgho is also known as Chinese cane, also sumac cane, as its seed heads resemble a head of sumac. The stalk of the white Liberian or white Imphee curves at the top, leaving the head pendent, hence its name Goose Neck. The seed heads are shorter, more compact, and of lighter colour than the early amber. The Honduras cane grows about one-half taller than the early amber, Chinese, or Liberian varieties. Its seed top is of reddish-brown and spreading, hence the synonym 'sprangle top.' It is also called Maslodon and honey-cane.—*Letter of the Commissioner of Agriculture, Washington*, 8th April 1880.

SORGHUM VULGARE. *Pers.* Great millet.

S. commune, *Beauv.*	H. durra, *Forsk.*
Holcus sorghum, *Linn.*	Andropogon sorghum, *R.*
Durra, Zurrut, Zura, ARAB.	Sorgo, ... IT.
Pyoung, ... BURM.	Joar-kiar . of KANGRA.
Jolah, ... CAN.	Chavela, . . . MALEAL.
Kau-liang, Pyaung, CHIN.	Zoorna, ... SANSK.
Kaydee, ... EGYPT.	Cholum, Soalum, . TAM.
Kalamboki, . . . GR.	Jonnaloo, Jonna, . TEL.
Juari, ... HIND.	Jugeri, ... TURK.

Sorghum vulgare grows on light sandy soils, and requires little moisture. It is grown in Egypt, and in all the countries of the south and east of Asia, its grain being used as food for man, in the form of cakes and porridge, also for horned cattle, and its stalks, the karbi of India, as fodder for horned cattle and horses. It is grown in all the table-lands of India, is found in the Sutlej valley between Rampur and Sungnam at an elevation of 6000 feet, but in the N.W. Himalaya only in the valleys. It is also grown by the Karen and Burmese. It grows on a reedy stem to the height of 8 or 10 feet, and bears irregularly-shaped clusters of innumerable round grains about twice as big as mustard seed. It is common all over the Levant, under the name of durra (or dourrah); also in Greece, where it is called kalamboki; there is likewise a coarse sort in Italy, called Melica rossa, or Sorgo rosso.

In China, the seeds of the red variety are made into wine in Hu-peh, and the exhausted grains are a favourite food for pigs. When grown for cattle in Madras, 10,000 lbs. weight of green fodder may be taken off an acre of ground every three months. If the plot be irrigated, one-fourth more may be obtained, and the crop be cut every two months. That is, an acre of irrigated ground will produce about 70,000 lbs. weight of green and nourishing fodder in one year.

Major-General Sir J. B. Hearsey, K.C.B., sent from Barrackpur, on the 5th March 1858, the seed gathered from one plant, which came up accidentally during the early rainy season of 1857, and grew to nearly 11 feet in height. He had it supported by a strong bamboo. It spread out four shoots from the stem close to the ground, and these stems also threw down roots. The head from the principal shoot was very large; the side shoots also headed, but these were small. The number of seeds received from this one plant was 12,700. In the Chitteldroog and Nu[illegible]r divisions of Mysore, it is sown during showers between the end of April [illegible]ay, and the crop is reaped in September and October. The great defect in this grain is that it will not keep, being soon destroyed by insects; and the ryots have difficulty in preserving sufficient quantity of it for seed in the following year. The seed grain is mixed with ashes, and packed with paddy straw; in spite of which, however, insects obtain admittance; but the stems or straw of this grain, when well preserved from rain, will keep for about ten years, and are used as fodder. This is the millet designated in Ezekiel iv. 9.

Moisture, . . .	White,	12·70	Red,	12·00
Nitrogenous matter, .	,,	9·18	,,	9·51
Starchy matter, . .	,,	74·53	,,	74·71
Fatty or oily matter, .	,,	1·90	,,	2·15
Mineral constituents (ash),	,,	1·69	,,	1·63

—*Cleghorn's Report; Powell*, i. p. 383; *Indian Field*, 1858; *M. E. J. R. of* 1857; *Mason's Tenasserim; Macartney's Embassy.*

SORON, an ancient town in the Etah district, N.W. Provinces of India, originally known as Ukala-kshetra, but after the destruction of the demon Hiranyakasyapa by Vishnu in his boar avatar, the name was changed to Sukara-kshetra. The architectural features of the pillars of its temple resemble those of the Kutub at Dehli. Numerous inscriptions in the temple bear date from A.D. 1169 downward.—*Imp. Gaz.*

SORREL, Oxalis corniculata, *Linn.*, and also the Rumex acetosa, both used as spinach and salad. R. scutatus is a very delicate vegetable, of easy culture in light soil. It is grown by sowing the seed broadcast, and thinning the plants to the distance of 8 or 10 inches from one another. It may be sown at the commencement of the rains.—*Jaffrey; Riddell.*

SORWARNA. HIND. An offering of money

to a beloved friend or relative, to be distributed in alms.

SOSAN or Sosun. HIND. Iris Nepalensis, any of the lilies, species of Amaryllis. Sosanbar, ARAB., Thymus chamædrys. Sosni-rang, lilac colour of iris.

SOTER MEGAS, B.C. 70, a nameless great Bactrian king, who had coins with an Aryan legend, which James Prinsep and Professor Lassen ascribed to Azes. On all is a peculiar monogram with three prongs. The same monogram was continued to coins of Kadphises and of the Kanerki, but it is not found in those of the Hercules type derived from Hermæus. Mr. H. T. Prinsep considers him to have been contemporary, but not identified, with Vikramaditya, and that he assumed the title of Soter Megas, which was continued down by the Kadphises kings. He considers that the nameless kings, with those on whose coins are the words Kodes or Hyrkodes, although mere local chiefs, such as now rule at Kulm, Kunduz, and Balkh, preceded the conquest of the Panjab by Vikramaditya, B.C. 56.

SOUARI NUTS, the fruit of Caryocar nuciferum, *L.*, C. tomentosum, *Willd.*, etc. The kernel is said to be the most delicious of the nut kind. It contains an excellent sweet oil, used in South America. The timber of C. tomentosum is valuable for ship-building. These might be introduced into India.

SOU[redacted]AIHA, an Arab tribe in the Lahej dis[redacted]en, who have been termed the gypsies of Ara[redacted]

SOUJIE. HIND. The hard inner part of the grains of wheat, obtained by sifting the coarsely-ground wheat. In making bread of wheat, one process is first thoroughly to clean the wheat, and for this one woman will clean 430 lbs. in a day, and in the evening the cleaned wheat is placed on a table and thoroughly wetted, and the water left to drain from it during the night. The next morning the still moist grain is ground in hand-mills by women, a woman grinding 40 lbs. in a day. It is then sifted, and as much fine flour and soujie as can be obtained are laid aside. The remainder, then termed Naka, is subjected to a more powerful mill, and an inferior kind of soujie and a second sort of flour obtained from it. The residue is then ground in a large mill, and yields a coarse flour and bran.

Bran is what remains of wheat after the flour and soujie are extracted.

Soujie is the heart of the wheat, and is obtained by coarsely sifting the coarsely-ground wheat with sieves and soopas, by which all the small particles of the bran are separated from it. One woman can clean 50 lbs. a day.

Flour.—The first sort of flour is produced by finer sifting from the first grinding of the wheat. Second sort flour is sifted from the first grinding of the wheat. Second sort flour is sifted from the first grinding after the fine is extracted, and also from the second grinding.

Bread.—The materials for bread are 60 lbs. of first sort soujie, 20 lbs. of second sort or naka soujie, and 20 lbs. of first sort flour; 100 lbs. of these ingredients produce about 128 lbs. of bread.

Biscuit is made from second sort soujie and flour mixed in the proportion of 75 lbs. of naka soujie and 85 lbs. of second sort flour. This produces only about 85 lbs. of biscuit, which, after being well baked, is dried for two days in a kiln.

Barm or *Yeast* sufficient for 800 loaves 1 lb. each, is made of brown sugar 2 lbs., potatoes 1½ lbs., hops ½ oz., with half a gallon of water. Boil and mash the potatoes, boil the hops until none appear on the surface of the water, strain and dissolve the sugar in the liquid. The potatoes are then added, and the whole is strained into a jar or small tub. This quantity produces about 3½ pints, and is generally ready for use in 12 hours. The addition of a small portion of the old barm hastens fermentation. Bombay wheat is whiter and heavier compared with that from Kattyawar, and produces a greater quantity of soujie and flour. That of Kattyawar is smaller and darker, and produces good flour, though smaller in quantity, with less soujie.

SOUL. According to the Greeks, the psyche was the life, the perceptive principle. The pneuma was the spiritual nature. The leyp-bya of the Burmese is the psyche of the Greeks. In Burmese everyday philosophy, the life of man resides in the leyp-bya or butterfly spirit, and dies when it disappears. Man, at the point of death, opens the mouth, and the butterfly escapes from the body, but only to die at the same time. The leyp-bya is the cause of dreams. It is not necessary for the butterfly to remain constantly in the body; when the man is asleep, it leaves the body, and roams about far and wide, but only to known places, lest it lose its way, and, unable to return, both would die. Or it may be gulped up by a beloo, evil spirit, or kept in durance by a ta-seht, or by a sohn, wizard.

Burmese unwillingly wake a sleeping man, as his leyp-bya may be at a distance. An assistant-commissioner rides up to a small townlet, and calls for the headman, but he is asleep. 'Well, then, wake him;' but old Mah flatly refuses; on which the Englishman gallops off, raving at the dreadful impertinence of the people, and Mah Gyee tells all her neighbours how the young Englishman actually wished to imperil her husband's life.

The Greenlander believes that after death the soul travels to Torngarsuk, where reigns perpetual summer and sunshine, and no night; where there is good water, endless seals, birds, and reindeer.

The soul of the Arabs was the tayf or al tayf al khafi, a mysterious or invisible spirit, the ether.

From the passage in the Koran, xlix. 43, the Sufi hold that the soul can leave its body and visit different scenes while the body lies entranced. This, they say, happens to a certain extent every time a man sleeps. Jalal-ud-Din says—

> 'When deepest slumber doth the sense enfold,
> Into the regions of the Infinite
> Men's spirits wander free and uncontrolled.'

Soul or spirit, according to the Hindu philosophers, is eternal, separate from, but may be bound up with, the body.

Soul and animal life are believed by the Jains to be the same, and to be one in gods, men, and brutes.

The Stiens of Cambodia believe that animals also have souls which wander about after their death; thus, when they have killed one, fearing lest its soul should come and torment them, they ask pardon for the evil they have done to it, and offer sacrifices proportioned to the strength and size of the animal. See Spirit-Worship.

SOURA, Sowrah, or Saur is a term, identical with Sairea, given to populations occupying the fastnesses of the Eastern Ghats, along with the Khand and Kol. The Sowrah are wholly within Telingana, and extend from the Godavery to the southern frontier of the Khand, a large district and dependency of Bustar, in Central India, is surrounded by the Teling in the south, Khand and Mari Gond on the east, and Hindus to the north; situated between lat. 18° 30′ and 19° 30′ N., and long. 83° 30′ and 84° 30′ E. In the ancient Namalingāna Shāsanam of Amara, descriptive of the races inhabiting the Indian Peninsula, the Sowrah (Shabarah) are described as people who dress in leaves, and they are placed in a sub-family with the Kiratah, who dress in peacocks' feathers, etc., and the Pulindah, who only know one language. The Sowrah sub-family is described as a variety of the Chandala. They have become divided into two clans,—(1st) the Kapu Sowrah, who are dispersed over those hills of Purlah Kimedy and Palkonda which are in the more open country, and who, from frequent intercourse with the Telinga and Uriya people, have picked up their language and some of their civilisation. Many Kapu Sowrah now live in villages in the plains, and at the foot of the hills, and lead an industrious life. (2dly) The Konda Sowrah or hill Sowrah inhabit the dense forest of the hills to the north of Purlah Kimedy. A large portion of the Konda are nominally under the control of the Bissoyi or hill chiefs of Goomah and Gibau, Soringhee, Ryagudda, Wogayagudda, Jeringhee, and Coipuram. But the greater number go by the name of the Omaniyah Sowrah, and are independent. They are bounded on the north by the country of the Khand, another hill tribe, on the east by the zamindaris of Pedda Kimedy and Chinna Kimedy, on the south by Purlah Kimedy, and on the west by Gunipuram, a taluk of the Jeypore country. As viewed from the summit of Mahendragiri, a lofty mountain on its confines, this country appears as a continuous mass of hills which rise behind one another, range after range. Cultivation of dry grains is carried on, on the slopes of the hills, often at an angle of 45 degrees with the plain, while here and there crops of paddy are raised on the small level patches between the hills, advantage being taken of the numerous springs and hill streams. Besides the forts or places of residence of the Bissoyi, there are a few villages of tolerable dimensions among the hills, but the Sowrah generally live in huts perched singly or [illegible] groups of four or five on the hill-sides. [illegible] sing a song which they call Kellangiya. [illegible]t snakes, white ants, mice, monkeys, birds, [illegible]egetables, and grain, but, like the Khand, [illegible]bject to the use of milk in any form. The [illegible]men's dress consists of a coarse cloth kilt [illegible]tened round their waists, and reaching to their [illegible]ees, and nude above the waist. The men [illegible]nerely wear a langooty, passing between their [illegible]legs. Their ornaments consist of nose-rings and ear-rings, bangles, etc., made of brass or bell metal, and as many strings of coloured glass beads worn round their necks as they can accumulate. On festivals, the men decorate their hair with peacock and other feathers. The Sowrah, up to the year 1855, were in the habit of making incursions into the plains of Kimedy and Gunipuram, in small parties of five or ten, and waylaying travellers to rob them of their cloths; and as they were utterly reckless of life, several murders occurred annually. Every individual Sowrah fixes a stone in the ground a span upwards, and calls it by the name of mountain god. He lays a little of each crop before the stone, then sacrifices a fowl, gets some toddy, and, after dedicating to the god, he mixes them all together, and eats them with his friends and relatives. When a child is born, they assign to it the name of the day on which it was born, or that of the presiding demon, the latter being determined by a priest, called by them Vejju. A stimulant prepared of roots and bark is administered to the mother immediately after the birth, and on the fourth day she resumes her ordinary occupations. A young man having selected a bride, messages are sent to her parents, and finally the young man himself goes, bearing a pot of toddy or other present. Three posts are fixed in the ground, between which the bride and bridegroom with their respective friends assemble, and a drunken feast is commenced. The bride and bridegroom sit together while turmeric water is poured on their heads. Presents of cloth, beads, rings, etc., are exchanged. Fowls, and, if procurable, sheep are sacrificed, and the flesh is cooked, made up into balls with some sort of grain, and distributed among the party. They all join in a dance, hopping from one leg to the other, at each movement snapping their fingers and uttering an ejaculation, while at intervals the whole of the dancers bump together and again separate. If the parents of the bride refuse to consent to the marriage, the friends of the bridegroom watch their opportunity and carry her off. The relatives of the girl pursue and attack the opposite party, but even though successful in retaking her, they are prohibited by their customs from giving her in marriage to any one else.

The Sowrah burn their dead, and the following day bury the ashes on the same spot, over which they erect a rude pandal. On the fifth day the priest makes an offering of toddy, sacrificing at the same time fowls or animals, according to their means, to the spirit of the deceased, placing round a pot of toddy a number of leaves to represent the ancestors of the deceased; upon each leaf the priest sprinkles a little toddy, while pronouncing the name of the person represented, after which the toddy is divided among the party. At the end of the first and fourth years, there is feasting on food articles, which are first dedicated to the spirit of the deceased. The Sowrah race is far more wild and savage than the Khand, but they had no share in the Meriah sacrifices performed by the latter. Their bamboo bow is about a yard in length, the string being made of a thin slip of the outer coating of the bamboo, firmly bound on at each end with sinews. The arrows are of light reeds, feathered, with a head of flat beaten iron, having two or three pairs of barbs. They generally aim at the stomach or thigh of their victims, and the wounds are consequently dangerous and very often fatal. Some of them carry rude iron knives and a hatchet called tungi. The Muli Sowrah work in iron, making arrow-heads, knives, etc.; others, called Medari Sowrah, make bamboo mats; and the Arasi Sowrah weave their coarse cloths. They do not know how to tell a lie. They are not sufficiently civilised to be

able to invent. An insurrection occurred in 1858.

SOURABAYA or Soerabaja, in lat. 7° 13′ S., long. 112° 46¾′ E., is a town of Java, situated on the mainland on the shores of a narrow strait, which divides it from the large island of Madura. It is the only perfectly secure harbour on the north coast of Java. It gives its name to a district with a population of 1,722,626, the bulk of whom are Javanese, with 13,185 Chinese, and 1955 Arabs. The town is 1½ miles from the sea, is divided by a river 30 yards wide, which is navigable by boats 100 miles from the sea, and is sufficiently deep at the entrance to admit vessels of 250 tons. Grissik, a seaport town about 5 miles distant, may almost be termed an Arab colony. There are fish-ponds, extensive tanks of salt water, in which sea-fish are fattened for the table. These are highly prized by the Chinese, who spare no expense to procure them.—*Mr. Earl*, pp. 47 to 78.

SOUSSI. HIND. A striped cotton cloth. A kind of soussi is produced in France, blue striped, closer in texture than the Indian, perhaps, but belonging to the same class or category, and another called grivas, in particular, near Vichy, both excellent and fast-coloured fabrics, and both used for trousers and blouses. The Indian soussi are always striped or checked, woven in narrow patterns with coloured yarns, blue and white, black and blue, red and blue, yellow, white, and blue, green and chocolate; and they are worn, fine and coarse, literally by millions of the Hindu people of the middle and lower classes. Soussi is manufactured in Tanjore, Trichinopoly, St. Thomé, or Mylapore. Those of Tanjore and Trichinopoly are made of silk, and mixed with cotton of various colours and sorts, but Mylapore weavers work only in cotton. They are 7 yards by 1; the silk pieces are sold at from 8 to 20 rupees, those of cotton at 2 to 7 rupees each. These are used for undergowns or lungas by the Muhammadan women, and as trousers by men. The colours and patterns differ very little anywhere within the confines of India, whereas sarees, dhotis, and loongis, to suit, differ in particular localities.

SOUTH CANARA. This is a coast district between the sea and the high plateau of the Dekhan, in which most of its rivers consequently take their rise. South Canara has a seaboard of 120 miles, besides about 404 miles of estuaries. In Canara, fish are almost the sole meat food of the people. Hindu mythology says that the whole of South Canara was formerly under the ocean, the boundary of which was the edge of the Mysore plateau, and that the sea was dried up by a flaming arrow of the god Parasu Rama. More modern science robs the fable of its poetry, but leaves it its groundwork of truth, by ascribing the existence of Canara to volcanic action. There are also extensive littoral upheavings. Canara and its boundary hills are the first land that meets and receives the full force of the south-west monsoon, and the annual rainfall on the coast is 130 inches.

SOUTHERN INDIA is a term applied sometimes to all the Peninsula of India south of the Nerbadda river, sometimes to that portion of it lying south of the Kistna river. In the latter restricted sense, it is occupied by the Canarese, part of the Telugu, Tamil, Malealam, and Tulu-speaking races, and comprises part of the Circars, the kingdoms of Mysore, Cochin, and Travancore, and the British provinces of Nellore, Guntur, the Ceded Districts, Chingleput, N. and S. Arcot, Salem, Tanjore, Tinnevelly, and Coimbatore, all largely cultivated.

The architecture and ornamentation of the temples of Southern India have been made known by the representations and descriptions of Bijapur, Dharwar, Ahmadabad, and other cities, by Mr. Fergusson and Col. Taylor, and they are by far the most interesting and complete memorials of the sacerdotal and regal grandeur of Southern India which are in existence, and give a striking impression of the former splendour of those empires. The Dharwar sculptures are the records of Chalukya, Hoi Sala, Bellal, and other local dynasties; some of the figures are clothed with defensive armour, and there is no trace of a sewn garment. All the men's figures have short waist-cloths or dhotis, like kilts, with an end in some cases cast over the shoulder. The women are in the same costume, but both in the earlier memorial stones and on some of the profuse sculpture on the temple at Hallabid, in Mysore (Dhara Samudra, tenth to twelfth century A.D.), they wear bodices, tied in front, as Hindu women wear them at present. Many temples in the south and west of India, as also in Gujerat and Orissa, etc., are known to belong to periods as early as A.D. 500. Groups of figures on them are numerous beyond description; the men wear head-dresses in the form of conical crowns, richly covered with ornaments, their bodies are naked, and their breasts and arms show necklaces and armlets of very ornate patterns. From the loins to the knee, or middle of the thigh, they have in most instances kilts, as it were, also composed of ornaments; and many are altogether naked, both male and female, with a girdle of ornamental pattern round the loins. These figures abound among the sculptures of Ellora, and upon the Hindu temples of Dharwar and Mysore of the eighth to the thirteenth century; also upon the Chola temples at Conjeveram and elsewhere, probably of the same era. In the Jain sculpture the male and female figures are invariably naked, but ornamented in general with necklaces, bracelets, armlets, and zones of exceedingly intricate and beautiful patterns, in imitation, probably, of the chased gold work of the period.

SOUTHERN MAHRATTA COUNTRY constitutes the British zillah of Dharwar, a[illegible] likewise, geographically speaking, to inc[illegible] small province of Sunda. The general bo[illegible] are the rivers Kistna and Bhima on the no[illegible] north-east, the Tumbudra river on the sout[illegible] Hyderabad territory on the east, and the Syh[illegible] range of mountains or Western Ghats on [illegible] west. This tract affords a great variety of elev[illegible]tion and of geological structure. The wester[illegible] portion abounds with lofty forest trees, festooned by enormous perennial creepers. The bamboo forms a thick and luxuriant underwood in some places, while others are entirely open; and the banks of many clear and rapid streams flowing through it abound with the black pepper plant, the wild cinnamon, and other odoriferous shrubs. Portions of this forest are often left entirely untouched by the axe or knife. These are called

kans, and are favourite resorts of wild animals. To the east of the regular forest lies a tract called the Mulnad or rain country. The bushes consist chiefly of the karunda, the pallas, etc. It abounds in tanks and artificial reservoirs for purposes of irrigation. East of the Mulnad is a great extent of alluvial plain, producing fine crops of wheat, cotton, maize, millet, Sorghum vulgare, Panicum Italicum, Cicer arietinum, etc. And on the Hyderabad frontier is a succession of low, dry hills, with tabular summits, often rising in abrupt scarped precipices, and intersecting and traversing the plains in various directions. The first or mountainous division consists chiefly of micaceous clay and other schists, which to the northward are succeeded by basaltic or trap formation. The Mulnad is composed of undulating clayslate hills, which become covered with basalt to the north. This trap formation extends in a slanting direction from S.W. to N.E., nearly coinciding with a line drawn from Sadasheghur on the coast to Bijapur and Sholapur, and is almost coincident with that marking the separation of the two great tribes of the population using totally distinct languages, the Mahratta and Canarese. The hills to the N.E. and E. are all of sandstone, sometimes resting on schists, sometimes immediately on granite, which latter is the rock nearest the surface in the central and eastern plains. A well-defined range of hills to the S.W., called the Kupputgode, is basaltic. The extensive plains lying between these different lines of hills and eminences are composed of the rich black mould called regur or cotton ground, resulting from decomposed basaltic rocks. To the N.E. a considerable tract of limestone is found, resting on the sandstone, about Bagalcote, Badami, Hungund, Mulbihal, etc.

SOUTHERN-WOOD, Artemisia abrotanum.

Downah, ... HIND.	Dawanum, . . . TEL.
Marikolundu, . . TAM.	

The Tamil people sometimes mix the fine powder of it with gingelly oil, and anoint themselves with it after bathing; and it is one of the many sweet-smelling shrubs that are strewed before the Hindu gods at religious ceremonies. The Muhammadans prize it for its fragrance as a scent.—*Ains. Mat. Med.* p. 44.

SOUTH MAHRATTA JAGIRS comprise a group of native states; population, 610,000. They are Sangli, Jamkhandi, Miraj (senior and junior branch), Kurandwar (senior and junior branch), Mudhol, and Ramdrug. The first four belong to Brahman chiefs of the Patwardhan family.

SOUTHWELLIA BALANGHAS, China chestnut; seeds when roasted highly palatable.

SOWA, also Shuta-pooshpa. HIND. Anethum sowa, *Roxb.*, Indian dill. The seeds are in every bazar. They form an ingredient in curries, are employed as a carminative, and are bruised and applied externally in rheumatic and other swellings of the joints.

SOW-YEW. BURM. The egg tree of the Karen-nee, chisel-handle tree of the English in Burma, is stated by Dr. Mason to be a species of Dalbergia. Its maximum girth 2¼ cubits, and maximum length 10 feet. Found scattered all over the Amherst, Tavoy, and Mergui forests, inland, in undulating ground only, not near water. When seasoned, it floats on water. It is used by Burmese in preference to any other for handles of chisels and tools, also for helves of axes and hatchets. It is a very hard, fine-grained wood, unequalled for such tools as chisels which are struck with a hammer or mallet. This wood is of a yellowish-white in colour, with patches of black interspersed. It is always procurable in the markets.—*Captain Dance.*

SOY. Tsiang-yu, CHIN.; Soya, JAP. A well-known sauce made from the Soja hispida, which grows in China and Japan. In Java it is procured from the Phaseolus radiatus, the green gram, haree moong, or putchay payroo of India. The beans are boiled soft with equal quantities of wheat or barley, and left for three months to ferment; salt and water are then added, when the liquor is pressed and strained. Its price is about 6s. per gallon in the London market. Genuine soy is well flavoured, thick, brown, and clear, and when shaken in a glass, it should have a coat on the surface of a bright yellowish-brown colour. The best is exported from Japan. The flavour and ingredients of soy vary considerably, even among the people who make it, and much of that exported is supposed to be more or less adulterated. Chinese use the Soja hispida pulse when ripe for the manufacture of an oil, and give the remnant of the grain, together with stalks and leaves of the plant, as a food for cattle. Its cultivation has become general in Syria, Dalmatia, and Hungary. In the two former countries, the grain, after being allowed to ripen, is threshed out and roasted, and then employed for making coffee. In China, the grains are soaked till they swell and become soft, and then cooked like the small sort of beans. In other places, the seeds are set in a very damp, watery soil, and kept in darkness till they sprout up into a long white stalk, 4 or 5 inches high, which is then cut and served up after the manner of a salad. A sort of cheese, consumed in quantities by the poorer people both in China and Japan, is made from Soja hispida.

SOYMIDA FEBRIFUGA. *Ad. de Juss.*

Swietenia febrifuga, *Roxb.*	S. rubra, *Rottler.*
Swamy, ... CAN.	Patranga, . . . SANSK.
Bastard cedar, . . ENG.	Shem, ... TAM.
Rohuna, Rohitaka, HIND.	Sumi, Somi, Somida, TEL.
Rohuni, Rheyn, . MAHR.	

This large forest tree is a native of all the central and southern parts of India. The wood is red-coloured, light, and easily worked, is reckoned durable and strong, and good for indoor or cabinet purposes, but not adapted to those requiring exposure to sun and weather. Captain Beddome says it never rots underground. The bark is useful in intermittent fevers, where astringent tonics are applicable, but of very questionable efficacy as a true antiperiodic for mild ague, in which, doubtless, like all other astringent tonics, it will often succeed; it should be given in the form of extract. Mr. Broughton says that the substance to which the bark owes its bitter taste has the properties of a resin. It is of a yellowish-white colour when pure, is sparingly soluble in water, but is insoluble if the water contain acids; it is soluble in alcohol, ether, and benzol, but these liquids do not completely separate it from foreign substances.

SOZNI, a bed-cover quilted or embroidered in a pattern; the word literally means lily pattern, from Susan, a lily.

SPAIN, Espana, the ancient Hispania, a country in Europe, part of which was long held by Arabs. In the East Indies Spain holds the Philippine Islands. In 1519 the Spaniards laid claim to the Banda (United), or five (really ten) Nutmeg Islands, and the Moluccas, or five Clove Islands, as falling within the line of their sovereignty laid down by the Pope in 1493. From 1505 the Court of Spain had earnestly engaged in the project of finding a way to the Spice Islands from the west, and in 1508 Pinzon and De Solis sailed in search of them, and explored the coasts of South America to the 40th degree of south latitude. It was not, however, until 1515 that the Pacific was discovered, when Nunez de Balboa, who in 1510 had been placed in command of the Spanish colony of Santa Maria on the Gulf of Darien, having gone on an expedition into the Sierra de Quarequa, suddenly from one of its peaks beheld a boundless sea outstretched below him. From the narrow isthmus on which he stood, it extended east, and west, and south, until it was lost in space. This was the true discovery of America, that it was not, as Columbus believed to his dying day, the easternmost coast of Asia, or the West Indies, but a separate continent; and as this new world, with the vast waste of ocean beyond it, swam into his eyes, and all its moral significance flashed upon his mind, kneeling down upon the scarped summit from which he gazed, Balboa raised his hands to heaven in silent wonder and gratitude at the immensity of the revelation which had been made to him. Then, descending with all his men to the shore of the great South Sea, and wading up to his waist in its waters with his drawn sword, he claimed possession of the infinite expanse in the proud names of Aragon and Castile. In October 1515, De Solis was again sent out to discover the Spice Islands from the west, and in January 1516 entered the Rio de la Plata, originally named Rio de Solis; its present name not having been given to the river until 1525, when Diego Garcia found some plates of silver, probably from the mines of Potosi, in the hands of the wild Indians on its banks. De Solis, having anchored in the mouth of the river, went on shore to explore the country inland, when he and eight of his men were set upon and massacred by the natives, and roasted and devoured by them in sight of his ships; whereupon the disheartened expedition returned to Spain. In 1517, Ferdinand Magellan, who, according to De Barros, had been present at the capture of Malacca, proceeded to Valladolid, and gave it as his opinion that the Spice Islands fell within the Spanish boundary, and undertook to take a fleet thither by the south of the American continent. Accordingly, in 1519, Charles v. gave him five ships for the purpose. Every one of them was accompanied by a Portuguese pilot; and the *Santiago* was commanded by Joao Serrao, an old Portuguese, on whose knowledge of the east, and especially of the Moluccas, of which they were in search, Magellan placed great reliance. On the 21st of October 1520, St. Ursula's day, he reached the cape, which he called Cabo de las Virgines, at the entrance of the strait now called after Magellan, but which he named San Vittoria, in affectionate honour of his own flagship. From many fires having been seen on the land south of the strait, he named it Tierra del Fuego. On the 27th of November he emerged from the strait into the open Pacific Ocean, and the cape which terminated the strait on his left (on Terra del Fuego) he named Cabo Deseedo (the Desired), now called Cape Pillar. On the 6th of March 1521 he discovered the beautiful islands to which, from the thievish propensities of their inhabitants, he gave the name of the Ladrones (Thieves); and on the 16th, the islands he called the Archipelago de San Lazaro, a name afterwards changed by Villalobos, in honour of Philip II. of Spain, to that of the Philippines. On one of these islands Magellan was slain in a skirmish with the natives, brought on by his proselytizing zeal, whereon Joao Serrao and Duarte (Odoardo) Barbosa were elected joint commanders of the expedition. (On Serrao's death, Caraballo was elected commander-in-chief.) On the 8th July 1521 they anchored before the city of Borneo; and on Wednesday, 6th November 1521, they at last descried the long-sought-for Molucca Islands, the object for the discovery of which, by a western route, their daring adventure was undertaken. On the 8th they anchored at Tidore. In the following December, of the two remaining ships of the expedition, it was resolved to send the *Trinidad* back to Spain by Panama and the Strait of Magellan, and to take the *Vittoria* home, under Sebastian del Cano, by the Cape of Good Hope. In order to escape the observation of the Portuguese, her course was steered so far south as the 42d parallel of latitude, but, with all their caution, they approached within five leagues of the Cape on the 6th of May 1522. On the 9th of July, when they reached the Cape de Verd Islands, they were obliged to put in at Santiago, where, to prevent the suspicions of the Portuguese being roused, they said that they had come across from America. It was here they discovered that in sailing round the world they had lost a day, for while by the *Vittoria's* log it was Wednesday the 9th of July, at Santiago it was Thursday the 10th. On the 6th of September the *Vittoria* arrived at San Lucar, the only survivor of the noble fleet which had sailed from the same port on the 20th of September 1519. The circumnavigation of the world, which had originated in the dispute between Spain and Portugal about the possession of the Moluccas, was completed, and the sphericity of the earth demonstrated, against the authority of Cosmas Indicopleustes, which had ruled geographers for nearly a thousand years. Charles v. received Del Cano with the highest distinction, and conferred on him a life pension and a coat of arms, which bore branches of clove, cinnamon, and nutmeg, with a globe for the crest, and the motto, 'Primus circumdedisti me.' In regard to the dispute as to the respective rights of Portugal and Spain to the Spice Islands, the king of Spain was confirmed in the possession of the Philippine Islands, but the Moluccas were finally surrendered to the king of Portugal, under the agreement that the king of Portugal lent the king of Spain 350,000 ducats in respect of any claims which the latter might have on the Moluccas, in the possession of which the king of Portugal was not to be disturbed until the money was repaid, which was never done. By a decree of the Cortes, dated 19th October 1868, the monetary system is as follows:—100 centimes = 1 peseta = 9½d. Gold coins—100, 50, 25, 20, 10, and 5 pesetas. Silver coins—1, 2, 5 pesetas, and 20 and 25 centimes. Bronze coins—1, 2, 5,

and 10 centimes. 100 pesetas = £3, 19s. 2d.; 10 pesetas = 7s. 11d.; and the other coins in proportion. A 25 peseta gold piece is nearly equal to a sovereign.—*W. A. Browne, The Merchant's Handbook; Sir George Birdwood's Researches; Marsden's History of Sumatra*, p. 9.

SPANIEL. King Charles' breed of spaniels is supposed to have been brought from Japan by Captain Saris in 1613. Dogs always form a part of the Japanese royal gift.

SPARROWS. There are several species of this bird, of the genera Passer, Petronia, Pyrgita, of the family Fringillidæ. They are not used as food by any of the races of their native countries, though there is not much difference of flavour in a 'sparrow pie' between Petronia stulta and Gymnoris flavicollis. Homely Passer domesticus is every bit as good as an ortolan. Very much depends on the cooking. Sparrows in China are let loose as an act of merit.

SPARTO GRASS, Lygæum spartum, *Loefft.*, has been introduced into India. The grass sells in London at £5 the ton. In 1868 England imported 95,000 tons from Spain. It is the alfa of Algiers.

SPARUS, a genus of fishes in the Keeling Islands which graze in shoals, with their strong bony jaws, on the tops of the coral branches.—*Darwin, Res.* p. 553.

SPATHIUM CHINENSE. *Lour.*

Aponogeton monostachys, *Linn., Rh.*

Gotti gaddi, Kottika, TEL. | Namma dumpa, . . TEL.

The roots are much prized as food by the Yanadi. In Tenasserim one or two species of Spathium grow in the water, one of which, found on the banks of the Irawadi, has roots nearly as good as potatoes.—*Mason; Voigt.*

SPATHODEA ADENOPHYLLA. *Thw.* Heterophragma aden, *Seem.* Palol, SINGH. A small tree occasionally found in Ceylon gardens. It was introduced into the agri-horticultural gardens at Madras.—*Thw.; Gamble.*

SPATHODEA ARCUATA. *Wight Icon.*

Dolichandrone arcuata, *Hooker.*

Mer-singi, . . . MAHR. | Ran-palai maram, . TEL.

A small or middle-sized tree common in the Walliar forests of Coimbatore, and in the forests on the Bombay coast. It furnishes a strong wood, used by the turner.—*Wight; Gibson; Gamble.*

SPATHODEA FALCATA. *Wall., List.*

Bignonia spathacea, *Roxb.* | Dolichandrone falc., *Seem.*

A small or middling-sized tree, Wodi, TEL., common in most of the forests in the Madras Presidency, in Mysore, in Chanda and Bombay, but not found in Ceylon or Burma. The timber is light-coloured, strong, and serviceable, and much used by the natives for agricultural purposes, building, etc.—*Beddome, Fl. Sylv.; Gamble.*

SPATHODEA RHEEDII. *Spreng.*

Dolichandrone Rheedii, *Seem.*

Mer-singi, . . BOMBAY. | Kanpillay maram, TAM. ?
Tha-khoot-ma, . . BURM. | Vodi, Udi, Wodi, . TEL.
Nir pongilam, . MALEAL. | Ganora karra, . . ,,
Deya danga-gass, SINGH.

This small thin tree is a native of the west of Ceylon, the Peninsula of India, the forests of the Northern Circars, of the Godavery, and British Burma. The trunk is very irregular. In a full-grown tree the average length of the trunk to the first branch is 30 feet, girth 7 feet. A cubic foot weighs 23 to 35 lbs. It is strong, of a whitish colour, and in Burma, where it sells at 8 annas the cubic foot, it is used for yokes and cart-poles.—*Beddome; Dr. Birdwood; Gamble.*

SPATHODEA ROXBURGHII. *Spreng.*

Bignonia quadrilocularis, *Roxb.* | Heterophragma Roxburghii, *D.C.*

A large tree, with a straight trunk, and of considerable height. It is a native of the Northern Circars, flowers in the hot season, with spreading branches and large rose-coloured and delightfully fragrant flowers, and is remarkable for its leaves. Roxburgh says its wood is used for many purposes by the natives, but other accounts describe it as worthless. Buffaloes are very fond of the leaves.—*Roxb.; Voigt; Beddome; Gamble.*

SPATHODEA STIPULATA. *Wall.*

Bignonia stipulata, *Roxb.* | Dolichandrone stipulata.
Bet-than, Paet-than, BURM. | Palol, ... SINGH.

A large tree of British Burma; wood used for bows and spear handles, also for paddles and oars. Weight, 48 lbs. Length of the trunk, 20 feet; girth measured 4 feet.—*Roxb.; Dr. Brandis; Gamble.*

SPATHOLOBUS ROXBURGHII. *Bentham.* A gigantic creeper of the Sub-Himalayan region and of Burma. Its fruit and its red kino-like gum are used. It is one of the Leguminosæ.

SPAWN OF FISH. In Canara, men search in the rivers for hillocks wherein spawn has been left, gather the ova, and make it into cakes, which are considered a delicacy. The eggs of the kari and kalmuri are highly prized.

SPEKE, JOHN HANNING, discovered the source of the Nile. He was a captain in the Bengal army. Born 4th May 1827, at Orleigh Court, near Bideford, in the west of England; died near Bath, on the 16th September 1864, at the age of 37, from a shot from a fowling-piece. As a subaltern officer in the Indian army, he had made the campaign of the Panjab under Lord Gough, and in the four successive battles of Ramnuggur, Saddelapur, Chillianwalla, and Gujerat, acting throughout this terrible time with Sir Colin Campbell's division. He used to make hunting and exploring expeditions over the Himalayas, and in the untrodden parts of Tibet. A botanist, a geologist, and especially a lover of natural history, he toiled to collect specimens of every animal, every plant, and every mineral to be found in those wilds; shooting, collecting, and mapping the country as he went, he taught himself the knowledge required to enable a traveller to appreciate and utilize all he sees. In one journey to Africa he served under Captain Burton. The latter fell sick, and Speke went on and struck upon the great lake which is the fountain of the Nile, reaching it from the north, and proving what was at first but a sagacious conjecture, by tracking the river upwards to this same lake from the south. Speke began his march into Africa in the end of 1854. He named the inland sea the Victoria Nyanza. A column has been erected to his memory in Kensington Park, London.

SPERMACETI.

King-yu, ... CHIN. | Wallrath, . . . GER.
Blanc de Baleine, . FR. | Spermazet, . . . RUS.
Sperme de Baleine, ,, | Esperma de Ballena, SP.

The produce of a species of whale, Physeter

macrocephalus, found chiefly in the Pacific and Indian Seas. Spermaceti is found combined with oil in several cetacea, but it is most abundant in the sperm whale, and this is the commercial article. The head of the sperm whale has in front of the skull a solid mass of soft, yellow, and oily fat, based on the upper jaw, and forming the front and lower part of the snout. In a whale of large size this part weighs between two to three tons. The cavity called the case lies beneath and to the right of the spouting canal, and corresponds to nearly the entire length of that tube. It has a white fibrous lining, and is filled with a very delicate web of cellular tissue, containing in large cells a limpid and oily fluid, which is liberated by the slightest force, and has yielded up to 14 barrels, or 500 gallons. It is chiefly spermaceti. When newly obtained from the case of the whale, it is fluid, transparent, nearly colourless, without odour, and has a bland and creamy taste, not unlike that of very fresh butter. At the ordinary temperature of the tropics at sea (77° to 80°), it does not concrete, but in low temperatures, or when cast into cold water, it assumes a dull white hue and the consistence of lard.—*F. D. Bennett, Whal. Voyage*, ii. pp. 160, 223–26.

SPERMACOCE HISPIDA. *Linn., W. and A.*

Spermacoce hirta, *Rottl.*	Spermacoce scabra, *Willde.*
Shaggy button weed, ENG.	Nutti churi, ... TAM.
Thartavel, . . MALEAL.	Madana, ... TEL.

This plant grows in Southern India, and is employed in decoction as a substitute for sarsaparilla. Roxburgh mentions 12 species.

SPHÆRANTHUS HIRTUS. *Burm.*

S. Indicus, *Roxb.*

Dookkon, . . . ARAB.	Zakhm-i-Hyat, . . HIND.
Chagul nudi, . . BENG.	Moondi booti, . . ,,
Moondi, . DUKH., SANSK.	Adaka majyen, MALEAL.
Globe flower, . . ENG.	Kottang karundei, TAM.
Khamadrus, . . HIND.	Bodasaram, . . . TEL.
Gurak moondi, . . ,,	

This is common in Bengal and the Peninsula of India, near water-banks, at Ajmir, and in the Eastern and Central Panjab. Has a round pink blossom, considered heating, cleanses the blood; aphrodisiac; also opens the bowels; the flower and seed capsules are used. The roots, small oblong seeds, and receptacles are reckoned by the Vyteans amongst their anthelmintics, and are prescribed in powder. In the Panjab the officinal flowers are highly esteemed as alterative, depurative, cooling, and tonic.—*Gen. Med. Top.; Ains.; Powell; Stewart; W. Ic.*

SPHÆROCOCCUS, a genus of plants belonging to the natural order Algæ. A great number of species have been described, including amongst them some of the most useful of the sea-weed tribe. These species have been distributed by later botanists into the genera Rhodomenia, Gigartina, Chondrus, Gelidium, and Phyllophora; and the genus Sphærococcus has as species the S. coronopifolius, S. cartilaginaceus, and S. lichenoides. The genus Chondrus affords the Carrageen moss, which is so much used as an article of diet. Some assert it is a species of Gelidium with which the swallows build their nests in the Eastern Archipelago, and which are so highly valued as articles of food by the Chinese. The gelatinous substance of which the nests are composed, however, seems really to be a natural secretion from the swallow itself.—*Eng. Cyc.* See Sea-weed; Thallogen.

Sphærococcus cartilaginaceus, *var.* setaceus. Shih-hwa-tsai, CHIN. It is met with in the Chinese market, and resembles the Carrageen or Irish moss.

Sphærococcus lichenoides, *Agardh*, Ceylon moss, occurs in the coast of the S. Andaman, Termooklee Island, and is met with in China, being frequently cast up by the sea. It may be very well substituted for the Gracillaria lichenoides, *Greville*.

SPICES.

Tabbal, ... ARAB.	Rampak-rampak, MAL.
Speceri, Kryderi, DA., SW.	Burubu, . . . ,,
Speceryen, . . . DUT.	Especiaria, . . . POR.
Epiceries, Epices, . FR.	Pranue korenja, . RUS.
Spezereyen, . . . GER.	Especias, Especerias, SP.
Garm-mussala, . . HIND.	Sambaram, . TAM., TEL.
Spezj, Spezierie, . . IT.	Bahar, ... TURK.

Spice is the term applied to all pleasant or pungent aromatic vegetable substances, used for flavouring food and condiments, and largely employed by the people of India. They are obtained from the barks, the dried seeds, the fruit, flower-buds, and root-stocks of different plants. The chiefly aromatic barks are the cinnamon and Cassia lignea; the seeds and fruits include pepper, cardamoms, coriander, cummin seed, star anise, chillies, mustard, nutmegs, mace, pimento, etc. The flower-buds of some furnish cloves and cassia buds, and the roots supply ginger and turmeric.

SPIDERS comprise the genera Clubiona, Theridion, Pholcus, and Epeira. But in common language the Mygale are called crab spiders and mason spiders, also trap-door spiders. Scorpion spiders are of the genus Galeodes; Tarantula spiders belonging to the genus Lycosa of Latreille. L. tarantula, *Latr.*, inhabits Southern Italy, and L. melanogastra Southern France. A spider, remarkable for the bright yellow colour of its web, a species of Epeira, was found by Captain Sherwill 1000 feet high on the summit of Maruk, south of Monghir. Some of the webs, including the guy-ropes, were from 10 to 12 feet in diameter, the reticulated portions being about 5 feet, in the centre of which the spider, of a formidable size and very active, sits waiting for prey. In one web was found entangled a bird about the size of a field lark, and eight young spiders feeding on the body. It was near the centre of the web, and its wings had been completely pinioned by the entwined web. The old spider sat about a foot above the bird. It was six inches across the legs, and had a formidable pair of mandibles. Walckenaer described a spider of large size under the name of Olios Taprobanius, which is very common in Ceylon, and conspicuous from the fiery hue of the under-surface, the remainder being covered with grey hair so short and fine that the body seems almost denuded. It spins a moderate-sized web, hung vertically between two sets of strong lines stretched one above the other athwart the pathways. Some of the threads thus carried horizontally from tree to tree at a considerable height from the ground, are so strong as to cause a painful check across the face when moving quickly against them, and more than once in riding Sir J. E. Tennent had his hat lifted off his head by one of these cords. The webs of spiders are strong enough to entangle and hold the small birds on which they are said occasionally to feed. Small house lizards will also be seized and devoured by these spiders.—*Blyth, Soc. Jour.*, 1850; *Gosse; Tennent.*

Ceylon, p. 469. See Aranea; Epeira; Galeodes; Latrodectes; Mygale.

SPIKENARD.

[illegible]bul, ... Arab.	Nardum, ... Lat.
[illegible] Beng., Hind.	Nardin, Narawastu, Mal.
[illegible]hyan, . Chin.	Shad-a-mangie, . Tam.
[illegible]ardos, . . Gr.	Jettamassie, . . Tel.
Chebur, Guj.	

[illegible]dostachys jattamansi of the Himalayas [illegible]ntains of High Asia is now generally [illegible]d to be the spikenard of the ancients. [illegible] is of a blackish colour, and resembles [illegible]y tail of the ermine. Its odour is strong [illegible]grant, and is much esteemed by all eastern [illegible]. Spikenard has enjoyed celebrity from [illegible]earliest period of the world's history. It was [illegible]teemed by the Greeks and Romans, and is mentioned in the Bible, the Nard of Scripture being supposed to be the same substance as the Nardos of the ancients. It contains about 9 per cent. of balsamic resin, and a small proportion of essential oil. It is valued in hysteria, and is a perfect substitute for valerian. See Sunbul.

SPILANTHES ACMELLA, *Linn.*, Hin-ka-la, Burm., is planted by the natives of Tenasserim for its medicinal properties.—*Mason; Voigt.*

SPILANTHES OLERACEA, *Jacq.*, Akarkarha and Pokarmul, Hind., is a powerful stimulant and sialagogue, useful in headache, paralysis of the tongue, affections of the gums and throat, and for toothache, also in fever, cough, and special diseases.—*Powell; Voigt.*

SPILSBURY, Dr., a Bengal medical officer who [illegible] an account of fossil bones on the Nerbadda [illegible] As. Trans.; also Geological Notes on the [illegible] of the Nerbadda, ibid., 1833, 1834, 1839.—*[illegible]uist.*

[illegible]NACIA, a genus of plants belonging to the [illegible] order Chenopodiaceæ.

[illegible]nacia oleracea, *Wight.*, spinach.

[illegible]aj, . Arab., Pers.	Isfanaj, Isfanak, . Hind.
[illegible]aluk, Paluk, Hind.	Vusayley-keeray, Tam.

[illegible]uch used as a vegetable in India, and the [illegible]ople consider it to be cooling. It grows in [illegible]ich soil, requires plenty of water, should be [illegible]own thinly in drills or broadcast every month [illegible]r six weeks; may be had during the hot months [illegible]n sheltered situations, with attention to water.—*Powell; Jaffrey.*

Spinacia tetrandra, *Roxb.*, spinach.

Choolai, . . . Hind.	Dumpa bachchali, . Tel.
Isfanaj, ... Pers.	Mattu bachchali, . ,,

The Hindustani name is indifferently given to Spinacia tetrandra, used in curries, and Amarantus polygamus. The former is a common sort of native greens, and, when boiled, resembles spinach; it is procurable nearly all the year round. The latter is much cultivated, is sown broadcast in beds from June to March. The leaves are sold in the bazar at one pie the seer.

New Zealand spinach is a hardy annual, with fleshy leaves and numerous branches, and as a spinach it is as valuable as the orache. If watered, grows freely, and produces leaves in the hottest weather.—*Riddell; Jaffrey.*

SPINIFEX SQUARROSA. *Spreng., Rh.*

Sea pink, Water pink, Eng.	Ravana suruni misalu, Tel.

This curious dioecious grass grows abundantly on the Coromandel coast. When the seed is ripe, the spherical head of the plant is detached and blown before the wind. See Isaiah xvii. 13, and Psalm lxxxiii. 13. Its great seed-balls are known to the Singhalese as Maha-Rawana-ræwula, the great beard of Rawana or Rama. See Sand-binding Plants.

SPIRÆA, a genus of plants of the natural order Rosaceæ. S. hypoleuca, S. cullosa, and S. canescens, *Don*, occur in the N.W. Himalaya. S. Kamtschatka is used in Kamtschatka to make an alcoholic spirit.

SPIRÆA SORBIFOLIA. *Linn.*

S. Lindleyana, *D.C.*

Kapru, Ranthul, Chenab.	Dodal, ... Rami.
Kikri, . . . Jhelum.	Kangtar, Boogli, Sutlej.
Karkni, . . . Kaghan.	Krust, Kanoori, ,,
Dor, Bat-pis, . Kangra.	Sar-lakh-tei, Tr.-Indus.
Sarbashtai, . . Pushtu.	

A shrub with fine white flowers, the handsomest and one of the commonest of the Himalaya, from 4000 to 10,500 feet, up to and beyond the Indus. It resembles the English meadow-sweet, especially S. Kamtschatka.—*Stewart.*

SPIRIT-WORSHIP prevails throughout all the south-east of Asia, amongst the Hindus, the Buddhists, the Chinese Taoists, and followers of Confucius, in Japan with the disciples of the Sintu faith, and in all these regions among all the uncultivated aboriginal races. It is the one general cult of all these regions. When Thales taught that the whole universe is pervaded by spirits, he was proclaiming both the primitive and the existing faith of all India and China. In India worship is performed to the Bhuta, Vetala, Pisacha, Preta, Yaksha, Vidyadhara or sylphs, and in Burma to the Nat and to Rakshasa or demons.

Ancestor-worship is a recognition of the existence of spirits freed from the body. This faith was exhibited from early times by the Egyptians; it was as a faith deeply seated, also, in Greece and Rome; it has always been and still is the popular religion of the Chinese, and it forms the belief of all the aboriginal races, and of most of the Brahmanical Hindu religionists of India. The Egyptian belief in the transmigration of the human soul into other bodies, and into the bodies of animals, was connected with it. Animal-worship dates from the earliest times in Egypt, and soon after the time of Menes (B.C. 3400) it became the established religion throughout the empire. This form of faith had evidently its origin in their belief in the identity of the principle of life in all living beings, and in the identity of the soul with life; grounded on a consciousness of moral responsibility and a belief in the personal indestructibility of the human soul. They believed that at the point of death, the deeds of this life are examined, judged, and rewarded or punished; in the latter case condemned to be degraded from human to animal life, and one regulated by brutal instincts.

In China, the spirits of deceased ancestors are periodically worshipped, and on weighty occasions are consulted. In their marriage processions, the titles of the ancestors are carried along with other displayed articles, and they are invoked to bless a newly-wedded couple. Their tombs are kept in repair. Spirits are summoned to attend to their worshippers. According to the Brahmanical Hindus, two things are indispensably necessary to the sacrificer in performing a religious ceremony,—several lighted lamps, and a bell, and the bell is sounded when the deity or spirit is supposed to be summoned.

SPIRIT-WORSHIP.

The Kyoung-tha of Chittagong are Buddhists. Their village temples contain a small stand of bells, and an image of Buddha, which the villagers generally worship morning and evening, first ringing the bells to let him know that they are there. The Sintu temples of the sun goddess in Japan also contain a bell, intended to arouse the goddess, and to awaken her attention to the prayers of her worshippers.

Among the Tiperah of Chittagong, if a man die away from home, his relatives stretch a thread over all the intermediate streams, so that the spirit of the dead man may return to his own village; it being supposed that without assistance spirits are unable to cross running water, as Burns in his Tam-o-Shanter says, 'a running stream they daurna cross;' the streams are therefore bridged. A somewhat similar idea existed in Europe, and it occurs also in the Fiji Islands, and among the Kol of Nagpur. All diseases in men and in cattle are attributed to one or two causes,—the wrath of some evil spirit who has to be appeased, or the spell of some witch or sorcerer. The Circassians and some of the Chinese have also the same belief. Hence it is that insane people are in many countries regarded with so much reverence, since they are looked on as the special abode of some deity.

Hindus, in the Srad'ha ceremonial, make offerings to the spirits of their ancestors. After death, the spirit of the Hindu is conveyed by the messenger of Yama, through the air, to the place of judgment. After receiving sentence, it wanders about the earth for twelve months, as an aerial being or ghost, and then takes a body suited to its future condition, whether it ascend to the gods, or suffer in a new body, or be hurled into some hell. This is the doctrine of several Puranas; others maintain that immediately after death and judgment, the person suffers the pains of hell, and removes his sin by suffering, and then returns to the earth in some bodily form.

In the Srad'ha or funeral ceremonies of the Hindu of Gujerat, the son repeats before an image many incantations, to the following purport: Before thee, O Brahma, I perform my father's Srad'ha. He next offers to his deceased parent, on a plantain-trunk dish, seven blades of kusha, and seven of durva grass, flowers, dry rice, cloth, red paint, and a brass lamp. He next cleanses the place before him with his hands, and, scattering upon it a few blades of kusha grass, presents other offerings to his deceased father, repeating many incantations, which contain the names of the offerings, and an invitation to the deceased father to partake of them. From what remains of these offerings, the son makes two balls, the smallest of which is offered in the name of those of the family who have not received the benefits of the Srad'ha, and the other he presents to his deceased father, and then lays it on some kusha grass as before, and worships it, presenting flowers, water, etc. He now places both hands open against a lamp which is burning, as though he were warming himself; after which he prostrates himself to the sun, and presents a fee of from one rupee to five to the officiating Brahman, salutes all the Brahmans present, and makes prostrations to the saligram, which he afterwards sends into the house. All the offerings are sent to the houses of Brahmans. The family now return home, where an entertainment is provided, both for Brahmans and others, consisting principally of sweetmeats, milk, curds, sugar, ca[illegible] etc. The Brahmans eat in an enclosed [illegible] uninvited Brahmans near the house, and [illegible] in the street or road. At the close of t[illegible] tainment, if the person making the S[illegible] rich, he gives presents to all those wh[illegible] guests, whether Brahmans or the poor, [illegible] dismisses them. The next morning he [illegible] the learned Brahmans with presents; to [illegible] learned he gives five rupees perhaps, and [illegible] less learned one. The Brahmans who were [illegible] are also dismissed with presents. Abou[illegible] o'clock a feast is provided for the relations, wh[illegible] are dismissed the next morning with presents of money, cloth, etc., and on this day another dinner is provided for nearer relations. At the close of the Srad'ha a number of mendicant musicians play on certain instruments of music, and sing verses celebrating the revels of Krishna; they are often dismissed with large presen's. The next day the family return to their accustomed diet; but the sons, for twelve months after the decease of the father, must refuse every gratification, and cook with their own hands, or eat what has been prepared by a wife or some near relation dwelling in the house. Gunga Govindu Singhu, a person of the writer caste, head-servant to Mr. Warren Hastings, expended, it is said, 12,00,000 rupees at his mother's Srad'ha; and Raja Nuvu Krishna of Calcutta, nearly as m[illegible] in the Srad'ha for his mother. This expens[illegible] principally incurred in presents to the Bral[illegible] such as bedsteads, at two or three hundred r[illegible] each; water pitchers of silver and gold [illegible] worth a thousand, and others .two th[illegible] rupees; dishes of silver and gold, valued a[illegible] to five hundred rupees. At the time of bat[illegible] the person who will perform the Srad'ha pu[illegible] himself by putting water, seeds, fruits, etc[illegible] parts of the trunks of four plantain trees, repea[illegible] ing incantations. He sends some of this wate[illegible] home to purify the family.

The monthly Srad'ha for the first year after the death of the parent, is upon a very small scale, and the expense is from ten rupees to twelve annas. Besides these, there are other Srad'has for deceased ancestors, as in every month at the total wane of the moon; on the last fifteen, or ten, or five days of the moon in the month Bhadra; once during the first fifteen days of the moon in Ugruhayunu; and again in the same month, in Poushu and Maghu, on the eighth of the wane of the moon; in Voishakhu and Shravunu, on any of the first fifteen days of the moon. At some of these times all Hindus perform this ceremony; at other times only a few persons. The expense is trifling, as scarcely any persons are entertained at them. In this Srad'ha the flesh of cows was formerly offered in sacrifice. In the Kali-yogu this is forbidden, and that of deer or goats is substituted; herbs, bread, and barley are used, as also fresh rain water.

Mr. Forbes in the Rasmala (p. 378) says, The Bhut and Pret are said to reside, at the place where funeral piles are erected, in trees which are not used for sacrificial purposes, such as the tamarind and the acacia, in desert places, at the spot where a death has occurred, or at cross-

roads, for which reason people set at these places food for the use of the Bhut. He is most at a loss for water to drink. The pipe of his throat is, it is said, the size of the eye of a needle, and he is continually thirsty enough to drink twelve gallons of water. The watchmen of Wuroon Dev, however, are stationed wherever there is water, to prevent the Bhut from drinking, and their thirst is therefore as continual as it is intense. The Bhut feed upon all kinds of refuse. The goblin of the best class, he, that is to say, whose funeral ceremonies have been duly performed, but who has been debarred from liberation by his own intense affection for earthly objects, is called a Poorwuj Dev, and resides in his own house or in a sacred fig tree. The Poorwuj Dev, like the Etruscan Lar, or the Grecian hero, is regarded as hovering about his former abode, averting dangers from the inhabitants, and bestowing blessings upon them. He frequently appears in the character of a serpent, and is then treated with great respect by the inmates of the house near which he resides. It is a common belief in Gujerat that serpents are always to be found wherever a hoard is buried, and that these are the Bhuts of the deceased owners who have remained upon earth from affection to their wealth. The Arabian Jin also frequents cross-roads, and the fairies of the Scottish Lowlands carry bows made of the ribs of a man buried where three lairds' lands meet, as in 'A Midsummer Night's Dream' (Act. iii. Sc. 2):—

'Damned spirits all,
That in cross-ways and floods have burial.'

Desert places, in Gujerat, correspond exactly with the dry places (*ανυδρων τοπων*) assigned to the evil spirits in Matthew xii. 43, Luke xi. 24. And all eastern races believe them to be the resort of evil spirits. In Gujerat the Bhut and Pret can take possession of a corpse, and speak through its mouth; they exhibit themselves in the form which they possessed when living; they enter into a living man, and cause him to speak as they please; sometimes they afflict him with fever, or various other diseases; sometimes they assume the forms of animals, and frighten people by suddenly vanishing in a flash of fire; sometimes, remaining invisible, they speak in whispers. A Bhut has been known to come to fisticuffs with a man, and to carry a man off and set him down in a distant place. It is even said that women are sometimes found with child by Bhuts.

The Jain Shastras teach a different doctrine in regard to spirits from that which is taught by the Hindu Puranas. They assert that there are eight kinds of Vyuntur Dev, and eight of Wan-Vyuntur Dev, who reside below the earth. Each of these has two Indra, or sovereigns, ruling respectively the northern and southern regions, and who are in colour black, white, or blue. The Vyuntur and Wan-Vyuntur Dev appear upon earth, where they possess the bodies of men, exhibit themselves in various shapes, and perform many strange feats, whence their common name of Kutohulee (or surprising) Dev. Below them reside the Bhuwunputi Dev, who also sometimes appear on earth. Below them again are the Narkina or infernal spirits. Above this earth, in the atmosphere, five kinds of Dev of splendour reside,—the sun, moon, stars, and others. Above them, in twelve Dev-Loka, the Dev who ride in chariots dwell; these, sometimes drawn by their own desire, or compelled by charms, appear in the world, but they do harm to no one. Above them are nine classes of Grivek, and five of Unootur Vimani. They are of great power, and never visit the earth. Men who have lived a life of austerity and righteousness are born again in these classes of upper or lower Dev, but the sinner is not born in them. In olden times, a man who had performed the rite of Uthum by fasting for three days, acquired the power of calling the Dev to him, but now, it is said, these Dev never visit the earth at any one's call.

In Gujerat, when people wish to prevent the removal of a jungle tree, they paint a trident upon it with vermilion, or, if that be inconvenient, they collect a number of stones and throw them down at the root of the tree. Whoever, after this, passes by, is sure to add a stone or two to the heap, believing the place to be the residence of a Bhut. If the place be one where stones are not easily procurable, a bit of old rag is thrown so as to adhere to the tree, and every one who passes by follows the example once set. They call the spot the 'Rag-uncle's.' In places where trees are scarce, these uncles are very common, and people are much annoyed with the dread of touching them. The name uncle is given to the Bhut by women as a term of respect. Men are less superstitious. Similarly, whenever in any place there is a hillock or mound upon which a few stones have been piled one above the other, every passer-by considers himself bound to add a stone to the heap, considering that the spot is the residence of some Dev and that if any one raise a little temple there, his house will flourish. Such monuments are also set up in places where a person has been slain or wounded. Cairns of this kind are frequently connected with the dead,—

'Many a cairn's grey pyramid,
Where urns of mighty chiefs lie hid.'

The Bhut-bali of the Hindus is an offering to evil spirits, ghosts. On the 14th of the dark half of the month Aswin, the Bhuta Chaturdasi offerings are made to evil spirits, and the Bhuta devata is a spirit worshipped as a deity.

As an instance of the Hindu belief in the powers of demons, Col. Tod tells us that Udi Singh died thirteen years after his inauguration on the cushion of Joda, and thirty-three years after the death of Maldeo. About A.D. 1645, when he was returning home from court, he beheld a girl whom he determined to have. But she was the daughter of a Brahman, an Aya-Punti, or votary of Aya-Mata, whose shrine is at Bai-Bhilara. These sectarians of Maru, he says, are very different from the abstinent Brahmans of Bengal, eat flesh, drink wine, and share in all the common enjoyments of life with the martial spirits around them. And as there was no other course by which the father could save her from pollution but by her death, on that he resolved. He dug a sacrificial pit, and, having slain his daughter, cut her into fragments, and mingling therewith pieces of flesh from his own person, made the homa or burnt sacrifice to Aya-Mata, and as the smoke and flames ascended, he pronounced an imprecation on the raja: 'Let peace be a stranger to him! and in three pahar,

three days and three years, let me have revenge!' Then exclaiming, 'My future dwelling is the Dabi Baori!' sprang into the flaming pit. The horrid tale was related to the raja, whose imagination was haunted by the shade of the Brahman, and he expired at the assigned period, a prey to unceasing remorse.

Up to the close of the 15th century, it was customary in England to place food for demons. In the dialogue of Dives and Pauper, printed by Richard Pynson in 1493, among the superstitions then in use at the beginning of the year, the following is mentioned:—'Alle that take hede to dysmal dayes, or use nyce observances in the newe moone, or in the new yeere, as setting of mete or drynke by night on the benche to fede alholde or gobelyn.' So in British India to the present day, with Hindus, Chitapinda or funeral cakes are offered at the pile, at the time of burning the body. On the fourth day after decease, Chaturtha-pinda, funeral cakes, are again offered. On the 13th day after decease, the pret, or newly-embodied spirit, is compelled by the emissaries of Hades to set forth on his journey towards Yampur. Its attendants aggravate the miseries of the wicked soul by their threats and upbraidings. They cry to the pret, 'Come quick, evil one! We will carry you to Yama's door; we will cast you into Kumbheepak, or some other hell!'

In the south of India, spirits of the air are numerous: celestial vestals, which frequent cool shades and limpid streams, help the sick, succour women in travail, guide the benighted traveller who has lost his way, shower blessings and flowers on happily married couples. The village Kannimar, or virgins, as they are styled in ordinary country parlance, are patrons of the village lassie afflicted with the tender passion, and watch with a motherly interest the progress of stedfast honourable loves. There is nothing which they hate so intensely as the violation of matrimonial vows, or the infringement of maidenly honour. Rude statues of potter's work representing these champions of virtue, may be seen invariably under some pleasant shade, by the side of a rippling rivulet or the placid surface of the village tank. When the sun is at its greatest height, and man and beast seek some friendly shelter, these fair celestials, screened from profane mortal sight, quietly perform their ablutions in the tank or brook close by, divesting themselves of their flowing ethereal robes. Their appearance to mortals in bodily form always portends something extremely good or evil; but as they are naturally inclined to acts of kindness and mercy, such interviews prove, in the majority of cases, harbingers of prosperity and conjugal felicity. Instances are not wanting of these sylvan beauties, through forgetfulness to bind the wood with their magic spell, allowing themselves to be surprised by the strolling cowherd ere they have risen from their midday bath. Every year, as the husbandman sows his grain after the precursory showers of the rainy season, he vows to set apart so much, a kalam (12 marcals), as a thank-offering, if the out-turn should prove as abundant as he prayed for. True to a farthing, the sale-proceeds of the virgins' share is religiously laid by, to be made use of a month or two after the harvest, when the ryot, now at leisure, thinks of redeeming his vow at the shrine of the celestial fair one. At the appointed time, generally at night, the whole village wends in solemn procession to the sacred grove, with banners flying and drums beating, and with all the paraphernalia of eastern worship. Rice is boiled, sheep are slain, amateur theatricals improvised, and the light hearts of the multitude rendered still lighter by potions of arrack.

Closely allied to the virgins are sundry village deities, mostly shrineless, the most important of whom are Mariammen, Bhagavati, Chakkammal, Muttaramman, and Dhwarapati.

The principal demons employed by wizards and necromancers are Karuppan, Maden, Patchee, and Irulappen. These assume any shape or colour, according to their masters' orders; and, most frequently, are carried from one place to another, attached to a magical ring, a tuft of hair, or to a baby's scull secreted in the wizard's bag. Sometimes they scour the country at night in quest of their victim, who is generally a rival magician, or one who has by word or deed incurred their master's displeasure. The demon is now a tiger, tearing the entrails of the hated victim; now an incendiary, setting houses on fire; and very rarely does it appear in monstrous human shape to kill or frighten or perform any other mischief. But if the pursued man possess a mightier demon, and the assailants be defeated, the latter vent their baffled rage and fury on their master himself. A few demons are so voracious that they snatch up with avidity balls of rice and curry thrown into the air; some so lascivious as to have human mistresses and concubines, and even to outrage the modesty of their occasional fair worshippers. At Bodinaikenur, in the Madura district, a Chetty bought of a magician a Malabar demon for Rs. 90, it is said; but ere a day had passed since the transfer, the undutiful spirit fell in love with his master's wife, and succeeded in its nefarious purpose.

The European will-o'-the-wisp is the Tamil Kollevai Pai. Modern science calls them phosphorated hydrogen gas rising from dead animal matter in different stages of putrefaction, but the Hindu persists in calling them devils of a most malignant type. The explosive nature of the gas, before it has time to ascend higher than one's knees, gives it the appearance of jumping. In the middle of rice-fields, by the side of stagnant pools, and especially in burial-grounds, do these spirits sing and dance and engage in their midnight orgies, to the no small terror and consternation of the simple village folks.

There are many more classes of demons, more or less violent, such as Khattarie, Bhudam, Pesasam, Mohinee or sirens, Jadamuni, and Etchilpai. Of the last two, the former occupies perhaps the highest, and the latter the lowest stratum of spirit life in the unseen world. The Jadamuni, as their name indicates, are the spirits of human sages, who, by dint of extraordinary penance, were enrolled as an inferior set of gods. At midnight, when not a sound of man, beast, or bird disturbs the calm, still air, these assume their human shape. With their crests touching the skies, and their feet a few feet above the ground, they present a sufficiently hideous aspect, rendered still more horrible by long tresses of hair floating like serpents, tongues dripping with gore, and

yes like glaring orbs, darting forth the intensest atred and revenge towards the poor, hapless vayfarer who may hap; en to cross their custom- ry beat. The Etchilpai are hungry as wolves, nd yet without the power of obtaining food; hey pick up the stray grains of boiled rice in Hindu kitchens, or snatch off morsels of food rom people's heads, if they happen to carry it at ight.

In the south of the Madras Presidency, local- zed demons have exercised a mysterious power or centuries. A man dies under the slightest xceptional circumstances,—and lo! his spirit goes broad! It lurks in yonder hut, it crouches nder yonder banyan tree. It must be propitiated vith plantains or fruit, rice, or sweet toddy. here is an English ghost in Tinnevelly. It is he ghost of a Captain Pole, who died in the torming of the Travancore lines early in the ineteenth century. Mortally wounded, and re- reating to the northward, he was left behind y his servants, and he breathed his last near a illage in which, latterly, a mission of the C.M.S. as been established, and which is called Gospel own, Suviseshapuram. After his death, he was leified by the simple instincts of the neighbouring Shanars. He has a rude hut to his honour; and he offerings which appease him are brandy and heroots. He may be invoked. His opinion may e elicited. ●

[redacted]tle Frere accidentally found an order in [redacted]at Government House, Dapurie, handed [redacted] non-commissioned officers, for the native [redacted]n guard to present arms if a cat or dog, [redacted]r goat, entered or left the house or crossed [redacted]s beat during certain hours of the night, it was the ghost of a former governor [redacted]s still remembered as one of the best and [redacted]f men. The raja of Wanparty, one of [redacted]di race who have founded small princi- [redacted]along the banks of the Kistna river, died [redacted]t Hyderabad. He had led a turbulent [redacted] retained to the last much of the spirit of [redacted]th. At the close of that year, an outbreak [redacted]lera occurred in that neighbourhood, which people attributed to the spirit of Wanparty, and they made a clay image of him, riding on an elephant, and placed near him the figure of a Bin- arni, and worshipped all with the great Mahabala sacrifice.

The superstitious fears of the Hindus extend o innumerable objects: they dread the wrath of he following invisible beings,—the messengers of Yama, bhuts, prets, pisacha, dakinee, yoginee, hakinee, yukhshu, rakshasa, shunkinee, gooma, brumhu-doitya, aluya, etc. They also fear the cries of the following animals, at particular times, and in certain situations, viz. jackals, owls, crows, cats, asses, vultures, dogs, lizards, etc. They also dread different sights in the air, and many kinds of dreams.

King James I. in the preface to his Demonology, says, 'They (magicians) can suddenly cause to be brought unto them all kinds of dainty dishes by their familiar spirit, since as a thief he delights to steal, and as a spirit he can subtilely and suddenly enough transport the same.' To obtain such a spirit for a familiar, the two following receipts were presented by a Hindu of the Penin- sula as having been tried and found efficacious:—

In the dense darkness, at the time of new moon, let the person who would obtain a devil, walk naked into a lake, and, standing in the water up to his middle, repeat the mantra (a charm pre- viously taught him by some proficient) the appointed number of times, taking care of his reckoning by casting into the water a pebble, a jasmine flower, or a pepper-corn, from a collection which he has previously counted and brought with him. At every repetition of the mantra, let him give himself a stroke with a rattan. The charm is to be repeated boldly, and without mistake, or the devil will certainly kill the charmer.

Or, go to the temple sacred to the demon whose services are required. Having closed all avenues by which so subtle a subject may escape, stand on the threshold of the temple, and boldly conquer the demon by a powerful mantra. Then you must raise the pedestal on which the image of the demon is placed, and take from under it the money placed there when the image was inaugur- ated. Instead of this money place there a copper plate, on which you have engraved a kolam (magical inscription). From that day the demon becomes your slave, and will perform for you any service, or bring you whatever you may require. Some say the spirit must, when caught, be con- fined in a little golden box, called a Simil. Exami- nation of a manuscript book of spells, kolam, and cabalistic figures, collected by a Tamil man of low caste, shows that very [redacted] cantations commence with the Om! or the mantra 'Nama Sivayam,' to Siva. The invocation is never addressed to either Brahma or Vishnu. The following is a specimen of a charm given by Mr. Murdoch:—

'Om! Adoration to the supreme power,
Kali ratri, black night!
To whom the bloody flesh of man is dear;
Whose very form is fate and death;
Seize, seize on the life of such a one.
Drink blood! drink blood!
Devour flesh! devour flesh!
Make lifeless! make lifeless.
Hum! Phut!'

The highest Brahman authorities have taught that the case of the devils themselves is not al- together hopeless. There is a well-known aphorism in the Sankhya, which is illustrated by the story of a devil (Pisacha), who was enlightened and ob- tained felicity by overhearing the religious dis- course between Krishna and Arjuna. Burns, it will be remembered, expresses a like hope for the 'puir deil'—

'But fare ye well, Auld Nickie ben!
O wad ye tak' a thought and men'!
Ye aiblins might—I dinna ken—
Still ha'e a stake;
I'm wae to think upon your den,
Ev'n for your sake.'

With the Burmese, the six lower heavens are occupied by Nat or Dewa, where good kings and virtuous people reside, and the Tha gyah min, or king of the Nat, visits the earth for three days at the beginning of the Burman year, 9th to 12th April. Perfectly distinct from these are the Nats of the house, the water, the air, and the forest. The Nats are everywhere worshipped, but this is denounced by devout Buddhists. With the Karen all nature is filled with Nats; and the Ka-Chin provide the Nat with pipes of spirit, sacrificed animals, hatchets, spears, bows and arrows, which

the Nats may use at their pleasure. In all Burma, especially among the Talaing or Mon (Mohn), and in the neighbourhood of the Geniolatric tribes, at the extremity of every village, the Yua-sohn, there is a Nat-sin, a shrine of every dimension, for the Nats of the neighbourhood, at which lamps, water-pots, and food are offered, with figures of Shway Pyin-gyi, Shway Pyin-nge, the Nyi-daw, etc.

The Koh soung Nats, twelve in number, six good and six bad, six male and six female, provide a genius for each person. Min mahgyi is the guardian Nat of the house, and usually takes up his abode on the top of a house post, a pot of water being kept in the verandah for his use. Each village also has a guardian Nat. None of the lower class of Talaing would think of eating a morsel without first holding up his platter in the air and praying to the village Nat.

The spirit Moung Iwn Gyi is greatly feared. He lives in water, and causes death. They believe that persons who are executed, or have met with a violent death, become Nats, and haunt the places where they were killed. Every district has a Nat thoo-nge or spirit woman, called Nat-mehmma, who is consulted, and who dances at the Nat feasts.

With the Burmese, on the foundation of a new capital, there are always a certain number of people buried alive. They are supposed to become Nat-thehn, that their spirits haunt the place where they were put to death, and attack [redacted]aching with malevolent intention when the foundations of Man[redacted] were laid, fifty-two persons were entombed, three under each of the twelve city gates, one under each of the palace gates and at the corners of the timber stockade, and four under the throne itself. By 1880 the virtue had largely evaporated, and it was resolved to replace them by six hundred victims; but the outcry in Europe restrained the king, and only a small number were sacrificed.

The Muhammadans of the S.E. of Asia believe in spirits, and in the science of dawat or exorcism, to which they have recourse to command the presence of genii or demons who, when it is required of them, cause anything to take place. The genii spirits are believed to reside in the lowest firmament, and possess the power of rendering themselves visible to human beings in any form they please. The evil spirits are called shaitan. The spirits of all Muhammadans are supposed to rest in the graves till the resurrection; being laid in the grave, the two angels on Nakir and Mankir interrogate the departed as to his life. Dogs, women, and horses are not allowed inside their burial-grounds. Annually, oblations, called Ooroos, are offered in the name of Mahomed, or in the names of the Pir or spiritual guides, or in the names of the Wali or saint. Khajah Khizr, a Muhammadan saint, often appears to travellers in different guises, but generally as an old man. The people of Sind believe in the Rijal-ul-ghaib; in Jin or genii; in Bhut, ghosts or disembodied spirits; in Ghul, or demons of the wilderness; in Pari, fairies; and in Dev, Rakas, and Pap, powerful fiends, corresponding with the Arab 'Marid.' The Dakini is the same as the witch of Europe, usually an old woman, decrepit, poor, of humble family, and angry disposition. She has the power of turning men into beasts, killing cattle, flying to any distance on a tree by reciting a maud (magical formula), and mounting a hyæna. The Bandh and Mann are frightful beings, half-female, half-hellish. They live in the hills and jungles, where they frequently appear to travellers, are covered with hair like bears, have large pendent lips, and live on fruits and herbs. The Shir is a creature of Satanic nature. He, generally speaking, appears like a low-caste man, very dark, tall, and frightful; sometimes as a headless body. He lives in the makām or burial-ground, where he lights fires, and amuses himself by throwing the brands about, frightening folk by vociferating their proper names, or pursuing them in the form of some beast. Hence their fear of approaching a burial-ground by night. The shaitan of Sind is only seen by learned and religious men; to them he appears as a young man of white complexion and handsome form, which he can change at discretion. In Sind, popular superstition has created the Marhun Machhi (mermen and mermaids). The science of Osteomancy is the Ilm-el-Aktaf (knowledge of the shoulder-blades) of the pagan Arabs and some Bedouin tribes of the present day, the Ilm-i-Shaneh of the Persians and Afghans, and is known to the shepherd Sindi and Baluchi by the name of Phannia-jo-fannu. The instrument of divination is the scapula of a sheep divested of its muscles and integuments, the speal-bane of the Scotch. The Ilm-i-Kāf, or palmistry, is common among Muslims and Hindus, but better known i[redacted] than in Sind. The Sona-jo-Ilm, or know[redacted] omens, taken from the flight of birds, the [redacted] ance of beasts, and other similar phen[redacted] closely resembles the art of the Indian [redacted] The Baluchi are considered great adepts [redacted] branch of the occult sciences, and the[redacted] have a short treatise upon the subject [redacted] Sungun-namo.—*Rajasthan*, ii. p. 662; *Scinde; Ward's Hindoos*, ii. p. 140; *Forbe[redacted] mala*, ii. 378; *Lubbock's Civilisation; The L[redacted]*

SPITI is a subdivision of the Kangra [redacted] of the Panjab; area, 2100 square miles, c[redacted] of an outlying Tibetan valley among the [redacted] ranges of the Himalaya, between lat. 31° 4[redacted] 32° 58′ N., and long. 77° 21′ and 78° 32′ E.; its [redacted] lies at the point of convergence of the Kanzam ridge and the outer Himalayas, while the transverse ridge of Manirang, dividing the Kangra district from Bashahr State, forms its base. The higher peaks of the main chain rise 20,000 to 23,000 feet above sea-level; and even the villages stand at from 12,000 to 14,000 feet.

The population of Spiti in 1868 amounted to only 3024 persons, almost exclusively of Tibetan origin. The people belong to a kindred race with those of Lahoul. The language is almost identical, but the customs and religious institutions are not analogous. Spiti is approached from British territories and Kanawar by six different routes, and from Ladakh and Tartary by three routes, through the two chains of mountains. Many of the passes vary from 14,000 to 18,000 feet. The exports are wool, borax, salt, and blankets; and the imports are articles from the plains, and a great deal of iron. The resources of the land are locked up for more than six months in the rigorous winter. The inhabitants are obliged to repair during this inclement season to the lower and more genial latitudes in the valley of the Sutlej. The produce of the land in

Lahoul and Spiti does not suffice for the wants of the population. The people of Lahoul import grain from Kulu, and the valley of the Sutlej supplies the additional demands in Spiti. The barley of Spiti is hexagonal or six-sided, and the grain large and succulent. A liquor, called chang, is distilled in Spiti from barley, and sold at 30 puttahs for the rupee. A puttah is a liquid measure of 2 seers = ¾ of a pucka seer. They consume large quantities. Chang can be made from other grains besides barley; that made from rice is superior. The wealthier classes in Spiti, etc., use a weak spirit, called arrack, which is distilled from rice. When a person dies, the body is buried or burnt, or thrown into the river, or cut into small pieces and burnt; admonitions are made over the body to the departed spirit, such as, Do not trouble yourself, you cannot enter it (meaning the dead body); in summer it quickly becomes corrupt, in winter it freezes, and is too cold for you.—*Powell's Handbook; Gerrard's Kanawar*, p. 112; *Imp. Gaz.*

SPONDIACEÆ, the hog-plum tribe of plants, comprising species of the genera Spondias and Poupartia. They are natives of the East and West Indies, the Society Islands, and the Isle of Bourbon. The fruit of some of the species is eatable.

SPONDIAS ACUMINATA. *Roxb.* Ambut, DUKH. A most elegant middle-sized tree, with shining leaves. It grows on the western side of India, in all the coast and inland forests. The [illegible] its natural state is not of any value, [illegible]ld be creosoted with advantage.—*Roxb.*; [illegible]; *Riddell.*

[illegible]NDIAS DULCIS, *G. Foster*, of the South [illegible]ands, is a noble tree, growing to 60 feet in [illegible]. Its fruit, the 'rewa,' weighs over 1 lb., [illegible] delicious flavour.

[illegible]NDIAS MANGIFERA. *Pers.*

[illegible]as amara, *Lam.*
[illegible]a, *Ham.*
[illegible]iculata, *Roxb.*
[illegible]mara, *Comm.*
Mangifera pinnata, *Kœn.*
Poupartia mangifera, *Bl.*
Condondong of Rumph.

[illegible]n, . . . BOMBAY.
[illegible]e, ... BURM.
[illegible]mb, . . . CHENAB.
Ngan-mo-leh, . . CHIN.
Yu-kan tsze, . . ,,
Jangli am, . . . DUKH.
Amra, ... HIND.
Kat ambalam, . MALEAL.
Amrataca, Amra, SANSK.
Æmbæ-rælla, . . SINGH.
Kat-mavu, . . . TAM.
Kat maam maram, ,,
Mirri-mangi maram, ,,
Puli-ille, ... ,,
Adavi mamidi, . TEL.

This large tree grows in various parts of India, Ceylon, China, and Burma. The wood is soft, and of little use except for firewood. From wounds made into the bark, in the beginning of the hot season, very large quantities of a transparent juice issue, which soon hardens into a mild insipid gum, like gum-arabic. The fruit got its name from its resemblance to a mango, but it is harsh and little deserving of notice; on the Malabar coast, the root is considered as an emmenagogue; the bark is supposed to be of use in dysenteric affections, and a decoction of the wood serviceable in gonorrhœa. The Karens have a tradition that in those golden days when God dwelt with men, all nations came before him on a certain day, each with an offering from the fruits of their land, and the Karens selected the hog-plum for their oblation, which gave such offence, that God cursed the Karen nation, and placed it lowest among all the nations by whom they are surrounded. The fruit is eaten raw when ripe, and before ripe is pickled, put into curries, made into tarts, etc. The fruit when fully ripe is of a pale-yellow colour, of a pleasant flavour, but a little too acid. The sour leaves are used in chatnis. In China, juice of the fruit enters into several nostrums for the hair, the glory of the Chinese men and women.—*Roxb.*

SPONGE.

Isfanj, Isfanjah, . ARAB.
Tsok-tsa-ya, . . BURM.
Hai-jung, . . . CHIN.
Shwui-p'au-myen, ,,
Ling-siau-hwa, . ,,
Svamp, . . . DAN., SW.
Spons, ... DUT.
Esponge, ... FR.
Schwamm, . . . GER.
Mua-badul, . . . HIND.
Spugna, ... IT.
Uniwatta, ... JAP.
Halispongia, . . LAT.
Bunga-karang, . MALAY.
Abar-murdah, . . PERS.
Esponja, . . POL., SP.
Sungher, . . . TURK.

There are several genera of sponge animals, which naturalists arrange under the class Porifera, as Spongia, Spongilla, Halichondria. There are many species both in fresh and in sea waters, but that used for economic purposes is from Spongia officinalis, *L.*, of the Mediterranean, known as Turkey sponge, and the W. India or Bahama sponge, from Spongia usta.

The substance used as sponge is traversed by many canals, the pores of which open out on the surface. The canals, in life, are lined with a soft gelatinous matter up to the opening of the pores, and the pores are kept open by numerous siliceous or calcareous spicula, needle-like bodies. Whilst the animal is alive, the water, entering into the sponge by the pores, circulates in the canals, and is finally expelled through the larger orifices.

The sponges used in Europe are known in commerce as the fine Syrian, fine Archipelago, fine hard or Grecian, white sponge, gelatine sponge, brown sponge of Barbary, also called Marseilles or Turkey sponge, the Spongia communis of naturalists, which is fished on the coast of Tunis, and used for cleaning rooms, and the sponge of Salonica.

Turkey sponge, the Spongia officinalis of Linnæus, of the natural order Spongiæ, is the peculiar skeleton, whole, and is produced in southern and eastern seas, though imported into Great Britain from Turkey. The imports are in cases, each containing about 500 sponges of various sizes, averaging in value about 35s. per pound. The finer kind, suitable for toilet use, is found in the Levant,—the best on the coast of Northern Syria, near Tripoli, and secondary qualities among the Greek isles. These are either globular or of a cup-like form, with fine pores, and are not easily torn. They are got by divers, who plunge from a boat many fathoms down, with a heavy stone tied to a rope for sinking; the man snatches the sponges, puts them into a net fastened to his waist, and is then hauled up. Some of the Greeks, instead of diving, throw short harpoons attached to a cord, having first spied their prey at the bottom through a tin tube with a glass bottom immersed below the surface waves.

The sponges of the coasts of Asia Minor and Syria are dived for by the people of Calymnos, Chali, Syme, and other islands near Rhodes, from May to October. In May a little fleet of caiques sets sail from Calymnos, manned by the greater part of the able-bodied of the male population, and they return in the autumn, and sell to their richer townsmen who trade in sponges, and these are despatched to Trieste, Syria, or Smyrna. A

diver can descend to 30 fathoms, and remain for three minutes. A caustic fluid at the root of the sponge is apt to cause ulcers. They are cleaned and dried in the fields, and then filled with sand to ensure equality of sales. Numerous species are known, with soft porous bodies, traversed by tortuous canals, but the officinal sponge is imported from the Mediterranean and Red Sea; some of the coarser kinds from the West Indies. Those of the British seas would probably answer equally well for burning. When collected, sponge contains numerous small fragments of corals and minute shells; from these it must be freed before it can be used. Sponge is composed of gelatine and coagulated albumen. When burnt, its ashes give carbon and some silex, carbonate and phosphate of lime, carbonate of soda, chloride and iodide of sodium, bromide of magnesia, with a little oxide of iron.

Coarse, soft, flat sponges, with large pores and great orifices in them, come from the Bahamas and Florida. A small schooner, towing several little boats, with two men in each, passes slowly over the sponge ground. One man sculls, the other squats, hanging over the boat's side, with his head in a bucket, the bottom of which is of glass. Through this he looks down into the deep, still water, and sees the sponges lying 20 or 30 feet below. Then, assisted by the other man, he aims a stroke with a three-pronged hooking-fork at the end of a long pole. The sponge is grappled and lifted into the boat. When the boats have loaded the vessel, the sponges lying on board, covered with a gelatinous mass, from which oozes a slime of disgusting odour, give forth a very disagreeable smell; but the animal soon dies. The sponges are laid out in the sand that this putrefying outer substance may rot off, after which they are roughly cleaned and scraped, pressed, and packed in bales. Much further washing is required, and a chemical process of bleaching. American sponges being so inferior to those of the Mediterranean, it has been sought to utilize them for the stuffing of cushions and mattresses, or for the felting of hats and winter coats, but with poor success.

Sponge is gathered from the rocks of Vizagapatam at about 12 feet below the sea.

Assistant-Surgeon Carter, of the Bombay army, described four species of fresh-water sponges in the tanks of Bombay. They are attached to floating bodies, or on the inclined and under surfaces of the rocks, never at the bottom, and sometimes so high up as to be covered with water only for three or four months.

In the Sea of Japan, a very remarkable sponge (the Hyalonema) is met with. It is a bundle of spicules, like threads of glass, which seem artificially tied together, and on the surface of which is invariably found a polyp of the genus Polythoa.

The remarkable hooked, branched, or star-like spiculæ in many sponges are believed to have the function chiefly of rendering them unpalatable to other creatures.

The sponge-making animal, like some other zoophytes, can be multiplied by cutting it in pieces, leaving each piece to live and grow by itself. It is stated by Dr. Oscar Schmidt, of the University of Gratz, that in three years, at a cost of £8, 8s., 4000 sponges can be raised, worth £16, which would seem to be a profitable industry.—*Phipson; Carter.* See Venus Glass Flower.

SPONIA ORIENTALIS. *Roxb.*

Papyrus sphærica, *Kœmpf.*	Celtis orientalis, *Roxb.*
Chicolee, . . . BENG.	Moralf chettu, . . TEL.
Jeebun, ... „	Budu manu, . . . „

A small erect tree of Ceylon, the Coromandel coast, common along the foot of the ghats, occurring in the Kenneri forests, Salsette, in Nepal, Bengal, Sylhet, and Assam. The under bark consists of numerous reticulated fibres, and forms a natural cloth used by the Garo race, and its leaves are used for polishing horn.—*Roxb.; Voigt; Flor. Andh.; Mr. W. Jacob.*

SPONIA POLITORIA. *Planch.* A plant of the Darjiling Terai, Sikkim, Oudh, Salt Range. Wood used for charcoal, leaves to polish wood and horn.

SPONIA WIGHTII. *Planch.*

Kanghi . . of AMBALA.	Mini, ... TAM.
Marni . . . of BEAS.	Gadda nelli, . . TEL.

This tree is common throughout the Presidency of Madras, and is occasionally planted by coffee planters for shade because of its rapid growth; it ascends the mountains to above 5000 feet elevation. The wood is soft and white, but makes about the best charcoal for gunpowder. This tree springs up in all places where heavy, moist forests are cleared away for coffee or other purposes, although there may not be a plant of it within miles. It occurs as a small tree very sparingly in the Siwalik tract up to the Beas, and occurs also in the Salt Range occasiona[lly] of the Jumna; in some parts of India, its [sin]gly harsh, rough leaves are employed t[o] wood and horn.—*Stewart; Powell; Bed. F[l.]*

SPOOKDIER, DUTCH, the ghost ani[mal] Menado, is provided with sharp-nailed t[oes] four legs for climbing in trees. It is ab[out] inches high, covered with greyish hair; ha[s] flabby ears, piercing eyes, and a long, thin t[ail] which the hair stands out at right angles.

SPRENGER, ALOYS, M.D., a medical [officer] of the Bengal army; a philologist; a nat[ive] the Tyrol, and born about the year 1813. [He] arrived in Calcutta in September 1843, a[nd] 1845 was appointed Principal of the Dehli Colle[ge]. He translated Masudi's Meadows of Gold, edited Abd-ur-Razaq's Dictionary of Sufi Terms, and superintended the translation into Urdu and printing of about thirty books of science and history. In 1848-49 he drew up a catalogue of the library of the king of Oudh, about 10,000 MSS. volumes of Arabic, Persian, Pushtu, and Hindustani. He wrote an incomplete life of Mahomed, 1851; a Dictionary of Arabic Technical Terms; Ibn Hajur's Biography of Persons who knew Mahomed; and other works.

SPRINGS. The Aryan Hindu and the non-Aryan tribes who occupy British India, continue to worship springs and fountains, and other natural objects. This has been a custom with many races. The fountain of Egeria, the Fontinalia Romana, the Aquæ ferentinæ, and the sacred wood where the Feriæ Latinæ were celebrated, were under the especial protection of some divinity. Pausanias says that at Phocis in Achaia, there was a fountain called Hama, consecrated to Hermes, near which thirty enormous straight stones had been erected at a very remote period, when, instead of images, the Greeks adored blocks of stone. Such was also the religion of pagan Ireland.

There are ten hot-water ponds within two miles of the old town of Ataran, with a temperature of 130° Fahrenheit. At the forks of the Tenasserim about four miles below Matah, are hot springs highly charged with sulphuretted hydrogen gas.

On the margin of the granite range east of Tavoy are many saline thermal springs, with temperature up to 196°.

A mineral spring is described in the Saugor taluk, Nuggur division of Mysore.

Around Hazaribagh, for about 130 miles in every direction, many places are literally teeming with hot springs.

Other springs, several of them sulphurous, others thermal, occur in the Salt Range; at the base of the Himalaya; in Northern and Western Sind; in Gujerat; in the valley of the Nerbadda, and in the Konkan.

There is a sulphurous spring at Chaunch near the terminus of the Grand Trunk Road; and three miles off a much more abundant and hotter one, called Tantloie, on the banks of the Damuda; also hot springs at Lakarakunda and at Kisshun, Bun, Buklesir, and Sita Kund at Monghir.

The Zungsum mineral springs, beyond Kanawar, are impregnated with salt, alum, and iron.

The Koop or mud volcanoes of Rama Chandra are at Hinglaj, west of Kurachee, and others at Cheduba. There are hot springs at Pir Muggen, others at the Lukkee pass, and the Garm-ab is in the Bolan pass.

1. *Sulphuretted Mineral Springs.*

Malacca, thermal.—*Ward.*
Spring, 27 miles N. from Hazaribagh, thermal.—*H. H. Wilson.*
Bum Buklesir, thermal, 13 miles W. and S. of Suri in Birbhum.—*Sherwill.*
Joiya Buri, not far from Chaunch, near meeting of Barakur and Damuda rivers, thermal.—*Oldham.*
Tantloie, near it, on other side of Damuda, thermal.
Tata Pani, Sirguja, Chutia Nagpur, thermal.—*Breton.*
Two springs at N. base of Mahadeo mountains, Nerbadda, thermal.—*Spilsbury.*
Well at Gwalior.—*Col. Tod.*
Below Landour.—*Murray.*
At Sonah, 30 miles from Dehli, thermal.—*Ludlow.*
At Lousah, in Nurpur.—*Marcadieu.*
At Bishisht in Kullu, thermal.—*Gerard.*
In the Bukh Ravine, Salt Range, thermal.—*Flemg.*
At Jubba in Salt Ranges, 10 miles E. of Indus.—*Flemg.*
Chihali pass, W. of Indus, below Kalibagh.—*Flemg.*
Mittah, near Esau Kail, W. bank of Indus.—*Flemg.*
Pir Muggen and Gazi Pir in Sind, thermal.—*Major Baker and Lieut. M'Lagan.*
At Lukkee pass, near Schwan, thermal.—*Gibson.*
Within high-water mark in Kattyawar.—*Sandwith.*
Temple of Somnath in Gujerat.—*Col. Tod.*
Arowlee in the Konkan, thermal.—*Duncan.*
At Bhadrachellum on the Godavery, thermal.—*Heyne: Malcolmson.*
At Chittur, slightly thermal.—*Hardy.*

2. *Saline.*

Several springs at Surujkund near Belcuppi and Burkutta, Grand Trunk Road, thermal.—*Sherwill: Hooker.*
Tevah in Kangra district.—*Marcadieu.*
Mukhdur Rashid in Multan.—*Edgeworth.*
Shahpur near Jhung.—*Neelmadub Mookerjee.*
Lahard Khad on Sutlej above Rupur.—*Wade.*
Universal throughout Salt Range.—*Fleming.*
Sumundur and Kullur khar lakes in Salt Range?—*Fleming.*
Duzikustuck, Sind, thermal.—*Viccary.*
Ooch, Sind.—*Viccary.*
Lukkee pass.—*Gibson.*
Well at Banda?—*Prinsep.*
Near Hyderabad Dekhan.—*Voysey.*

a. Brine.

Sambhar lake.
Many springs in Salt Range.—*Fleming.*
Old spring near Jeypore in Assam.
Brine springs in Bikanir and Jeysulmir.—*Irvine.*
Cachar Hills.
Pir Muggen, Sind.—*Baker and M'Lagan.*

b. Alkaline.

Lunar lake, 50 miles from Jaulnah.—*Malcolmson.*
At Mean Mir, and others in Panjab.—*Baddely.*
Kairi water or soda-water wells in Ajmir.—*Irvine.*
Well at Jowala Mukhi?—*Marcadieu.*

c. Aluminous.

Well below Landour.—*Murray.*

d. Iodine.

Traces of iodine in well at Jowala Mukhi and Arlun in Kangra.—*Marcadieu.*
Traces of iodine in well at Tunga Bara, near Hurripur.—*Marcadieu.*
Strong iodide of potash well at Jowala. Mr. Marcadieu states that, though bronchocele is very common in the district, the inhabitants of Jowala are exempt from it.—*Marcadieu.*

e. Lime.

Many in Murree Hills above Rawal Pindi.—*Fleming.*
Pith in Hala mountains, thermal.—*Viccary.*
Kye in Hala mountains, thermal.—*A. Young.*
Near Sunjabundia, Kurnool, thermal (*Newbold*), temperature decreasing.

f. Silicious.

Burrare and Bheem Bhand, Kurruckpur Hills, thermal.—*Sherwill and M'Clelland.*

3. *Ambala.*

Hot springs at Jumnotri, Gungotri.
Kedarnath and Badrinath in Garhwal, valley of the Sutlej.
Chalybeate at Nagconda.

SPRUCE, DR., an eminent botanist, native of Welburn in Yorkshire, who aided Mr. Clements R. Markham, C.B., in introducing cinchona plants into British India, 1860–1865. The British Government in 1877 rewarded him with a pension of £50 a year.—*Markham.*

SPRY, HEN. H., a medical officer of the Bengal army, distinguished for his scientific attainments. Suggestions for extending the Cultivation and Introduction of Useful and Ornamental Plants, with a view to the Improvement of the Agricultural and Commercial Resources of India, Calcutta 1841.

SQUALIDÆ, a family of fishes of the section Chondropterygii, which includes the various species of sharks. The shark's body is elongated, tapering gradually from the head to the tail, or but little dilated in the middle. The male sharks are smaller, and differ externally from the females in possessing two elongated appendages, one of which is attached to the hinder edge of each of the ventral fins, the uses of which are not known. Some species of sharks bring forth their young alive, whilst others are enclosed in oblong semi-transparent horny cases, at each extremity of which are two long tendrils. These cases are frequently found on the sea-shore, and are called sea-purses, mermaids' purses, etc. They are deposited by the parent shark near the shore in the winter months. The convoluted tendrils, hanging to sea-weed or other fixed bodies, prevent the cases being washed away into deep water. Two elongated fissures, one at each end, allow the admission of sea-water; and the young fish ultimately escapes by an opening at the end near which the head is situated. For a short time the young shark continues to be nourished by the vitelline fluid contained in the capsule attached.

to its body by the connecting pedicle, till, having acquired the power of taking food by the mouth, the remains of the ovum are taken up within the abdomen, as in birds and some other animals. See Sharks.

SQUILL, Urginea maritima, Sea Onion.

Ansul, ... ARAB.	Kanda, . . . HIND.
Pen-lay-pa-dein, BURM.	Scilla, . . . POR., LAT.
Hai-tsung, . . . CHIN.	Morskoi-luk, . . . RUS.
Solog, ... DAN.	Cebolla albarrana, . SP.
Zeeajuin, ... DUT.	Hafslok, ... SW.
Oignon marin, Scille, FR.	Nurri vangayum, . TAM.
Meerzwiebel, . . . GER.	

Squill is a perennial bulbous-rooted plant found on the shores of Spain, Portugal, north of Africa, the Levant; and one species occurs on the coasts of India. The bulbs are pear-shaped, and vary in size from that of the fist to the compass of a child's head. The root is very nauseous, intensely bitter, acrimonious, and causing inflammation when rubbed on the skin. It is one of the most useful remedies in the Materia Medica.—*M'C.; Faulkner.*

SQUILL, COUNTRY. Scilla Indica, *Roxb.*

Ansul, Iskeel, . . ARAB.	Nurri vangayum, . TAM.
Kanda, Junglie piaz, HIND.	Nurri vunjayum, . ,,
Peyaz-i-dhashtia, . PERS.	Addivi-tella gadda, TEL.
Nurriala, . . . SINGH.	

The Indian squill resembles the true squill in medicinal virtues. Farriers are in the habit of using it, in conjunction with other articles, for horses, in cases of strangury and fever. It grows in abundance in waste, sandy soils.—*Ains.*

SQUIRRELS belong to the genus Sciurus. The E. Indian species are—Malabaricus, maximus, Elphinstonei, macrouroides, macrourus, lokriah, barbei, Europæus, laticaudatus, lokriodes, palmarum, tristriatus, Layardi, sublineatus, M'Clellandi, ephippium. Sc. Layardi eats the coffee berries; it is common in Ceylon; the pulp alone is digestible, and the coffee-beans are dropped on logs of wood and on the ground. Sc. Tennentii is peculiar to Ceylon. Its dimensions are large, measuring upwards of two feet from head to tail. It is distinguished from the Sc. macrourus by the predominant black colour of the upper surface of the body, with the exception of a rusty spot at the base of the ears.

Sciurus maximus is the Malabar squirrel. Its upper parts and external surface of the limbs are of a bright chocolate-brown colour. Length about 33 inches, of which the tail measures rather more than one-half. This richly-coloured species is the largest of the true squirrels. It haunts among palm trees, and is stated to be very fond of the milky juice of the cocoanut, as well as of the solid part of the nut. In captivity, it is tame and familiar; but it tries its teeth upon most substances that come within its power, and should be guarded against accordingly.

Sciurus macrouroides, *Hodgs.*, a gigantic squirrel, abounds throughout the Burmese countries and Malayan Peninsula, and northward to the Assam Hills and those of Sikkim and Nepal. It has a pale variety in the Malay Peninsula.

Sciurus macrourus, *Forster*, the common large squirrel of the western districts of Ceylon, also met with in Travancore and other neighbouring districts of continental India, becomes extremely tame, chiefly perhaps remarkable for its singularly loud and harsh voice. Indeed, the voice would seem to be an excellent criterion of specificial distinction among the Sciuridæ. This animal carries its tail in the same peculiar manner, curled round on one side, as is observable in Sc. purpureus and Sc. bicolor, and doubtless all others of the same group.

Sc. Elphinstonei is the red squirrel of the Western Ghat. They soon become very tame. The palm squirrel, also, Sc. palmarum, soon becomes very tame.

One group of the squirrels, of large size and rich colours, is peculiar to S.E. Asia as far as Borneo, some of them wherever there are large and lofty forests.

Flying squirrels are species of the genera Pteromys and Sciuropterus—

Pt. magnificus, *Hodgson*, S.E. Himalaya.
Pt. inornatus, *Is. Geoff.*, N.W. Himalaya.
Pt. cineraceus, *Blyth*, Burma.
Pt. elegans, *S. Muller*, Java.
Pt. nitidus, *Geoff.*, Pen. Malacca.
Pt. petaurista, *Pallas*, Pen. India.
Pt. Philippensis, *Gray*, Philippines.
Sciuropterus alboniger, *Hodgson*, Nepal.
Sc. caniceps, *Gray*, Nepal, Sikkim.
Sc. fimbriatus, *Gray*, Himalaya.
Sc. fuscocapillus, *Jerdon*, Travancore.
Sc. villosus, *Blyth*, Sikkim, Bhutan.
Sc. spadiceus, *Blyth*, Arakan.
Sc. Phayrei, *Blyth*, Pegu.
Sc. genibarbis, *Horsf.*, Malayana.
Sc. Horsfieldii, *Waterhouse*, Malayana.
Sc. sagitta, *L.*, Malayana.

With the flying squirrels, the skin of the flank is extended between the fore and hind feet, forming, when expanded, a wide parachute. They have long, bony, or cartilaginous appendages to the feet, which serve to support the lateral membrane. Pt. petaurista lives principally on fruits; it and Pt. inornatus have been seen take a flight of sixty yards.—*Blyth; Jerdon; Tennent.* See Sciuridæ.

SRADDHA. SANSK. Faith. In Hindu mythology, daughter of the sage Daksha, wife of the god Dharma, and reputed mother of Kama deva, the god of love.

SRAD'DHA, as commonly understood, are obsequies paid by Hindus to the manes of deceased ancestors, to effect, by means of oblations, the re-embodying of the soul of the deceased after burning his corpse, and to raise his shade from this world (where it would else, according to the belief of the Hindus, continue to roam among demons and evil spirits) up to heaven, and then deify him, as it were, among the manes of departed ancestors. In the ceremony, food and water are offered to the deceased ancestors of the sacrificer, or to the Pitri or manes collectively. The *Preta* or *Dasa-pinda* Srad'dha is an offering of a ball of rice to a deceased person, by the next-of-kin, increased by one daily, for ten days. The *Adya* Srad'dha is the first obsequial ceremony after a person's decease. The obsequies performed monthly, on the day of the new moon, are called *Anwaharya* Srad'dha. The social or legal uncleanness of the Hindu is called Asauch, and occurs from the death of a relative or the like. The day preceding a Srad'dha is held as a fast-day, and called Ativasa. The Ekadasi Srad'dha is a presentation of offerings on the 11th day after demise. The Masika, or Anwaharya, is performed monthly for a year on the day of demise, and the Sapinda or Sapindi Karana on the first anniversary of a person's death. The Abhyu dayaka Srad'dha,

is an offering to deceased ancestors, or to the manes collectively, on some prosperous event, as the birth of a son or the like. The proper seasons for the worship of the manes collectively are the dark fortnight or period of the moon's wane, the days called Ashtakas, or the eighth lunations of the dark fortnight of the four months of the cold weather, the summer and winter solstices, and vernal and autumnal equinoxes. The idea involved is a belief in the prolonged separate existence after death of the body of the spirit or ghost that it may hover about its former dwelling, and be gratified by offerings of food. It consists of three distinct rites,—(1) the daily Srad'dha in propitiation of the ghosts of remote ancestors (pitri); (2) the monthly Srad'dha, for immediate paternal ancestors; (3) the funeral Srad'dha, for a near kinsman, within a certain period after death.—*Coleman*, p. 162; *Moor*, p. 75; *Wilson's Glossary*. See Hindu; Shraddha; Spirit-Worship.

SRAMA, the performance of asceticism. Sramana, a Buddhist monk, in Burma called Phoungye, in Siam a Talapoin. Sramana is the appellation of the Buddhist and Jaina ascetics, known to the later Greeks as Sarmanes, Sarmanæ, or Germanes. The ordinary application of the word Brahman means a theologist or divine, and [illegible] derived from Brahm, the divinity.—*Strabo*, [illegible] pp. 7-20.

SRAOSHA, in Parsee belief, an angel who appeared to Zoroaster.

SRAVAKA, a layman of the Jaina persuasion, [illegible] Savanga Dhamma laho hodu, or Sravaka Dharma labha bhavatu, as used by Jivasiddhi in [illegible] place, are the ordinary salutations a Jati or [illegible] Jain proffers to the laity.

SRAVANA. Sansk. The fourth month of the Hindu solar year, July—August, when the [illegible] in the sign Carcataca, answering to the [illegible] Audi; also the fifth month of the luni-[illegible] year, owing to that sort of year beginning [illegible] Chaitra. The fifth of Sravan is the Nagpan-[illegible] or day set apart for the propitiation of the [illegible] the reptile race, the Naga or serpent. On this festival at Udaipur, as well as throughout India, they strew particular plants about the threshold, to prevent the entrance of reptiles. Sravana, also the 22d lunar mansion.

SRAVANA-BELGOLA, a village in the Hasan district of Mysore, 35 miles from Chenraipatam, and 33 miles N. by W. from Seringapatam. Close to the village, on the summit of Chandrabetta, a syenite hill 500 feet high, is Gomateswara, a nude Jaina image 70 feet 3 inches high, which must have been cut from the solid rock; the arms and legs are ornamented with wreaths of flowers, the features are pleasing, the hair curled, unlike that of the natives of India. A pagoda has been built round the image. Even at the present day the Jains are numerously represented in the village of Sravan-belgola, which they are locally reported to have colonized during the reign of Chandragupta in the 3d century B.C. On the hill of Indrabetta in this neighbourhood are many ancient temples and inscriptions cut in the rock, with characters a foot long. The Ballala dynasty lasted from the 10th to the 14th century A.D. Their capital was Dwaravati-pura, the ruins of which are still to be seen scattered around the village of Hallabid. The earlier kings professed the Jain faith, but the finest temples were erected to Siva by the later monarchs of the line. While the Ballalas were at the zenith of their power, the whole of Southern India acknowledged their sway. In 1311, a Muhammadan army under Kafur, the general of Ala-ud-Din, sacked Dwaravati-pura, and returned to Dehli laden with spoils. The Ballala prince escaped to Tondanur in Mysore, and the dynasty continued to exist for sixty years more.

SRAVASTI, in Pali Sawatthi or Sewet, a city in ancient Oudh, now called Sahet-Mahet. It is on the Rapti, and is famous for Buddha's preaching. Its position, though one of the most celebrated places in the annals of Buddhism, long puzzled the best scholars. The ruined city of Sahet-Mahet is situated between Akaona and Balrampur, at 5 miles from the former and 12 miles from the latter, and at nearly equal distances from Bahraich and Gonda. Sravasti is said to have been built by Raja Sravasta, the son of Yuvanaswa of the Solar race, and the tenth in descent from Surya himself. Its foundation therefore reaches to the fabulous ages of Indian history long anterior to Rama.—*Cunningham's India*, p. 408.

SRI, a name of Lakshmi, the goddess of prosperity, the Ceres of the Latins, but is also very frequently used as an adjective, meaning illustrious. Sri is the Venus Aphroditus of the Indians, born like the Grecian Venus from the sea. Sri is often written Sree, Shri, and Shree. It is prefixed to the names of Hindu deities, Srimata, Sri-swami. All Hindu books are commenced with this word, written at the top of the first page, as an invocation to Ganesh, the god of learning, to favour the undertaking. It is similar to the Greek and Roman invocation of Jupiter, the alif initial at the top of the first page by the Muhammadans, the Laus Deo of the Christians. Sri is now a Hindu honorific appellation, answering to Lord when applied to deity, and Mr. when used for man. Sri Rangapatnam is the Hindu name of Seringapatam. In all letters to Hindus, Sri is prefixed as an honorary appellation; and if the writer wish to be very respectful, he will repeat the word two or three times, as Sri, Sri! Jayaram. According to the Hindus, every city has its own Sri, its own fortune or prosperity, which in former times seems to have been represented by an image with a temple of its own. The practice amongst the ancients of considering a city under the protection of a well-known divinity is more familiar to Europeans, but an analogous superstition with that of the Hindus also prevailed amongst the polytheists of Europe. Thus in the seven chiefs before Thebes, the Theban women seek their shrines of the gods who are the guardians of the city.—*Hind. Theat.* ii. p. 64. See Krishna; Lakshmi.

SRI-CHUND, a son of Nanuk, founder of one of the sects of the Sikh faith. See Sikh.

SRI-DAMA-CHARITRA, a modern drama in five acts, by Sama Raja Dikshita, on the sudden elevation to affluence of Sri Daman, a friend of Krishna.—*Dowson.*

SRI DANDI, author of the Kavya Darsa or Mirror of Poetry, a work on the Ars Poetica.

SRI DHARA SWAMI, author of commentaries on the Bhagavat Gita, Vishnu Purana, etc. —*Dowson.*

SRI-HARIKOTTA, an insulated jungle tract of alluvium and marine deposit, in the Nellore district of the Madras Presidency. It lies between the Pulicat lake and the sea, stretching from Coromandel to Durgarazpatnam; and it contained in 1871, 13,578 inhabitants. Its people, the Yanadi, are a wild race, and speak a dialect of Telugu. When they first came under the notice of the British authorities in 1835, they lived upon roots and jungle produce; but they have been partially reclaimed since then, and now maintain themselves by cutting firewood.—*Imp. Gaz.*

SRI HARSHA lived in the 11th or 12th century A.D. He was a sceptical philosopher, author of the Naga-Nandana, a drama in five acts, which has been translated by Boyd. He also wrote the Uttara Naishadha-Charita or Nai-Shadhya, a poem on the life of Nala, king of Nishadhiya; it is one of the six Maha-Kavya or great poems of the Hindus. Sri Harsha's Neshadha relates the marriage of Nala, king of Neshadha, with Damayanti, daughter of Bhima, king of Vidarbha. It is esteemed the most beautiful composition in the Sanskrit language. Nalodaya wrote a continuation of it. The adventures of the couple constitute an episode in the Mahabharata, and are the subject of a novel in prose and verse by Trivikrama Bhata, entitled Nala-Champu or Damayanti Kat'ha. The Nala and Damayanti was translated into English by Mr. Kindersley of Madras.—*Dowson; Ward*, iv. 386.

SRI-KANTA, a mountain peak in Garhwal State, N.W. Provinces, lying in lat. 30° 57′ N., and long. 78° 51′ E., enclosed by a great bend of the Bhagirathi river; it is a sharp and lofty peak, 20,296 feet above sea-level, visible from Saharanpur, a distance of 105 miles in a straight line.

SRI-KRISHNA is the 9th, and Sri-Rama the 7th, incarnations of Vishnu, as a Kshatriya and a Dwarf Brahman. The anniversaries of these incarnations are observed.

SRI-MAHADEVI, mother of Sankaracharya, expelled her caste for adultery.—*As. Res.* xvii.

SRINAGGUR, in lat. 34° 31′ N., long. 74° 51′ E., the capital of Kashmir, is 5276 feet above the sea, in the valley of the river Jhelum, which divides the city into two equal parts, that are connected by seven bridges. The average breadth of the river is about 887 yards, and its depth during the summer season is about 18 feet. The city is surrounded by low, swampy tracts, which render it unhealthy. The population numbers about 150,000,—20,000 being Hindus, and the remainder Muhammadans. There are many places of historical interest, made famous by Asiatic and European writers. It contains the tomb of the mother of Zain-ul-Abidin, who died in the 15th century; the shrine of Syed Ali Hamadani, and the Jama Masjid, capable of holding 60,000 persons. The Takht-i-Suliman Hill overlooks the city. On the top is a shrine called the Sankaracharya temple, originally Buddhist, built by Jaloka, son of Asoka, about B.C. 220. Hari Parbat, an isolated hill on the northern outskirts of the city, is about 250 feet high, and is crowned by the fort and surrounded by a wall 20 feet high, both built by Akbar about A.D. 1590, at a cost of a million sterling.

The Sher Garhi, within the city, contains the royal palace.

The Dal or lake of Kashmir, on the N.E. side of the city, is about 5 miles long, 2¼ miles broad with an average depth of about 10 feet.

The Shalimar Bagh was laid out by Jahangir; the Nasib Bagh, another picturesque pleasure-ground, is said to have been first planned by Akbar.—*Imp. Gaz.*

SRINAGGUR, the capital of Garhwal, in lat. 30° 14′ N., and long. 78° 37′ E., was built in the 16th century, formerly the residence of the rajas. It is on the south bank of the Alaknanda, about 20 miles above its junction with the Bhagmutty at Deo Prague, where a strip of level ground stretches along for three or four miles, forming the valley known by the same name as the town. The people of Garhwal are Bhot, dwelling in the passes and their neighbourhoods, at heights above 6000 feet. The pass-men state that ridges which, within the memory of man, were covered with forest and pasture lands, are now covered with snow, showing the extension of the snow zone. The Bhot, here as elsewhere, is an agriculturist, and is assisted by slaves, who live under the roofs of their masters.

SRINGAVERA, the modern Sungroor, a village on the north bank of the Ganges, in ancient times inhabited by Nishada wild tribes, of whom Guha was the chief, by whose assistance Rama, Lakshmana, and Sita were ferried over to the south bank of the Ganges, a day's march above its junction with the Jumna.—*Hind. Theat.* i. p. 300.

SRINGIRI (or Sringa-giri) is in the Kadur district of Mysore, on the edge of the Western Ghats, in lat. 13° 25′ 10″ N., and long. 75° 17′ 50″ E., on the left bank of the Tunga river. Population (1871), 1661. In the 8th century, Sankaracharya settled here, bringing, it is said, from Kashmir, the image of Saradamma or Saraswati. The spiritual throne which he founded has been handed down to the present day. The Magani of Sringiri, in the upper valley of the Tunga, forms an endowment of the math or monastery over which the guru presides, and a monthly grant of £100 is allowed in addition by the Mysore State. Several large festivals are held during the year, each attended by from 3000 to 10,000 people, who are fed at the expense of the math.—*Imp. Gaz.*

SRIPADA or Serapada, or holy footprint, the name given in Ceylon to the footstep of Buddha, on the mountain Sumanakuta or Adam's peak, in lat. 6° 51′ N., and long. 80° 35′ E.; top of peak, 7385 feet, or 7420 feet; source of Kalu Ganga, 4345; bungalow, foot of Sripada peak, 5114 feet; lower limit of rhododendrons, on the slopes of Sripada, is 6550 feet. The Sripada is noticed in that part of the Mahawanso written by Mahanaama prior to B.C. 301. Models of it are shown in the Alu Wihara at Cotta and at other temples of Ceylon. The Buddhists are the guardians of the Sripada, but devotees of all religions meet here freely around the object of their common adoration, for Christians, Muhammadans, and Hindus have reverence for the impressions of feet. It is a natural hollow artificially enlarged, said by Buddhists to be the impression of a foot of Buddha. It is, however, called by the Hindus, Sripada or Sripad, meaning the divine footstep, Vishnu having, they say, alighted on that spot in his avatara of Rama. Hindus make pilgrimages to the Sripada in Ceylon and in other places, where similar proofs of an avatar or descent have been discovered

Christians and Muhammadans ascribe the mark to Adam, and claim that footmark as of their religious relics.—*India in the 15th Century.*

SRI PARVATA means the same as Sri Saila, the mountain of Sri or Lakshmi, a place of sanctity in the Dekhan, near the Kistna river. It still retains its sanctity, but has lost the splendour it formerly seems to have possessed by the extensive remains of sculptures on the mountain, and great labour and cost bestowed on the causeways by which it is approached. It is described by Col. Mackenzie (Asiatic Res. v. and vi.), and was afterwards visited by Dr. Voysey. In this temple was one of the twelve great lingas, the worship of which seems to have flourished particularly up to the period of the first Muhammadan invasion. Prior to the same date, also, it seems to have been a place of great resort for Yogis or Saiva ascetics. —*Hind. Theat.* ii. pp. 18, 277.

SRIPERMATOOR, about 30 miles from Madras, famed for its great Vaishnava temples.

SRIPHAL, the fruit of Ægle marmelos, so called by Hindu poets, because it sprang, they say, from the milk of Sri, the goddess of abundance, who bestowed it on mankind at the request of Iswara. Anona reticulata is called Ramphal, or the fruit of Rama. Anona squamosa is named Sitaphal, after Sita.

SRI RANGAM, an island and small village six miles north of Trichinopoly, formed by the bifurcation of the river Cauvery and by the channel of the Colerun. A dyke or anicut has been raised on its eastern side to prevent the waters of the Cauvery entering into the Colerun. On it is a magnificent pagoda of the Vaishnava sect, composed of seven square enclosures, 350 feet distant from each other. Each enclosure has four gates with high towers, placed one in the centre of each side opposite to the four cardinal points. The outer wall of this temple is not less than four miles in circumference. The idol is named Ranganiyangar, and the accumulated wealth in gold, silver, gems, and precious stones is valued at 12 to 15 lakhs of rupees. The hall of 1000 columns measures 450 feet by 130 feet. The number of columns is 16 in front by 60 in depth, consequently are not more than 10 feet apart. The care of the shrine is under vestrymen, called Dharma-karta, who aided the Editor to form a civil hospital at the place. From 1751 to 1755, the island and its pagodas were the frequent objects of the contests between the French and the British. In those contests, several rocks, the Golden, Pine, French, and Sugar Loaf were the points of the battles.—*Orme; Imp. Gaz.*

SRI SAMPRADAYA, a Vaishnava sect founded about A.D. 1150, by Ramanujacharya. He was born at Perumbur, and studed at Kanchi or Conjeveram, and afterwards resided at Sri Ranga. He then visited various shrines, propagating his reformed views, and reclaiming the shrines for the worshippers of Vishnu, particularly the celebrated temple of Tripati. The sect worships Vishnu and Lakshmi and their several incarnations. They keep the salagrama fossil and tulsi plant in their temples and dwellings, and set up in their houses images of stone and silver, which are daily worshipped. The temples appropriated to Vishnu and his consort are resorted to, and pilgrimages are made to Lakshmi-Balaji, Ramnath, and Ranganath in the south of India, to Badrinath in the Himalaya, Jaganath in Orissa, and Dwaraka on the Malabar coast. This sect in general prepare their food individually and in private, and if a stranger's look fall on the food, the cooking is stopped and the food buried. They must not eat in cotton garments, but, having bathed, must put on woollen and silk. Their chief religious tenet is the assertion that Vishnu is Brahm, that he was before all worlds, and was the cause and creator of all. In opposition to the Vedanta doctrines, they deny that the deity is now of form or quality, but regard him as endowed with all good qualities and with a twofold form, viz. the supreme spirit Paramatma or cause, and the gross one, the effect, the universe or matter. Their doctrine is therefore called the Visishthadwaita, or doctrine of unity with attributes. In these assertions they are followed by most of the Vaishnava sects. They assert three predicates of the universe, comprehending the deity; it consists of Chit or spirit, Achit or matter, and Iswara or god, or the enjoyer, the thing enjoyed, and the ruler and controller of both. Besides his primary and secondary form as the creator and creation, the deity has assumed, at different times, particular forms and appearances, for the benefit of his creatures. He is, or has been, visibly present amongst men in five modifications,—in his Archa, objects or worship, as images, etc.; in the Vibahava or avatara, as the fish, the boar, etc.; in certain forms called Vyuha, of which four are enumerated, viz. Vasudeva or Krishna, Balarama, Pradyumna, and Amruddha; fourthly, in the Sukshma form, which, when perfect, comprises six qualities. Blood-offerings at the temples are prohibited by all Vaishnava. Their reward for good acts is laid down as the perpetual residence in Vaikunt'ha or Vishnu's heaven.—*Professor Wilson.* See Mantra.

SRI-VAISHNAVA, a Hindu sect, worshippers of Vishnu, in the form of the four-handed image Lakshmi-Narayana, holding the sankha shell, chakra discus, gada club, and lotus flower. The byragi ascetics of the sect wear pewar or ochre-coloured clothes, have a kanthi or sacred garland around their neck, also a rosary of the tulsi ocimum. They are one of the four Sampradaya or Vaishnava ascetic byragi. These are four in number,—the Ramanandi, Nimanuji, Madhava-charya, and Sri-Vaishnava. Some writers add the Valabhacharya, and others substitute it in place of the fourth. The Sri-Vaishnava are to the Vaishnava sect what the Sri-Saiva are to the Saiva. In the south of the Peninsula are two minor divisions, the Thengalay, whose monastery is at Tinnevelly, and the Vadagalay, whose chief temple is at Agobilam in the Cuddapah district.

SRI YEO, the divine spirit. See Arka.

SROTRIYA or Shrotriya, a Brahman well read in the Vedas, who teaches and expounds them.

SROTRIYAM. TAM. A village or village lands, held at a favourable rate by any subject as a reward for past services. A srotriyam grant gives no right over the lands, and the grantee cannot interfere with the cultivators so long as they pay their rents.

SRUGHNA, now Sugh, a famous ancient city on the old Jumna, near Jagadri.

SRUTA-BODHA, a work on Sanskrit metres, attributed to Kalidasa.—*Dowson.*

SRUTI. SANSK. In Sanskrit, literature revealed by a deity. It applies properly to the Mantra and Brahmana portions of the Veda, but later the Upanishads were included. See Sruta.

SRUVA. SANSK. The lustral spoon, figured as held in the hand of the god Brahma.

SSE-TCHOUEN, or the four valleys, also written Sze-chuen, is the largest province in China, and perhaps also the finest. Its temperature is moderate, both in winter and summer. The Yang-tze-kiang traverses the province from S.W. to N.E. Its fertility is such that it is said the produce of a single harvest could not be consumed in it in ten years. Numbers of textile and tinctorial plants are cultivated. On the hills are fine plantations of tea, of which all the best kinds are kept for the province, and the coarsest are sent to Tibet and Turkestan. Pharmacists from all the empire send their travellers to Sse-tchouen to lay in their stocks of medicinal plants. The worders of Sse-tchouen are the Yen-tsing and Ho-tsing, wells of salt and wells of fire. M. Imbert, for many years a missionary in this province, but subsequently appointed Vicar-Apostolic in Corea, where he was martyred in 1838, says there are dozens of salt wells in a tract of country of about ten leagues long by four or five broad. The water of these wells yields 20 to 25 per cent. of salt of very acrid quality, so much so as often to inflame the throat to a painful degree. The air that issues from these wells is highly inflammable. If when the tubeful of water is near the top you were to present a torch at the opening, a great flame, twenty or thirty feet in height, would be kindled. This does happen sometimes through the imprudence of workmen, or in some cases from a malicious desire to commit suicide in company. Wells from which fire only, and no salt, is obtained, are called Ho-tsing, fire wells. A little tube of bamboo closes the opening of the well, and conducts the inflammable air to where it is required; it is then kindled with a taper, and burns continually. The flame is of a bluish colour, three or four inches high, and one inch in diameter. Here the fire is not sufficient to boil the salt, but at about forty leagues off there are much larger fire wells. Showmen often fill bladders with it, and carry it about the country; they make a hole in the bladder with a needle, and kindle it with a taper, to amuse lookers-on. This is no doubt what the chemists call carburetted hydrogen. Sse-tchouen province counts nearly 100,000 Christians, zealous and faithful in the fulfilment of their duties.—*Huc's Chinese Empire*, i. pp. 288 to 303.

STAGMARIA VERNICIFLUA. *Jack.*

Arbor vernicis, *Rumph.* | Kaya rangas, . MALAY.
Black varnish tree, . ENG. |

A native of the Eastern Islands, but not very abundant in Sumatra, though occasionally found in the neighbourhood of rivers. The wood is of a fine dark colour towards the centre. The bark exudes a resin which is extremely acrid, causing excoriation and blisters when applied to the skin. In this, as well as in becoming black when exposed to the air, it resembles the Melanorrhæa, cashew-nut tree, poison oak, and others of the Terebinthaceæ. According to Rumphius, this tree yields the celebrated Japan lacquer or varnish, and he considers it the same with that of Siam and Tonquin. Loureiro, however, represents the latter to be the produce of another tree. Mr. Jack says the varnish of Siam and Cochin-China is probably the best, but that of Celebes and of Java, which is the produce of this tree, is also employed for the same purposes, and cannot be much inferior, as it bears an equally high price. Chinese and Tonquinese insert into the trunks two pieces of bamboo, sharpened at their points, in such a manner as to penetrate the bark in a somewhat oblique direction. This fluid resin is sold in Tonquin and Camboja for 33 to 60 dollars the pikul, but in many of the provinces of China for 200 or 300 dollars. The varnish is prepared for use by boiling it with an equal weight of the oil of Tang-yhu. The proportions are varied according to the purposes for which the varnish is required. Sometimes dry pigments are added for the sake of the red or other colours. The Japanese are the most skilful in preparing and ornamenting all kinds of work with this varnish, and their black lacquered works are conveyed to all parts of the world.—*Jack*, *Malayan Miscellany*, No. 3; *Eng. Cyc.*; *Jameson's Edin. Journal*, vi.

STALACTITES. Shih-chung-ju, CHINESE. Stalactitic carbonate of lime occurs chiefly in long masses suspended from the roofs of caverns in limestone rocks; stalagmites on the floor. Water containing carbonate of lime, held in solution by carbonic acid, trickling through crevices in the roofs of the caverns, gradually during its exposure to the air, loses its carbonic acid, and consequently deposits its carbonate of lime; the water passing over the portion first deposited gradually adds to it, and eventually gives the carbonate of lime its great length and stalactitic character. In China, the cave-like masses hanging from the roofs of caves are carved into all sorts of shapes by means of pieces of bamboo. They are bright and sparry on fracture, and are usually perforated all through.—*Smith.*

STALAGMITES. Shah-chwang, CHINESE. Deposits of lime on the floors of limestone caves in China and the Tenasserim Provinces. Much of the alabaster of which ornaments are made is stalagmite; but all the alabaster images of the Tenasserim coast are made of marble, and not of compact gypsum, which they much resemble. Stalagmites are formed on the floor of the caverns by the water there depositing that portion of its carbonate of lime which is not separated during the formation of the stalactite. Caverns are sometimes nearly filled with these deposits. All the Tenasserim limestone caves have stalactites hanging from their roofs, and stalagmites raised on their floors. The elephant caves near Rangoon are of prodigious size, and the stalactites and stalagmites are wonderful, and when illuminated with blue lights, the effect is magical. Throughout the plain there is scarcely a rock in which one is not to be found. They are tenanted by myriads of bats. Near Rangoon is a small cave which is curiously and fantastically adorned with innumerable figures of Gautama, of every size, from the colossal to the miniature, stuck against the side of the rock, and occupying every available ledge.

STANISLAS, JULIEN, a Sanskrit and Chinese scholar, who translated the Chinese Buddhist pilgrim Hiwen Thsang's book of travels, named Si-in-ki, or Descriptions of the Countries of the West.

STAPHYLEA EMODI. *Royle.* Serpent Stick.

Guldar,	Beas.	Mar-chob,	Pers.
Chual,	Chenab.	Thanari,	Ravi.
Ban-shagali,	,,	Nag-dan,	Sutlej.
Ban-bakhura,	,,	Kaghania,	,,
Chitra, Kurkni,	Jhelum.		

A small tree of the Himalaya, at an elevation of 6000 to 9000 feet, not uncommon in Murree and Hazara. Bark of branches speckled, whence, on the doctrine of signatures, arises the belief that a branch or stick of it kept by one will drive away snakes.

STAR-ANISE.

Hwai-hiang,	Chin.	Anise d'Etoile,	Fr.
Ta-hwai-hiang,	,,	Skimmi,	Jap.
Pak-koh-hwin-hiang,	,,	Badian-i-khatai,	Pers.
Anas-phool,	Dukh.	Anasi-pu,	Tam.

Star-anise is the fruit of the Illicium anisatum of Linnæus, a shrub or small tree which grows in several places in the south-eastern parts of Asia, in China, Japan, the Philippines, and the countries extending from China to Japan from lat. 23½° to 35° N. The name is given from the clustering star-like form assumed by the capsules or pods, five to twelve in number, joined together at one end, and diverging in rays generally fine. These are used all over the east as a condiment. They are prized for their aromatic taste. The barks have a more aromatic flavour than the seeds, but they are not so sweet. In China, their most common use is to season sweet dishes. In Japan they are placed on the tombs of friends, and presented as offerings in the temples. They are chiefly exported direct to India, England, and the north of Europe, at the average value of 8½ dollars per picul. In India they are much used in seasoning curries and flavouring native dishes, and large quantities are used in Europe in the preparation of liqueurs. It is from this fruit that the oil of anise is prepared, and it imparts the peculiar flavour of anisette de Bourdeaux. — *Burton's Lindl.; Morrison; Simm.; Hogg; Faulkner; O'Sh.*

STARCH.

[illegible]	Arab.	Amido,	It.
[illegible]	Burm.	Kanji, Garus,	Malay.
[illegible]	Chin.	Nishashta,	Pers.
[illegible]	Dan.	Gomma de trigo,	Port.
Amidon,	Fr., Sp.	Krkhmal,	Rus.
Amidan, Stärke,	Ger.	Starkelse,	Sw.
Ganji,	Hind.	Godambe mao,	Tam.

The starch of commerce is procured generally from wheat, rice, and potatoes. The best kind is white, soft, friable, and easily reduced to powder. It is insoluble in cold water and alcohol, but readily affords a gelatinous solution in warm water, which is largely employed for stiffening articles of wearing apparel, and for dressing some descriptions of goods after weaving. It is also much employed by calico printers and others. It can be obtained from a great variety of plants, and many of the most productive of it are natives of the tropical countries in the east. Starch is one of the constituent parts in all mealy farinaceous seeds, fruits, roots, and other parts of plants. The following are the chief fecula or starch-like substances of the east, and may be considered separately also under the heads Arrowroot, Food, and Maranta :—

Arrowroot, West Indian,	Maranta arundinacea.
Arrowroot, East Indian,	Maranta ramosissima, Curcuma angustifolia, and other sp. of Curcuma.
Arrowroot, Mergui,	Tacca pinnatifida.
Tapioca,	Jatropha manihot.
Cassava meal,	Do.
Plantain meal,	Musa paradisiaca.
Sago, Singapore,	Arenga saccharifera.
Sago, Malabar,	Caryota urens.
Sago meal,	Phœnix farinifera.
Sálep,	Habenaria, etc.
Nelumbium seeds,	Nelumbium speciosum.
Singhara seeds,	Trapa bispinosa.
Yams,	Dioscorea (*var. sp.*).
Telinga potato,	Amorphophallus campanulatus.
Sweet potato,	Batatas edulis.
Ceylon moss,	Plocaria candida.
Kotee kalangoo,	Aponogeton monostachyon
Farina of	Parkia biglobosa.
Chara kelangoo,	Plectranthus tuberosus.
Champoo,	Caladium nymphifolium.
Sago, Indian,	Cycas revoluta, C. circinalis, species of Sagus.

STARLINGS are birds of the sub-family Sturninæ and family Sturnidæ. The spotted-winged starling, Saraglossa spiloptera, is a native of the woods and jungles of the lower hills. Sturnus unicolor, *Marmora*, the Sardinian starling. The rose-coloured starling, Pastor roseus, *Linn.*, is a famous locust killer, but their flocks commit immense depredations on the white sorghum and the mulberry.

STAUNTON, Sir GEORGE THOMAS, Bart., ob. August 10, 1858, was born at Milford House, near Salisbury, in 1781, and succeeded his father, the first baronet, in 1810. He was chief supercargo for the E. I. Company, President of the Select Committee at Canton, [illegible] to Pekin in 1810 [illegible], the first [illegible] was secretary to [illegible]artney, a Governor of Madras, and received his title after the negotiation of the peace with Tipu Sultan in 1784. He was subsequently Secretary of Legation during Lord Macartney's embassy to China in 1792. With the embassy of Lord Amherst were present Sir George Staunton, who made a translation of the Chinese Penal Code; also Sir John Davis, author of The Chinese, and translator of several works; and also Dr. Morrison, author of Chinese Dictionary.

STAUNTONIA, a genus of plants belonging to the natural order Lardizabalaceæ, named after Sir George Staunton. This genus is common to China and the Himalayan mountains. The Himalayan species are found in Nepal and in lat. 30° N., at elevations of 5000 and 6000 feet. Stauntonia latifolia, *R. Br.* (Hollbollia latifolia, *Wall.*; Ramkela and Gophla, Hind.), is a twining shrub of Nepal and Kamaon, at elevations of 5000 and 6000 feet. The fruit has a sweetish pulp, and is eaten by the people. Stauntonia angustifolia, *R. Br.*; Hollbollia angustifolia, *Wall.*, is a plant of Nepal.—*Voigt.*

STAUROBATES opposed Semiramis, but was at first overcome by that queen, though he subsequently defeated her. Staurobates is supposed to be the same with Sthavarapati.—*As. Res.* iv. 371, vi. 529, xiii. 256.

STEARINE, the harder portion of animal fats, olein or elain being the softer ones. Stearine yields an acid, called stearic acid, having the form of brilliant, white, scaly crystals, which is largely employed in soap and candle making.—*Waterston.*

STEATITE, Soapstone, Potstone.

Hwah-shi,	Chin.	French chalk,	Eng.
Hwah-shwui,	,,	Balpam,	Hind.
Figure stone,	Eng.		

Steatite is a silicate of magnesia, a soft magnesian mineral, unctuous to the touch. It occurs in beds generally associated with talcose slate, common in Southern Asia, of all sorts and colours. At Vellore, Kurnool, and Salem, and near Mysore there are very fine and beautifully white soapstones, and near Chittur there is a valuable description, procurable in large blocks, and suitable for many statuary and decorative purposes. There is a quarry of excellent potstone at the Nagery Hills. The stone is of fine grain, easily worked with the chisel, and susceptible of a high polish; when oiled, this stone resembles in a great degree black marble. It is abundant in the rocks of the Irawadi towards Khamti, and the white variety is used all over Burma for writing with on their black paper books. Like potstone and serpentine, which it nearly resembles in composition, it becomes considerably harder by exposure to the air. When first raised it may be easily turned with chisels; the turned articles may be polished first with sand and water, and afterwards with tripoli and water, and, for the highest gloss, with rottenstone and oil, woollen cloths being used in each case. When the steatite has become hard, the methods employed for alabaster may be resorted to. Steatite is used as the material for idols and other figures, which form the household gods of the Chinese. It is also mixed with black lead in the manufacture of crucibles. It forms a polishing material for serpentine, alabaster, and glass, [illegible] from cloth. See

[illegible]TEEL.

Kang-tieh, . . . CHIN.	Mal[illegible]luli, . MALAY.
Staal, . . . DAN., DUT.	Aco, ... PORT.
Acier, ... FR.	Stal, ... RUS., SW.
Stahl, ... GER.	Acero, ... SP.
Foulad, . HIND., PERS.	Egu, ... TAM.
Acciajo, ... IT.	Wukku, ... TEL.
Baja, Waja, Lela, MALAY.	Chelik, ... TURK.

Steel is iron combined with a small quantity of carbon. It is hard, brittle, resists the file, cuts glass, affords sparks when struck on flint, and retains the magnetic virtue for any length of time. It loses its hardness by being heated and cooled very slowly. Steel is used for many small implements and important engineering and other works.

Konasamoondrum steel is made at several villages in the Circar of Elgundel, at Ibrahimpatnam, and at Konapur in the Karaolla pargana, and at Atmacore and Chintulpet in the Vellurla Taluka. Formerly it was prepared at several other places. Teepoor, the iron, is manufactured at Maytpilly, a village 12 miles south of the Godavery, from a ferruginous sand procured from gneiss by roasting, pounding, and washing.

The steel wire of Chinnapatam, in Mysore, has long been known. The ore from which wootz, an Indian steel, is made, is a magnetic oxide combined with quartz, generally in proportion of 48 parts of quartz to 52 of oxide of iron. It is made in many parts of the south of India, but Salem is the chief seat of the manufacture, and there the ore is prepared by stamping and separating the quartz either by washing or winnowing. The furnace is from three to five feet high from the surface of the ground, and the ground is hollowed out beneath it to the depth of eight inches or a foot. It is somewhat pear-shaped, being about two feet diameter at the ground, and tapering to about one foot diameter at the top; it is built entirely of clay. Two men can finish one in a few hours; it is fit for use the next day. The blast is furnished by a pair of bellows each being a goat skin with a bamboo nozzle; a semicircular opening about a foot and a half high and a foot in diameter at the bottom, is left in the furnace, and before each smelting it is stopped up with clay. The furnace is then filled up with charcoal, and kindled, a small quantity of ore, previously moistened, is laid on the top of the fuel, and charcoal is thrown over it to fill up the furnace; in this manner ore and fuel are added and the bellows plied for four hours or thereabouts, when the process is stopped, and the temporary wall in front of the furnace having been broken down, the bloom is removed by a pair of tongs from the bottom of the furnace, and is then beaten with a wooden mallet to separate as much of the vitrified oxide as possible; and, while still red-hot, it is cut half through with a hatchet, and in this state sold to the blacksmiths, who perform all the subsequent operations of forging it into bars, and making it into steel. The process of forging into bars is performed by sinking the blooms in a small charcoal furnace, and repeated heatings and hammerings to free it as much as possible from the vitrified and unreduced oxide of iron; it is thus formed into bars about a foot long, an inch and a half broad, and about half an inch thick. In this state it is full of cracks and exceedingly red short. These bars are cut into small pieces to enable them to pack in a crucible. A quantity amounting to a pound and a half to two pounds is put into a crucible along with a tenth part by weight of dried wood of the Cassia auriculata chopped small; these are covered with one or two green leaves of the Calotropis gigantea, the mudār plant, and the mouth of the crucible filled up with a handful of tempered clay, which is rammed so as to exclude the air perfectly. As soon as the clay is dry, twenty to twenty-four of the crucibles are built up in the form of an arch with their bottoms inwards, in a small furnace urged by two goat-skin bellows, charcoal is heaped up over them, and the blast kept up without intermission for about two hours and a half, when it is stopped, and the process is considered complete. The crucibles are removed from the furnace and allowed to cool; they are then broken, and the steel, which has been left to solidify, is taken out in a cake, having the form of the bottom of the crucible. When the fusion has been perfect, the top of the cake is covered with striæ, radiating from the centre, but without any holes or rough projections on it; when the fusion has been less perfect, the surface of the cake has a honeycombed appearance, caused probably by particles of scoriæ and unreduced oxide in the bar iron, and often contains projecting lumps of iron still in the malleable state. The natives prepare these cakes of steel for being drawn into bars by annealing them for several hours in a charcoal fire actuated by bellows, the current of air from which is made to play upon the cakes whilst turned over before it at a heat just short of that sufficient to melt them; by this means the excess of carbon is detached. The process of smelting iron differs according to circumstances in different parts. In some the ore is collected in the form of sand from the beds of rivers or ironstone is collected either from the surface or from mines.

Steel of Mysore made at Mudgiri is the best.

That made of kanekal ore from the Dhore Gudda Hill in the Chikkanaikenhalli taluk, is produced in a ruder manner, and is of an inferior quality. The kanekal is pounded to the size of small gravel and well cleaned. But the Mudgiri ore is reduced to an iron-sand by hard wooden mallets, and the earthy particles washed away, and is then filled into the small furnace with 15 times its bulk of charcoal, made of Ficus Indica, F. racemosa, and F. excelsa. The furnace is about 4 feet high, 2½ feet at bottom, and about 1½ feet at mouth, which is covered with an open earthen pot, pierced with holes at its bottom, like a colander; ten seers of charcoal are placed at the bottom, then one seer of the iron-sand, over which again five more seers of charcoal are placed (the furnace having been previously warmed). The materials are then ignited, and the fire kept up from below without intermission for three hours, by two men blowing two common blacksmith's hand-bellows, during which time the colander has been filled as the material sinks till seven more seers of iron-sand have been added, with their due proportion of charcoal. The whole eight seers are then considered to be in a proper state to take out, which is done by opening the hole at the bottom, when the semi-molten mass is withdrawn by large pincers to an indentation in the neighbouring rock, where it is beaten with the same wooden mallets into as shapely a mass as time will admit of. This is reheated in a forge and beaten into four rough bars, and again reheated and beaten into bars 7 to 11 inches long, and in this state they are fit for the crucibles, and called 'gatti murudu.' The furnace for converting them into steel is merely a hole in the ground, about two feet deep, lined with red clay, the greatest diameter being about two feet, and the least (which is about nine inches from the surface) about one foot, when it is gradually sloped out in the form of a skew-back to receive fourteen crucibles with their ends downwards, which are ranged round it in the form of a flat arch. Charcoal is put below and above, and when ready for igniting, the charcoal appears about six inches or so above the ground, and is prevented from spreading by a low wall, in the rear of which the bellows are blown. The charcoal is renewed from time to time, so as to keep the crucibles in the midst of a carefully-regulated heat, which is kept up by plying the bellows unremittingly for four hours, when the firing is complete.—*Major Cuth. Davidson, Assistant Resident; M. C. C. for Ex. of* 1851; *Rohde, MSS.; Mad. Lit. Journ.; M. E. J. R.; Heyne.*

STEFANO, HIERONIMO DI SANTO, a Genoese, visited India about 1474–99 as a merchant. At Cairo he laid in a stock of coral beads and other wares, and passed down the Nile to Cane (Keneh), from which he travelled by land through the Egyptian desert for seven days to Cosir (Cosseir) on the Red Sea, where he embarked on board a ship, which in 25 days carried him to Mazua (Massouah) off the country of Prester John; and in 25 days more, during which he saw plenty of boats fishing for pearls, to Adem (Aden); and in 35 days more to Calicut. 'We found that pepper and ginger grew here, . . . and the nut of India' (cocoanuts). From Calicut he sailed in another ship, and in 26 days reached Ceylon, 'in which grow cinnamon trees, . . . many precious stones, such as garnets, jacinths, cats'-eyes, and other gems, . . . and trees of the sort which bears the nut of India.' Departing thence after twelve days, he arrived at a port on the coast of Coromandel, where the red sandal-wood grows; and after a long stay, departing thence in another ship, after 27 days reached Pegu in Lower India. This country (Pegu) is distant 15 days' journey by land from another, called Ava, in which grow rubies and many other precious stones. From Pegu, where he suffered many and great troubles, he set sail to go to Malacca, and, after being at sea 25 days, one morning found himself in a port of Sumatra, where grows pepper in considerable quantities, silk, long pepper, benzoin, white sandal-wood, and many other articles. After further and greater troubles suffered here, he took ship to Cambay, where, after six months' detention among the Maldives, and subsequent shipwreck, he at length arrived, but stripped of all his goods. He notices that Cambay produced lac and indigo. In his destitution he was assisted by a Moorish merchant of Alexandria and Damascus, and after a time proceeded in the ship of a sheriff of Damascus as supercargo to Ormuz, in sailing from which place from Cambay he was [illegible]. From Ormuz, in company with [illegible] and Azami (Irak-Ajemi) merchants, by land to Shiraz, Ispahan, Kashan to Tauris; whence he went [illegible] which was plundered by [illegible] finally to Tripoli in [illegible]. *Purchas, Pilgrimage; Dr. Birdwood's Records.*

STEGODON GANESALIS. *Sw.* The broken masses of fossil bones are found in Sze-chuen, Shan-tung, and Shen-si in China, and are called Lung-kuli or dragon's bones. They are powdered and levigated, and used in spermatorrhœa. The fossil teeth of Stegodon Sinensis, *Owen*, also, are called Lung-chi or dragon's teeth.—*Smith.*

STELLARIA MEDIA. *Sm.* Kaaray munthakiray, TAM. One of the Alsinaceæ or chickweed tribe of plants. S. media grows on the Neilgherries, and S. triandra, *Wall.*, of Nepal, is used by the natives on the Neilgherries as a pot-herb, eaten alone and mixed with others; probably introduced.—*Jaffrey.*

STEMONOPORUS. *Thw.* A genus of Ceylon trees. The S. acuminatus is a large tree of Ceylon in the Ambagamwa, Badulla, and Mahamahanawera districts, at no great elevation. S. affinis is a large tree, growing in the Hunasgiria district, at an elevation of 4000 feet. S. canaliculatus, a moderate-sized tree, of the Hinidun and Reigam corles, at no great elevation. S. Gardneri, a great forest tree, near Adam's Peak, at an elevation of about 5000 feet. S. lanceolatus is a small tree near Ratnapura, at no great elevation. S. Moonii, near Maturatte. S. nitidus, at Pasdoon corle, a middle-sized tree, at no great elevation. Thwaites also mentions S. oblongifolius, S. petiolaris, S. reticulatus, S. rigidus, and S. Wightii, a great tree, the Vateria Ceylanica of Wight; and S. apicalis (the Urandra apicalis in Hooker's Kew Journal of Botany), is a great tree of the dam forests, at an elevation of 1000 to 2000 feet, Ooroo-kannoo gass of the Singhalese.—*Thw.* p. *Beddome, Fl. Sylv.* p. 99.

STENO MALAYANUS.

Dolphinus plumbeus, *Dussumier, Cuv.*
D. Malayanus, *Lesson apud Cuv.*

Inhabits the Malabar coast and coasts of Penang. It is numerous and rather heavy in movements, but is rarely captured, except by chance in the stake-nets. It eats small fishes, Clupea and Glyphisidon cœlestinus. Steno frontatus inhabits the Indian Ocean and the Pacific.—*Cuvier.*

STEPHEGYNE PARVIFOLIA. *Hooker f. et Bentham.* This is a large deciduous timber tree, one of the Rubiaceæ, the Nauclea parviflora of Roxburgh. Its wood is light, moderately hard, of a pinkish-brown colour. S. diversifolia, *H.*, is a tree of Burma, and S. tuberlosa, *H.*, a tree of Ceylon.

STERCULIACEÆ, an order of plants of the E. and W. Indies, S. America, Mexico, Madagascar, all Southern Asia, and New Holland. The order comprises 82 genera, and upwards of 100 species. They are trees or shrubs, sometimes climbing or twining plants, and are all remarkable for the abundance of their mucilage and the tenacity of their fibres.

A. Helictereæ, *Schott and Endlicher.*
corylifolia, *Sch. and Endl.*, all India.
., Timor.
Lindley, China.
our., Cochin-China, Malay Arch.
, China.
ong-Dong.
Burma.
Sterculieæ, *Schott* *Endlicher.*
oxburghii, *Sch. a* *ndl.*, Sylhet, Chittagong.
eritiera minor, *Lam.*, Sunderbuns.
littoralis, *Ait.*, Mauritius, Pen. of India.
fomes.
papilio.
macrophylla, *Wall.*, Munipur.
acuminata, *Wall.*, hills N.E. of Bengal.
riphaca Africana, *Lour.*, Mozambiq
terculia fœtida, *L.*, all E. Indies, Moluccas.
. villosa, *Roxb.*, India, Hardwar to Jumna.
. colorata.
. Roxburghii.
. guttata, *Roxb.*, Pen. of India.
. lanceæfolia, *Roxb.*, Khassya.
. acerifolia, *Cunningham*, —?
. pallens, *Wall.*, Nepal.
campanulata, —? Khassya.
ornata, *Wall.*, Burma.
uthwellia balanghas, *Sch. and Endl.*, China.
nobilis, *Salisb.*, India.
versicolor, *Endl.*, Segain.
lanceolata, *Endl.*, China.
coccinea, —? Sylhet, Penang.
angustifolia, —? Nepal, Penang.
parviflora, *G. Don*, Tiperah, Penang.
avallium urens, *L.*, Peninsula of India.
comosum, *Sch. and Endl.*, Amboyna.
ildegardia populiflora, *Sch. and Endl.*, Coromandel.
. Candollii, *Endl.*, Timor.
. macrophylla, *Endl.*, Pondicherry.
ythropsis Roxburghiana, *Lindl.*, Pen. of India, Khassya, Hardwar.
rmiana platanifolia, *Sch. and Endl.*, China, Japan.
aphium Wallichii, *Endl.*, Martaban.
rio zibethinus, *L.*, Eastern Archipelago.
ssampinus Rumphii, *Sch. and Endl.*, E. Indies, E. Archipelago.
malia Malabarica, *Sch. and Endl.*, all India.
nsignis, *Sch. and Endl.*, Burma.
bax ceiba, *L.*, East and West Indies.
ansonia digitata, *L.*, West Africa, all India.

D. Bombeyeæ, *D. C.*
ntapetes phœnicia, *L.*, all East Indies.
lhania Hamiltoniana, *Wall.*, Burma.

M. abutiloides, *Arn.*, Peninsula of India.
M. incana, *Heyne*, Mysore.
Pterospermum suberifolium, *Lam.*, Ceylon, Pen. of India.
P. rubiginosum, *Heyne*, Courtallum.
P. cinnamomeum, *Kurz.*
P. Heynianum, *Wall.*, Gingi, Courtallum.
P. diversifolium, *Bl.*
P. reticulatum, *W. and A.*, Pen. of India.
P. glabrescens, *W. and A.*
P. acerifolium, *Willde.*, Pen. of India, Assam.
P. obtusifolium, *Wight*, Courtallum.
P. Javanicum, *Jungh.*
P. aceroides, *Wall.*, Martaban.
P. lanceæfolium, *Roxb.*, Assam.
P. semisagittatum, *Buch.*
Astrapæa Wallichii, *Lindl.*, Madagascar.
Kydia calycina, *Roxb.*, Pen. of India, Nepal, Hardwar to Jumna.
K. glabrescens, *Mast.*
K. fraterna, *Roxb.*, Circars.

E. Wallicheæ, *D. C.*
Wallichia quinquelocularis, —? Pulney Hills.
W. caryotoides, *Roxb.*
W. densiflora, *Martius.*
W. disticha, *T. And.*
W. nana, *Griff.*
W. yomæ, *Kurz.*
Eriolæna Candollii, *Wall.*, Prome.
E. Wallichii, *D. C.*, Nepal.
E. Hookeriana, *W. and A.*
E. quinquelocularis, *Wight.*
E. spectabilis, *Planch.*
E. Stocksii.

F. Byttnereæ, *D. C.*
Theobroma cacao, *L.*, S. America, also T. Guianense, T. bicolor, T. angustifolium.
Abroma augustum, *L.*, Penin. of India, Moluccas.
A. fastuosum, *Gærtn.*, Timor, N. Holland.
Guazuma tomentosum, *H. B.*, S. America, cultivated in India.
G. ulmifolium, *Lam.*, West Indies.
Commelyna echinata, *Forst.*, Penang, Singapore, Moluccas.
C. platyphylla, *Andr.*, Moluccas.
Byttnera herbacea, *Roxb.*, Circars, Vellore, Bombay.
B. pilosa, *Roxb.*, Sylhet.
B. aspera, *Colebrooke*, Sylhet, Chittagong.
Kleinhovia hospita, *Linn.*, Penin. of India, Penang, Moluccas.
Actinophora fragrans, *Wall.*, Mauritius.

G. Hermannieæ, *Juss.*
Lochennia supina, *Arn.*, Peninsula of India.
L. corchorifolia, *Arnott*, all India.
Visenia velutina, —? Java, Mauritius.
Waltheria Indica, *Linn.*, Ceylon, Pen. of India and Malacca, Bengal, Dehra Doon.

—*Voigt.*

STERCULIA, a genus of plants of the order Sterculiaceæ. One species, the Kun-nun-nu of the Burmese, an enormous tree, grows at Tavoy, as also does another species, called in Tavoy Thi-ka-doo. One species in Africa, and another in India, S. fœtida, yields a tragacanth-like gum. The seeds of Sterculia chicka are eaten by the Brazilians, as in India are those of S. balanghas, S. urens, and S. fœtida, after being roasted. A species called Kodalo in Telugu, not S. fœtida, is a tree of Ganjam and Gumsur; extreme height, 39 feet; circumference, 3 feet; and height from ground to the intersection of the first branch, 8 feet; gives a light wood, used for planks, doors, boxes, and scabbards; it is also used for firewood, being tolerably plentiful. Sterculia ramosa, S. fœtida, S. campanulata, S. piperifolia, are very plentiful throughout the Pegu province; they yield a gum which is known in the bazars of Bengal under the name of Kotheela. Other two species, S. balanghas and S. colorata, are not so plentiful. This gum is

probably analogous to the tragacanth, which Dr. Lindley states is obtained from a species of Sterculia at Sierra Leone.

STERCULIA ACUMINATA, the Kola acuminata, *R. Br.*, is the Kola nut or Gongo nut tree of W. Africa and the Soudan, Senegambia, Angola. In Fezzan they sell at a dollar for four seeds. They support the strength, allay inordinate appetite, assuage thirst, promote digestion, and render those who use them capable of prolonged fatigue. It should be introduced into India. Quantities of the nut are carried to the interior of Africa. Each nut of the Gongo variety sells for 100 cowries, and 2500 cowries at Rabba on the Kevorra value a dollar of 4s. 4d. Bitter Kola fruit is about the size of a peach, rose-coloured, and very pretty. The bitter Kola nut is intensely bitter, not astringent like common Kola, and is used for medicinal purposes.

STERCULIA ALATA. *Roxb.*

Bud'h's Cocoanut.	Pterygota Roxburghii, *Sch. and Endl.*
Shaw-nee, . . . BURM.	Dodelee mara, . . CAN.

Grows to an immense height in Canara and Sunda in deep ravines and sheltered places below the ghats, but is used there only as a support for [illegible]nes. The wood is said to be too spongy [illegible] for which its height and straightness [illegible]well fit it. It is a handsome tree in the [illegible]im Provinces, bearing a large fruit, whose [illegible]eeds are sometimes eaten by the natives.

[illegible]CULIA BALANGHAS. *Linn.* Pin[illegible]. A tall and straight tree of the hotter [illegible] Ceylon, common in the forests of the [illegible] coast. It may readily be distinguished [illegible]ain seasons by its large pink fruit. The [illegible]s of open grain. The seeds are described [illegible]mphius as being roasted and eaten by the [illegible]s of Amboyna, and the capsules burned for [illegible]paration of the kusumbha colouring matter.

[illegible]RCULIA COLORATA. *Roxb.*

[illegible] . . . . DUKH. | Karaka, . DUKH. ? TEL.

[illegible]ge tree of the Dekhan, which is deciduous [illegible]cold season, and flowers in March and [illegible]The wood is said to be useless. Carpels [illegible]ght red, somewhat resembling the broad [illegible] a pea opened, with the peas adhering. [illegible]e when covered with them has a strange [illegible]nce.

[illegible]RCULIA FŒTIDA. *Linn.*

[illegible]Badam, . HIND.	Kudrap-dukku, . TAM.
[illegible]naram, . TAM.	

[illegible] large tree is very common in the [illegible] Province of Ceylon, and grows in the [illegible]la of India generally, but chiefly on the [illegible] coast, in Malabar and Mysore. It is [illegible] on the hills and plains of British Burma. [illegible]on its wood is used for common house[illegible]g purposes. On the western coast and in [illegible], it is applied to a number of useful pur[illegible] and Dr. Gibson tells us that it is used as a [illegible]ute for the true poon spars in small country [illegible] It makes a good avenue tree. In the [illegible] this fruit there are contained certain [illegible]ernels which have a very pleasant taste, [illegible]arnem ossiculum locatur oblongo-rotundum [illegible]ucleum continens candidum amarodulcem. The [illegible]lower has a most offensive smell, and hence the [illegible]amil name. The fruit is used in the treatment [illegible]f gonorrhœa. The leaves are deemed aperient, [illegible]nd a decoction of the fruit mucilaginous and astringent. The seeds are oleaginous, but are deemed unwholesome. The semi-solid oil obtained by expression from the seeds of this large jungle tree is thick at all seasons of the year, appears to contain a large percentage of stearine, but it is doubtful if it can be obtained in large quantities. It was sent to the Great Exhibition of 1851 from Bombay.

STERCULIA GUTTATA. *Roxb.*

Kawillee of ANIMALLAY.	Pi maram, . . . TAM.
Goldar, ... DUKH.	Ramena pu maram, ,,
Kukar, ... MAHR.	

A large erect forest tree of Ceylon, Malabar, and all over Southern India. Carpels the size of a large apple, three or more growing together, of a reddish colour; seeds size of a chesnut, roasted and eaten by the natives. The bark of the younger parts of the tree abounds with very strong, white, flaxen fibres, of which the inhabitants of Wynad manufacture a kind of coarse cloth, which derives its name from the first process of its manufacture, viz. the chopping the bark into small pieces, from auragoonoo, to cut. It is not usual to make use of the bark until the tenth year. The tree is then felled, the branches lopped off, and the trunk cut into pieces of six feet long, a perpendicular incision made in each piece, the bark opened and taken off whole, chopped, washed, and dried in the sun; by these means, and without any further process, it is fit for the purposes of clothing.

STERCULIA MONOSPERMA. *Ventenat.* The S. nobilis of R. Brown, a middle-sized spread[illegible] tree of China. Its seed[illegible]d those of S. urceolata of the Moluccas, are roasted and eaten as chesnuts.

STERCULIA PARVIFLORA. *Roxb.* Ramjulparee, HIND. A middle-sized tree, a native of the hills east of Tiperah. It is abundant in the jungles of Ajmir.—*Roxb.; Gen. Med. Top.* p. 202.

STERCULIA PLATANIFOLIA. *Tung.* Wutung, CHIN. Ornamental, shady, large-leafed tree of China, frequent in the courtyards of houses and temples. The seeds are oily, and enter into the composition of the cakes eaten at the autumnal festival of the eighth month. The leaves and liber make a hair-wash and a soothing lotion.

STERCULIA URENS. *Roxb.*

Buli? . . . . . BENG.	Velle butalle, . . TAM.
Kur katila, Katira, HIND.	Vellay putalli, . . ,,
Kundol, Kavali, MAHR.	Thabsi, Kavali, . . ,,

This large tree is a native of Ceylon and of most parts of India. Its peculiar bark looks as if painted of a light colour. Wood soft, spongy, and loose-grained, only fit for the most common purposes. Its leaves and tender branches are used in certain cattle diseases. The leaves when soaked in water render it ropy and glutinous. The bark yields the Katila gond gum, resembling tragacanth. The carpel is covered with rigid bristly hairs, which puncture like the Mucuna pruriens. The seeds of the stinging pods are roasted and used by the natives as an article of diet, and also as a dainty. Bark, exceedingly astringent, tinges the spittle reddish. Its gum has been sent to London, but artists did not find it answer. It exudes spontaneously during the hot season, in large, light-brown or white, transparent tough masses. Immersed in water, these swell like a jelly, but do not dissolve unless by protracted boiling. Its uses are very limited. The solution is not adhesive. The want of adhesiveness renders it unsuitable for the arts, while its

difficult solubility renders it inferior to most other gums for medicinal purposes. A similar gum, called Kutira, is afforded by the Cochlosperum gossypium.

STERCULIA VILLOSA. *Roxb.*

Gul-kandar, Kuri, Chen.	Kurdula, ... Mahr.
Gul-bodla, . . Hazara.	Osha, God-gudala, Sutlej.
Oodhal, Oodial, . Hind.	Magsu, . Sutlej, Ravi.

A large tree of the Dekhan and in the mountainous countries to the eastward of Bengal, common in many places in the outer hills of the N.W. Himalaya to 3600 feet or more up to the Indus, and occurs in the Salt Range. It has a straight trunk, with a smooth bark, leaves palmated, five or seven lobed. The bark can be stripped off from the bottom to the top of the tree with the greatest facility, and fine pliable ropes may be made from the inner layers, whilst the outer yield coarser ropes. The rope is very strong and very lasting, wet doing it little injury. In Southern India elephant ropes, and in Bombay bagging, are made of it. In Dehra Doon good paper has been made from it.

STERCULIA WALLICHII.

Wulena, Ulan, Beas., Rav.	Kuri, ... Chenab.

A shrub of the Panjab, occasional to 3500 feet. —*Drs. Roxb., Ainslie, Brandis, Gibson, Mason, Riddell; Wight and Arnott; Cleghorn; Royle; M'Clelland; Stewart; W. Ic.; Captains Beddome, Drury, Macdonald; Thomson and Mendis; Rohde.*

STEREOSPERMUM CHELONOIDES. *W. Ic.*

Bignonia chelonoides, *Linn.*

[illegible]-koop-poo, . . Burm.	Vela-pathri, . . Tam.
Padri, ... Hind.	Kala-goru, . . . Tel.
Padul, ... Mahr.	Moka-yapa, ... ,,
Lumu-madala, . . Singh.	

This, though not a large, is a very handsome tree, with very fragrant, beautiful pinkish flowers. It is very common in almost all the forests of the Madras Presidency up to an elevation of about 3000 feet, also in Ceylon, Mysore, Bombay, Bengal, and Burma. The wood is of a beautiful orange-yellow colour, close and even grained, elastic and durable, easily worked, and gives a smooth glossy surface. A cubic foot weighs 57 to 60 pounds unseasoned, and 40 pounds when seasoned; and its specific gravity is ·768. The sapwood is rather coarse-grained, of a brownish-white colour, and not durable. The wood is much used in house-building, and for a variety of purposes by the natives. The roots, leaves, and flowers are used medicinally. The wood of S. fimbriatum, *D.C.*, is of similar structure. —*Wight; Gibson; Brandis; Beddome; Gamble.*

STEREOSPERMUM SUAVEOLENS. *W. Ic.* Bignonia suaveolens, *Roxb.* A middle-sized tree, with pinnatic leaves and panicled inflorescence, frequent in the Walliar jungles. It abounds in the Sunda forests in Southern India, is very rare in other Bombay forests, but is occasionally found in the Konkan, near temples, where it has evidently been planted for the sake of its beautiful flowers. The wood is dark-coloured, strong, and serviceable; is said by Dr. Wight to be elastic, and fitted for making bows. It grows in the south of Ceylon, in the neighbourhood of Buddhist temples. Its roots are much valued by the Singhalese as a tonic medicine, and they attribute the same properties and give the same name (Palol) to those of Spathodea adenophylla, which is occasionally found in gardens.—*Wight; Cleghorn; Gibson; M. E. J. R.; Thwaites.*

STEREOSPERMUM XYLOCARPUM. *Benth.* Bignonia xylocarpa, *Roxb.* A deciduous tree of the Dekhan; sap-wood large, grey; heart-wood brown-coloured, very hard.—*Gamble.*

STERNINÆ, a sub-family of web-footed, long-winged birds, known as sea swallows and terns.

Kivi, ... Gond.	Mach-louka (fish snatcher), . . . Hind.
Tehari, ... Hind.	Ramadasu, . . . Tel.
Ganga chil (Ganges kite), ... ,,	Samdrapu-kaka (sea-crow), ... ,,

Terns spend the greater part of their lives on the wing, and always seek their food when flying.

i. *Marsh Terns.*

Sylochelidon caspius, *Latham*, Europe, Asia, Africa.
Syl: strenua, *Gould*, Australia.
Gelochelidon anglicus, the Sterna anglica, gull-billed tern, inhabits the warmer regions of the old world, extending also to America, Java, and is common in India.
Hydrochelidon Indica, *Stephens*, Europe, Asia, Africa.

ii. *River Terns.*

Seena aurantia, *Gray*, Ceylon, Burma, S. China.
Sterna nirundo, *Linn.*, or common tern of Europe, Asia, Africa, S. India, Ceylon.
St. Javanica, *Horsf.*, all India.
St. paradisea, *Brunnich*, or Sterna Dougalli, roseate tern of Europe, Asia, Africa, America, Australia, coasts of India.
St. minuta, *Linn.*, is Sternula minuta, the l[illegible] of northern hemisphere; replaced in Sout[illegible] and Australia by nearly affined species [illegible] on the west coast and in parts of South I[illegible]

iii. *Sea Terns.*

Thalasseus cristatus, *Stephens*, Red Sea to Chi[illegible]
Th. Bengalensis, *Lesson*, Red Sea to Bay of Be[illegible]

iv. *Oceanic Terns.*

Onychoprion melanauchen, *Temm.*, Bay of Be[illegible] Australia.
O. anasthætus, *Scopoli*, Red Sea, Indian Ocean.
O. serrata, *Forster*, Pacific Islands.
Anous stolidus, *Linn.*, the noddy.
An. tenuirostris, *Temm.*, white-headed noddy, I[illegible] Ocean.
Rynchops albicollis, *Swainson*, all India.

—*Je[illegible]*

STERNOCERA CHRYSIS. Its elytra a[illegible] in India in embroidering muslin.

STEVENSON, Reverend J., D.D., cha[illegible] St. Andrew's Church, Bombay, who w[illegible] the Anti-Brahmanical Worship of the [illegible] in Lond. As. Trans. vi. p. 239, viii. p. 3[illegible] the Mahrati Language, ibid. vii. p. 84; Modern Deities worshipped in the Dekha[illegible] p. 105; on the Buddha-Vaishnavas [illegible] Dekhan, ibid. p. 64; on the Intermix[illegible] Buddhism with Brahmanism in the Relig[illegible] the Hindus of the Dekhan, ibid. p. 1; A[illegible] of the Ganesa Purna, ibid. xiii. p. 319; R[illegible] on the Relation between the Jain and B[illegible] ical Systems of Geography, Bom. As. Tran[illegible] ii. p. 411; on Specimens of Saurashtr[illegible] found near Junir, ibid. p. 377; on the Bra[illegible] ical Manner of Constructing their Image[illegible] p. 396; Translation of Buddha Inscriptio[illegible] Nasik, ibid. p. 452; Observations on the [illegible] matical Structure of the Vernacular Langu[illegible] India, ibid., 1849, i. p. 171, 1850, iv. p. 196. He gave some comparative lists of w[illegible] the Indian languages, tracing analogies [illegible] Mongolian, Celtic, and Hebrew tongues, and sai[illegible] there exists a great resemblance in the gram[illegible] matical structure of the chief modern language[illegible] in the north and in the south of India, proofs o[illegible] which he produced from the Hindi, Bengal[illegible]

jerati, Mahrati on the one side, and from lugu, Carnatica, Tamil, and Singhalese on the her. He thinks that there is more agreement n construction with the Turkish than with the Sanskrit, so that he believed it likely that the original language of India may be the connecting nk between what the Germans have called the do-Germanic family and the Turkish family of guages.—*Dr. Buist; Max Muller's Rep. Brit.* ., 1847, p. 331.

STEWART, CHARLES, author of History of gal to its Conquest by the English, London 3; also a Descriptive Catalogue of the Oriental rary of the late Tipu Sultan, with Memoirs of Hyder Ali.

STEWART, LIEUTENANT-GENERAL D. M., K.C.B., Bart., served on the frontier in 1854–55, was Deputy Assistant Adjutant-General at the siege of Delhi, and Assistant Adjutant-General of the army at the siege and capture of Lucknow, and throughout the subsequent operations in Rohilkhand. He also commanded the Bengal Brigade in the expedition to Abyssinia in 1867–68, was afterwards (1872–73) Chief Commissioner at the Andaman Islands, commanded the Lahore division, and in command of the Kandahar column of erati ns in the late Afghan campaign. He was times mentioned in despatches, was created et of the United Kingdom, and appointed nder-in-Chief of India.

AIA. SANSK. Arid or dry land, which vernacular dialect becomes t'hul. It is verse of the Greek oasis, denoting tracts larly sterile. Each t'hul of the Indian has its distinct denomination, as the 't'hul vur,' the 't'hul of Goga,' etc. Maristhali, he Sanskrit Mri, to die, and St'hala, is a name desert of Rajputana. St'hali devata are s of the soil.

HAMBA or Lat, SANSK., is a monolithic usually erected in front of a Hindu temple, er Saiva, Vaishnava, Jaina, or Buddhist. re of all ages, from B.C. 250 down to the ecent times. The Buddhist st'hambas wheel representing Dharma or law or he Saiva bear a trisula; the Vaishnava a f Garuda; and the Jaina a Chaumuktra or Tirthankara. Some of the finest of t lats were erected by Asoka, and bear his r other inscriptions, but are not ap- y in connection with any temple or other re, or if so, these have long ago perished. *and Burg. Cave Temples of India*, p. 174.

HAMBA PUJA, worship of the temporary rected for a marriage.

HANA. SANSK. A place or station. St'han, t'hana, stan, istan, or estan, added to the f a thing, expresses the place wherein it s or is contained; as Gulistan, a flower- or bed of roses; Hindustan, the country Hindus; Negaristan, a cabinet or gallery ures. St'hana, SANSK., the firm, a name .—*Ouseley's Travels.*

HAVIRA, SANSK., or, in Pali, Thero, an f the Buddhist religion, a Buddhist priest.

I'NANAM. SANSK., TAM., TEL. Bathing Hindus as a religious rite of purification. St'hnanam abhiangana, amongst Hindus a ceremonial on the wedding day, when the bride and bridegroom are anointed with oil.

STHUNA-KARNA, in Hindu mythology, a Yaksha who is represented in the Mahabharata to have changed sexes for a while with Sikhandivi, daughter of Drupada.—*Dowson.*

ST'HUPA. SANSK. A Buddhist tumulus or tope, a mound, burrow, or funeral pile, a hemispherical shrine, or a tumulus erected over any of the sacred relics of Buddha, or on spots consecrated as the scenes of his acts. The st'hupa in Pali becomes stupo, and in Anglo-Indian phraseology tope. We thus hear constantly of the Bhilsa topes, and the Sarnath and the Sanchi topes. The word is from a Sanskrit root to heap, to erect. The st'hupa or dagoba or topes of India are monumental shrines or receptacles for the relics of Buddha, or for those of the Sthavira or patriarchs of the sect, or to commemorate some historical event or legend. They consist of a cylindrical base supporting a hemispherical dome called the garbha. On the top of this was placed the Tee, a square stone box, usually solid, covered by a series of thin slabs, each projecting over the one below it, and with an umbrella raised over the whole. General Cunningham says the Pali form is Thupo, also Thupa or Thuva, in the early Aryan inscriptions from the Panjab. The term now used is Thup for a tolerably perfect building, and Thupi for a ruined mound. The great st'hupa or Buddhist monument of Manikyala was first made known by the journey of the Honourable Mountstuart Elphinstone, and has since been explored by Generals Ventura and Court. The name is said to have been derived from Raja Man or Manik, who is said to have erected it. The pilgrim Fa Hian states that at two days' journey to the east of Taxila is the spot where Buddha gave his body to feed a starving tiger. But Sung-yun fixes the scene of this exploit at eight days' journey to the south-east of the capital of Gandhara, which is a very exact description of the bearing and distance of Manikyala, either from Peshawur or from Hashtnagar. General Cunningham has identified the great st'hupa of the 'body-offering' with the monument that was opened by General Court, which, according to the inscription found inside, was built in the year 20, during the reign of the great Indo-Scythian prince Kanishka, shortly before the beginning of the Christian era. Manikyala was therefore one of the most famous places in the Panjab at a very early period; but he thinks that it must have been the site of a number of large religious establishments rather than that of a great city. The people are unanimous in their statements that the city was destroyed by fire; and this belief, whether based on tradition or conviction, is corroborated by the quantities of charcoal and ashes which are found amongst all the ruined buildings. It was also amply confirmed by the excavations which he made in the great monastery to the north of General Court's tope. He found the plaster of the walls blackened by fire, and the wrought blocks of kankar limestone turned into quicklime. The pine timbers of the roofs also were easily recognised by their charred fragments and ashes. General Cunningham discovered nothing during his researches that offered any clue to the probable period of the destruction of these buildings; but as this part of the country had fallen into the power of the Kashmirian kings even before the time of Hiwen Thsang, he was inclined to

attribute their destruction rather to Brahmanical malignity than to Muhammadan intolerance. Vaisali is supposed by General Cunningham to lie to the east of the Gandak, where we find the village of Besarh, with an old ruined fort which is still called Raja-Bisal-ka-garh, or the fort of Raja Visala, who was the reputed founder of the ancient Vaisali. The ruined fort of Besarh thus presents such a perfect coincidence of name, position, and dimensions with the ancient city of Vaisali, that there can be no reasonable doubt of their identity. In one of the Buddhist legends quoted by Burnouf, Buddha proceeds with Ananda to the Chapala st'hupa, and, seating himself under a tree, thus addresses his disciple: 'How beautiful, O Ananda, is the city of Vaisali, the land of the Vriji,' etc.—*Ferg. and Burg.* p. 18.

STILLINGIA SEBIFERA. *Willde., Micheaux.*

Sapium sebiferum, *Roxb.*	Croton sebiferum, *Linn.*
Chelat pipal, . . BENG.	Kiung-shu, . . . CHIN.
Mom China, . . ,,	China tallow tree, ENG.
Wu-kiu-muh, . . CHIN.	Pipal yang, . . . HIND.
Ya-kiu, ... ,,	

The Tallow.

Kim-yu, Mu-yu, . CHIN. | Peh-yu, Hiueh-yu, CHIN.

It receives its Chinese name from the fondness of the cow for its leaves. It grows nearly all over China and Formosa, and has been introduced into India. Its aspen-like yellow foliage becomes of a brilliant red colour in autumn and winter. The three-seeded berries dehisce when ripe, disclosing the kernels enveloped with the coat of vegetable fat, which renders the tree so valuable. The leaves yield a black dye with sulphate of iron. This fatty tallow substance is of a whitish colour, hard, and tasteless. The ripe nuts are bruised, and the pericarp separated by sifting. They are then steamed in wooden cylinders, with numerous holes in the bottoms, which fit upon kettles or boilers. The tallow is softened by this process, and is separated from the albumen of the seeds by gently beating them with stone mallets, after which the tallow is effectually removed by sifting the mass through hot sieves. The tallow still contains the brown testa of the seeds, which is separated by pouring it into a cylinder made up of straw rings laid one on top of the other, in which it is put into a rude press, and the tallow is squeezed through in a pure state. A pikul of seeds (133⅓ lbs.) yields from 20 to 30 catties of tallow, besides the oil which is obtained from the albumen by grinding, steaming, and pressing it subsequently. The vegetable tallow melts at 104°, and is composed mainly of tripalmitine. To make candles, it is mixed with white insect wax in the proportion of three mace of wax to ten catties of the tallow. The candles are largely used in Buddhist ceremonies. In China the average price is about eight Mexican dollars per pikul. Cases of poisoning in China are generally treated with the tallow or the oil of the albumen, but the latter generally comes up. The tallow is also used in ointments, and the candle refuse as suppositories. The refuse of the husks and seeds is used as manure for the tobacco fields.—*Smith, Mat. Med. Chin.*

STINKING-WOOD, ENG., Chee neb, BURM., is abundant in Tavoy and Mergui. The flowers have an intolerably fetid, sickening smell; hence its name. It is used by the Burmese for boxes, tables, etc., and is a long-fibred, tough wo[od] when new, but rots readily. The stink tree [of] Ceylon was called by the Dutch Strunt-hout, an[d] by the Singhalese Urenne, on account of its dis[a]gusting odour, especially in the thick stem an[d] the larger branches, resembling that of huma[n] ordure. Thunberg says the tree was neither th[e] Anagyris fœtida nor the Sterculia fœtida.—*Ca[ll] Dance; Thunberg's Tr.* iv. p. 234.

STIPA, a genus of grasses belonging to [the] tribe Stipaceæ. Stipa tenacissima, the esparto [of] the Spaniards, the halfa of Northern Africa, [is] used in the manufacture of paper, yields a s[ure] crop, independent of the weather, and exem[pt] from the attacks of locusts.

STIZOLOBIUM ALTISSIMUM. Assam bean; Kalee seem, DUKH. This bean is grown like most others, and may be first sown at the commencement of the rains, and continued during the cold season.—*Riddell.*

STOCKS, an officer of the Bombay Medical Service, an eminent botanist. His extremely valuable collections from Sind and Baluchistan amounted to about 1500 species. He was Conservator of Forests in Sind, and distinguished himself by his researches in the flora of that region. He died at Cottingham on th[e] August 1857, aged 34.—*H. et T.; Bom. As.* ii. p. 390; *Dr. Buist.*

STOCQUELER, J. H., author of [the] Montens' Pilgrimage through Untrodden T[ar]tary, Kurdistan and Persia, 1831-32.—*Dr. Buist.*

STONE.

Hajar, ... ARAB.	Lapis, ...
Steen, . . DAN., DUT.	Piedra, ...
Pierre, ... FR.	Kamen, ...
Stein, ... GER.	Piedra, ...
Petros, ... GR.	Sten, ...
Sang, Pathar, . HIND.	Rai, Kaller, . . .
Pietra, ... IT.	Tash, ...

Stones of every kind, suitable for archite[c]ture, sculpture, or ornament, are obtainable in di[f]ferent parts of India, as the red sandstone in the [n]eighbourhood of Dehli; the slates, limestones, and mar[bles] of the Nerbadda, and of the valleys of the G[o]davery and Kistna; basalt and basaltic greenstone [are] used in the Hindu temples; and the ma[r]ble of Burma is largely sculptured for the fig[ures] of Gautama; the Hubba Hills, near Bhoo[j], yield a stone which is employed as a substitute for soapstone is found in many parts of British Burma, and China, and is carved into nu[me]rous figures; the sandstones of the Kymore ra[nge] are used as flagstones, and for ornamental pu[r]poses; the millstones of Chynepore, Sasseram, Tilo[thu] and Akbarpur, are famous; the Sone ca[nal] and the Koylwan railway bridge, are [of] the dense sandstone of Sasseram; little q[uar]tz are found in the higher portions of the [hills] towards Rohtas; but the best stone, whil[e] workable, is almost as hard as granite, and [is] had of any colour, viz. white, crystallin[e] grey, and all shades to a dark red.

Stone implements have been largely fo[und] in India. Chipped flints, agates, jaspers, and c[ores] donies have been found by Lieut. Swene[y] Jubbulpur. Others of flint were found [at] Blanford near Nagpur and near Lingoosagoor. Flint (chert), agate, and chalcedony knives re[-] sembling those of Mexico, arrow-heads, etc., were found by Surgeon Primrose. Stones have bee[n] used for recording edicts, laws, and moral codes

loses wrote on stone tablets the Ten Commandments. In the Confucian temple at Pekin are ten ones shaped like drums, on each of which are ngraved stanzas of poetry. These stone drums are said to have been in existence since the days of Yaou and Shun, who flourished, the former B.C. 2357, and the latter B.C. 2255. The king Asoka, who was a follower of Buddha, had his edicts engraved on rocks, where they are still to be seen.—*Gray*, p. 93. See Sculpture.

STONE-CUTTING. The seal-engraver's wheel consists of a light frame ballasted below to keep it firm, with two uprights about eighteen inches in length and eight inches between. Betwixt the two is a small spindle. This turns at the one end on a screw or pivot, sometimes of cornelian; the shoulder in its place by a neat iron clamp, it is steadied iece of rag wrapped round it, and enclosed ollar. The spindle is terminated by a small iron of about an inch long, ending in a cular saw or button, from a tenth up to inch in diameter. To this, powdered m mixed with oil is from time to time , while it is spun round with a bow. The r holds the seal up betwixt his fingers and and a sweep or two of the bow causes a n the seal. This is deepened and extended red, the larger discs being employed for raight strokes. The work turned out is by ns very fine, but the celerity of execution ssing. Diamond dust is very rarely used in corundum being the chief material employed shing gems, marbles, and metals. For ning swords or burnishing metal, it is lly used like a whetstone or burnisher; for g gems, it is either made up into a lap ac or into a paste with oil or grease. For ing marble or other stone it is used in two ; the first of these is a cake of about eight long, three across, and two deep. This is by an individual in the hand. For heavier es, a cake a foot square or so is employed, in a frame. Two men work at this, and the g process is very rapidly accomplished by , in fact, a file with a lac body and corunth. The diamonds seen amongst native are almost all cut in Europe, and the l gems cut in India are the lapis-lazuli, emeralds, opals, garnets, and siliceous The chief articles into which these are t are paper-weights, knife-handles, miniaed cups and saucers, tables for snuff-boxes, s, necklaces, bracelets, pins, buttons, and The polish of Cambay stones is not such as the eye of the British lapidary; yet they cheap that they might be expected to a considerable article of commerce. They e built up into mosaics for work-tables, ss-boards, and other elegant articles of e,—the chief part of the work being perhere, where labour is cheap, the final finish ven at home. The Cambay agates equal st Scotch pebbles in beauty; they generfeed them in size, and may be had for a mere n of the price.

king in stone, polishing the hardest surfaces, engraving the surfaces with imperishable records, and sculpturing stone into various forms, even excavating gigantic temples out of the solid mountains, are branches of sculpture, statuary, and engraving to which Hindus have paid attention from the earliest times; and their structures are conspicuous for the exquisite polish and glass-like appearance of some of the hardest rocks. They use a small steel chisel and an iron mallet. The chisel, in length, is not more than six inches, and it tapers to a round point like a pencil. The iron mallet does not weigh more than a few pounds. It has a head fixed on at right angles to the handle, with only one striking face, which is formed into a tolerably deep hollow, and lined with lead. With such simple instruments they formed, fashioned, and scooped the granite rock which forms the stupendous fortress of Dowlatabad, and excavated the wonderful caverns of Ellora and Ajunta. The traces of the pointed chisel are still visible on the rocks of Dowlatabad, as they are also on some of the works of Egypt. The stone having been brought to a smooth surface, it is next dressed with water in the usual way, and is then polished in the following manner:—A block of granite, of considerable size, is rudely fashioned into a shape like the end of a large pestle. The lower face of this is hollowed out into a cavity, and this is filled with a mass composed of pounded corundum stone, mixed with melted lac. This block is moved by means of two sticks, or pieces of bamboo, placed on each side of its neck, and bound together by cords, twisted and tightened by sticks. The weight of the whole is such as two workmen can easily manage. They seat themselves upon, or close to, the stone they are to polish, and by moving the block backwards and forwards between them, the polish is given by the friction of the mass of lac and corundum. The same materials are employed in polishing agate beads and bracelets, elegantly-shaped cups, or models of cannon. The agate stones are first fixed on a steel spike, and there roughly rounded with an iron hammer, and then polished with a composition of lac and corundum variously applied. The holes are bored with a steel drill, tipped with a small diamond. Cups and saucers, and similar hollow articles, are wrought, according to the required external shape, on the steel spike, and a rough polish given on the rough polishing-stones. The cavity is formed by the diamond-tipped drill to the depth of one-fourth of an inch all over the space, until it exhibits a honeycombed appearance; the prominent places round the holes are then chipped away, and this process is repeated until the depth and form desired are obtained. They are then polished upon prepared moulds of convex forms, and of the same composition as the polishing-plates which are attached to the turning-wheel.

STONE-WORSHIP. Stones have been objects of worship of all nations, and are largely so by the Hindus, generally smeared with red lead.

Amongst the earliest mention of this form of devotion will be found notices in several parts of the Hebrew Scriptures, under the appellations of images and groves, but these are very obscure. The Phœnicians worshipped a deity under the form of an unshaped stone. The Arabs, down to the time of Mahomed, worshipped a black stone, which is now let into the wall of the Kaba. There was a sacred stone in Jura, round which the people used to move deasil, *i.e.* sunwise. In some of the Hebrides the people attributed oracular power to a large black stone.

Baber in his Memoirs, p. 450, describes how, in the battle of Jam, at sunrise, the magicians set to work with their magic stone to create confusion amongst the Persians. In spite of three centuries of Muhammadan teaching, the magic stone still keeps up its reputation among the nomades of Central Asia. The sirdar (chief) of a razzia of Turkomans, or the leader of a Kirghiz baranti, to this day carries it carefully with him, and in case of the deadly bite of a viper or a scorpion, its efficiency is valued as highly as that of a fatiha prayer from the Koran.

Stonehenge is a circle of stones in England, of Buddhist architecture, and is own brother to the circle of upright stones at Amravati on the Kistna, and to many others in the south of India. The Stone of Destiny, on which the kings of Ireland were crowned, was afterwards taken to Scone, and thence carried to Westminster, and placed under the old coronation chair, where it still remains. Seating a king on a stone seems to have prevailed throughout Europe on inauguration. Monarchs of Sweden were seated upon a stone placed in the centre of twelve lesser ones, and the kings of Denmark were crowned in a similar kind of circle. The use of the Inaugural Stone is of Canaanitish origin. Abimelech was made king by the plain of the pillar of Shechem. Jehoash was anointed as he stood by the pillar, as the manner was. The Gael used the standing stone, which was traditionally considered a supernatural sacred witness [illegible]y solemn covenant, and especially of that between an elected king and his people. Jack Cade touched London stone, and exclaimed, 'Now is Mortimer lord of London city!' Amongst the Irish, the inauguration of a chief was celebrated at a stone with the impression of two feet, believed to be the size of the feet of the patriarch chieftain who first acquired the territory. Every great tribe had its installation stone and other specialities, such as sacred trees, and rath-hills or entrenched places of meeting, dedicated to the inaugural rite. Herodotus shows that the practice of carving the impression of the feet of mighty heroes on huge stones was older than his time, as he mentions that the Scythians showed the mark of the foot of Hercules upon a rock. Spenser, the poet, writes that some of the stones on which the chief lords or captains of the clan were placed had a foot engraven, which was regarded as the measure of their first captain's foot. On inauguration, the new chief stood thereon, and took oath to preserve all the former customs of the country inviolable. His feet were placed in the impression while the heads of law relating to the clan were read to him.

Stones from the beds of Indian rivers are the usual gramma devata or village deities of the Hindus, and also of the non-Aryan castes, who are not permitted to enter the Hindu temples. The salagrama, a fossil ammonite from the Gandak river, is worshipped by all Vaishnava Hindus.

Stone monoliths are erected as memorials by the Kol and Khassya races. In Kanawar villages in the Himalaya, a stone is set up as a pillar in the fields, its centre and top smeared with whitewash, and the top marked with five finger-marks of red ochre; on this flowers are offered for the prosperity of the field. In S. India, white lime-washed splinters of stone, tipped with red, are placed under the trees in a garden or field. The Asaga of Mysore worship a god called Bhuma Deva, literally earth-god, who is repr[illegible] sented by a shapeless stone. The worship [illegible] stones is spread over all parts of the distri[illegible] from Berar to the extreme east of Bustar, an[illegible] that not merely among the Hinduized aborigines[illegible] who have begun to honour Kandoba, etc., bu[illegible] among the rudest and most savage tribes. H[illegible] is generally adored in the form of an unshapely[illegible] stone covered with vermilion. Two rude slave[illegible] castes in Tulava, in Southern India, the Bakadara and Betadara, worship a benevolent deity named Buta, represented by a stone kept in every house. Indeed, in every part of Southern India, four or five stones may often be seen in the ryot's field, placed in a row and daubed with red paint, which they consider as guardians of the field, and call the five Pandu. Colonel Forbes Leslie su[illegible] that this red paint is intended to represen[illegible] The god of each Khond village is represe[illegible] three stones. Aerolites are worshipped by[illegible]

Stones are reverenced by the Karen[illegible] selection of them is fanciful. At Benkuna[illegible] Lampong country, there is a long stone, s[illegible] on a flat one, supposed by the people to [illegible] extraordinary power of virtue. It is rep[illegible] have been once thrown down into the wat[illegible] to have raised itself again into its original p[illegible] agitating the elements at the same time[illegible] prodigious storm. To approach it without [illegible] they believe to be the source of misfortun[illegible] offender.

The shape of the Polynesian stones, the[illegible] ence paid to them, their decoration, and the[illegible] expected from their worship, are quite in [illegible] ance with a widely-spread superstition. [illegible] had in his possession several smooth stone[illegible] the New Hebrides. He says that some of the[illegible] nesian stone gods were supposed to cause fecu[illegible] in pigs. Two large stones, lying at the bott[illegible] a moat, are said to have given birth to Deg[illegible] supreme god of Fiji. In all instances, an a[illegible] to objects already existing was expected fr[illegible] Fiji monoliths. A stone near Baw existed[illegible] whenever a lady of rank at the Fiji capi[illegible] confined, was fabled also to give birth t[illegible] stone.—*Galton's Vacation Tourists*, p. 27[illegible] *bery, Bokhara*, p. 299; *Lubbock's Origin* [illegible] pp. 207-210, 244.

STONING is regarded by Semitic race[illegible] most infamous of deaths. It is the rajn[illegible] Arabs, and their rajim is an execrating epi[illegible] the devil. One of the ceremonies of the[illegible] to cast stones towards Mount Arafat, an[illegible] pressive of their utter detestation of the d[illegible]

STORAX.

Mayah, ...	ARAB.	Styrax broom, .	
Su-hoh-hiang, . .	CHIN.	στυραξ, . . .	
Su-hoh-yu, . . .	,,	Storace, . . .	
Fung-hiang-chi, .	,,	Styrax, . . .	
Peh-kiau-hiang, .	,,	Azumbar, . .	

A gum-resin, the produce of Styrax o[illegible] growing in the south of Europe and the [illegible] It is usually met with in tears, which is p[illegible] in lumps or red storax, which is mixed wi[illegible] dust and other impurities. Storax has a f[illegible] odour, and a pleasant, sub-acidulous, [illegible] pungent, and aromatic taste; it is of a reddish-brown colour, and brittle.

The Chinese names refer to several resinous o[illegible] balsamic substances, used internally, and extern[illegible] ally in plasters.

STORAX, LIQUID, Rose malloes.

Mayah, Sailah, . ARAB. | Rasa-mala, . . . MALAY.
Sillarus, . . . HIND.? |

Liquid storax is obtained from the Liquidamber altingia. It is more or less opaque, of the consistence of birdlime, greyish colour, warm balsamic taste, and peculiar vanilla-like odour, if pure. Small quantities are imported annually into India from Suez and the Arabian Gulf in skins; it is re-exported to England and China under the designations of Rose malloes (Rasa-mala) and Sillarus, in barrels of about four imperial gallons' capacity each.—*Faulkner.*

STORKS. Naturalists arrange storks under the family Ciconidæ, tribe Cultirostres, and the genera Ciconia, Leptoptilos, and Mycteria.

The storks are more extensively distributed than the cranes, being represented in every part of the world, except in North America, where no member of the group occurs. They are more or less carnivorous in their habits, and are armed with a powerful beak, which attains its largest development in the adjutants and the Balæniceps. The [illegible] stork, Ciconia alba, is one of the most [illegible]rly known species of European birds, al[illegible] in England it has, from the changes [illegible]d by improved agriculture, become com[illegible]ely rare. It is widely distributed through[illegible]e Old World, being found in North Africa, [illegible] Asia as far as Bengal.

[illegible] species of the East Indies are as under:—

[illegible] alba, *Belon*, Europe, Africa, and Asia.
[illegible]ocephala, *Gmelin*, all India, Burma, and Archi[illegible]lago.
[illegible]a, *Linn.*, Northern India, Panjab, Dekhan.
[illegible]ptilos argala, *Linn.*, N. and N.E. India, Bengal, [illegible]nd Hyderabad.
[illegible]vanica, *Horsfield*, S. India, Bengal, Assam, Sylhet, [illegible]Burma.
[illegible]eria Australis, *Shaw*, all India, Malayana, Austra[illegible]a.

[illegible]rgala is the gigantic stork or adjutant bird [illegible]ropeans; L. Javanica, the small adjutant or [illegible]rested stork; M. Australis is the black-[illegible]l stork. Ciconia alba, C. leucocephala, and [illegible]a are the white, white-necked, and black [illegible]—*Jerdon.*

[illegible]RM-WAVES occur on some part or other [illegible]coasts of S. India every few years, sweep[illegible]r the land and destroying in great numbers [illegible]ople and their cattle; the western coast of [illegible]eninsula about the northern part of the [illegible]y Presidency, the eastern part about Ma[illegible]am, Vizagapatam, and Orissa, and the [illegible] of the Gangetic Delta, have been repeatedly [illegible]elmed.

[illegible]he 19th May 1787, the sea rose nearly 15 [illegible]nd inundated Coringa, when 20,000 people [illegible]0,000 cattle perished. Again, in 1789, [illegible]a was deluged by three enormous waves, [illegible]ng in slow succession, the third of them [illegible]ng everything before it. See Cyclone;

[illegible]ABO, an ancient geographer who lived [illegible]the beginning of the Christian era, and in [illegible]ne of the emperor Tiberius. He travelled [illegible]tween Armenia and Sardinia, and from the Black Sea to Ethiopia, and was the author of some historical works; but his Geography in seventeen volumes is alone extant. It treats on all the then known world; amongst other parts, of the south of Asia, Ceylon, and India, interspersed with many philosophical remarks, and short narratives relating to history and antiquities.

STRACHEY. Several civil and military officers of this name have added to our knowledge of British India.

Edward Strachey, Bengal Civil Service, editor of the Bija Ganita.

Lt.-Col. Henry Strachey, author of Narrative of a Journey to the lakes Cho-Lagan or Rakas Tal, and Cho-Mapan or Manasarowara, and the Valley of Pruang in Tibet in 1846, 8vo, Calcutta 1848; on the Frontier of Kamaon and Garhwal. He mentions that Manasarowara discharges its waters through a gravel bank into Rakas Tal, which again sends off a tributary to the Sutlej.

Sir John and General Richard Strachey wrote jointly on the Finances and Public Works of India for 1869 to 1881.

General Richard Strachey, an officer of the Bengal Engineers, wrote on the Physical Geography of the Provinces of Garhwal and Kamaon, in the Himalaya Mountains, in Lond. Geo. Trans., 1851, xxi. 57; on the Glaciers of the Pindur and Kuphinee Rivers, in the Kamaon Himalayas, Edin. New Phil. Jour., 1847-48, xliv. 108; A Trip to the Niti Pass, 1849, in Bl. As. Trans., 1850; on the Snow Line of the Himalayas, ibid., 1849, xviii. 287; Notes on Investigations near Kamaon, ibid., 240; Geography of Kamaon, ibid., 1851; Horary Barometrical Observations at 11,000 feet above the level of the sea; On the Tertia[illegible]tions of the Himalayas, Rep. Brit. As., 185[illegible] was appointed by the Indian Government to make a scientific survey of the province of Kamaon, and was occupied on the task about two years, during which time, in addition to the important investigations in physical science which occupied his attention, he thoroughly explored the flora of the province, carefully noting the range of each species. He was joined by Mr. Winterbottom in 1848, and they travelled together in Tibet. Their joint collections, amounting to 2000 species, were distributed in 1852-53 to the Hookerian Herbarium, the British Museum, the Linnæan Society, and some foreign museums.—*B. As. Soc. J.*, 1848; *Dr. Buist; British Museum.*

STRACHIA GEOMETRICA, a bug of a yellowish coffee colour, but marked with grey and orange on the upper side, found at Badulla in Ceylon. It feeds upon the juice of the young coffee berries, 3 per cent. or more of which were said to have suffered from it. It is allied to the green or fetid bug, but though it may occasionally cause destruction, there is no fear of it ever becoming a serious nuisance.

STRAIT OF JUBAL, at the entrance of the Gulf of Suez, 50 miles broad, extends from Ras Muhammad to Tur Harbour.—*Findlay.*

STRAIT OF SUNDA, one of the great portals of the Eastern Archipelago, is 63 miles wide between the south-western extremity of Sumatra and Java Head, but the main strait is narrowed to 51 miles by Princes Island. The most eastern rock is lat. 6° 44′ 13″ S., and long. 1° 36′ 20″ W.—*Findlay.*

STRAITS OF BANCA is rather more than 100 miles long, and in the narrowest part seven miles from shore to shore. The Straits of Banca, between that island and Sumatra, is the most frequented in the Indian Seas.

STRAITS SETTLEMENTS, on the northern boundary of the Straits of Malacca, include under one government, Penang, Province Wellesley, the Ding Dings, Malacca, and Singapore, and were incorporated in one Administration in 1826. These settlements ceased to be connected with India on 1st February 1867, when they became a Crown colony. The inhabitants in 1871 were returned—

Singapore, . . .	97,111	Penang and Province Wellesley, . .	133,230
Malacca, . . .	77,756		

The census taken in 1881 gives the total population of the Straits Settlements as 423,384, of which 1656 are resident Europeans and Americans, 174,327 Chinese, 238,066 Malays and other Asiatics, 316 Jews and Armenians, and 6904 Eurasians. A rapid increase is taking place in the actual numbers of Chinese, as well as in the proportion they bear to the whole population; and it is remarked that the numbers of Chinese women, though still only 127 in the 1000, has increased in the last ten years. In 1871 the proportion was 107 per 1000.

The inhabitants of Malacca and Province Wellesley consist chiefly of Malays and Chinese, with scarcely civilised tribes of Jakun, Binua, and Semang.

Penang is a beautifully-wooded island, situated at the north-western entrance of the Straits of Malacca, or in about lat. 5° 25′ N., and long. 100° 21′ E., and is about 13½ miles long, with an extreme breadth of 10 miles, containing an area of nearly [illegible] acres.

P[illegible] was obtained in 1786 by treaty from the king of Quedah; and fourteen years later, Province Wellesley was ceded by the same prince. In 1881, its population, with Province Wellesley, numbered 190,597, viz. Malays, 84,724; Chinese, 67,502; Tamils, 25,094; Europeans and Eurasians, 2271; Arabs, 574; Armenians and Jews, each 32.

Malacca has a sea frontage of forty-three miles, with a depth of ten to twenty-eight miles. The town is in lat. 2° 16′ N. Its population, 93,579. Amongst them, Malays, 67,488; Chinese, 19,741; Europeans, 40; Eurasians, 2213.

Malacca, conquered by Albuquerque for the Portuguese about 1515, fell into the hands of the Dutch in the beginning of the 17th century, but was taken by the British in 1795. They kept it until, in 1818, it was redelivered to the Dutch under the provisions of the treaty of Vienna, but it again reverted to the British by the treaty of 1824.

Singapore island is twenty-four miles long by fourteen broad, and contains an area of 206 square miles. The town is in lat. 1° 17′ N., and long. 103° 51′ E. Singapore has never changed European owners. In 1819, Sir Stamford Raffles, then governor of Fort Marlborough, or Bencoolen, in Sumatra, who had been long impressed with the importance of the position, took formal possession of the then nearly uninhabited island. Population, 139,208. Amongst others, Chinese, 86,766; Malays, 22,114; Europeans, with military, and Eurasians, 5862.

Province Wellesley is on the mainland of the peninsula, immediately opposite Penang, the water dividing them being about three miles broad at the narrowest point. It runs from north to south twenty-five miles, varying in breadth from four to eleven miles, and containing an area of 15,000 acres.

STRAMONIUM, Thorn apple.

Masil, Methel, . .	Arab.	Datura, ...	Hind.
Jouz masil, . . .	,,	Datura stramonium,	Lat.

These names are given to several species of Datura; all parts are poisonous. The leaves are used in asthma, for smoking.

STRANGE, Sir THOMAS, Judge of the High Courts of Madras and Bengal, and his son, Thomas Lumsden Strange, Judge of the Sadr Adawlat Court of Madras, authors of books on Hindu Law; that of the son, called a Digest of Hindu Laws, was compiled partly from the smaller work on the same subject by his father, and partly from other eminent authorities, but amplified and elucidated by his own investigations.

STRANGERS' HOME FOR ASIATICS was established in London in 1859. It offers to Indian sailors and other orientals, a comfortable and respectable lodging, with wholesome food, at a cost which shall render the institution self-supporting. Each lodger is to pay not less than 8s. per week, for which the lodger will be supplied with three meals a day, medical attendance, baths, washing, etc. Arrangements have been mad[illegible] take charge of their money and other pr[illegible] to make remittances to their families and f[illegible] to give them advice, and afford them inform[illegible] to protect them from imposition, to procu[illegible] employment in vessels.

STRAW.

Tibn, Kash, Alaf, .	Arab.	Paglia, . . .	
Straa, ...	Dan.	Palha, . . .	
Stroo, ...	Dut.	Soloma, . .	
Paille, ...	Fr.	Paja, . . .	
Stroh, ...	Ger.	Stra, ...	
Pral, ...	Hind.	Sap, ...	

Straw is used for thatch, for the for[illegible] horned cattle, for veneering in Japan, an[illegible] straw-plait for the bonnets of the wome[illegible] Europe.

STRAWBERRY is the English name o[illegible] plant and fruit of species of Fragaria, of there are many,—

F. Bonariensis, *Juss.*, Buenos Ayres.
F. Chilensis, *Ehrh.*, South America.
F. collina, — ? Switzerland, Germany, hil[illegible] berry.
F. elatior, *Ehrh.*, America, hautboy.
F. grandiflora, *Ehrh.*, Surinam.
F. Indica, *Andr.*, mountains of India.
F. majaufea, — ? France.
F. monophylla, *Duchesne.*
F. nubicola, *Wall.*, Himalaya.
F. Roxburghii, *W. and A.*, Khassya, Assa[illegible]
F. vesca, *Linn.*, cultivated.
F. Virginiana, *Linn.*, North America.

Species occur in India both wild and cult[illegible] F. Chilensis, *Ehrh.*, the Chili strawber[illegible] brought from South America. F. collina an introduced plant. F. elatior, *Ehrh.*, hautboy strawberry from America; and F. flora and F. majaufea are also known, as Roxburghii, *W. and A.*, the F. Indica and of Roxburgh, which has also been classe[illegible] Duchesnea and Potentilla, growing in th[illegible] gherries, Dehra Doon, and Kamaon.

Fragaria vesca, *Linn.*

Paljor, . . .	Chenab.	Tash, ...	K[illegible]
Wild strawberry, .	Eng.	Fraga, ...	L.
Wood strawberry, .	,,	Bunun, also Musrini,	Ravi.
Kanzar, . . .	Jhelum.	Bana-phal, .	Sutlej.
Ingrach, Yan, .	Kangra.	Tawai, .	Trans-Indus.

This grows wild in most parts of the Panjab

Himalaya, from 4000 to 12,000 feet. The fruit is excellent when gathered dry, but is largely improved by cultivation. It is cultivated by Europeans and market gardeners, and in the Bombay Dekhan a bed of a few square yards brings in from £15 to £20 the season. In Bangalore, it is grown abundantly. The strawberry plant multiplies itself from runners and suckers; the old plant, after it has ceased bearing, throwing them out. In the Dekhan, as soon as the rains have set in, these runners may be removed into a nursery-bed, for their being more easily looked after, and should have the space of 9 or 10 inches allowed between them; they will throw out other runners, the whole of which may be separated and transplanted at the proper season. They thrive best in a light soil with good old stable and vegetable manure at first, and as soon as they show a disposition to flower, may have old goats' or sheep's manure added around each plant, a couple of double handfuls being sufficient. In no part of the Dekhan should the plants be put out for fruiting before the close of the rains, the part of September being quite early enough. s planted for experiment at the commence- f August, grew to a good size, and did for ten or twelve weeks but throw out , which were continually removed, but, , fruited badly. The finest and most prolific as got from suckers put out in the begin- October. Some strawberries were gathered ember from the plants put out in August, y were so few as in no way to induce a trial experiment again. Varieties can only be ed from seed; and to procure the seed, the finest ripe fruit, rub it on a sheet of and dry it. When the rains commence, the seed in water, reject all that float, the inder sow in baskets in a light loam, when will be fit to remove in about six weeks, and l be put in other baskets four or five inches and taken care of until ready to be trans- into the beds where they are to remain. se plants throw out suckers very fast, they e constantly looked after, and removed. ill commence bearing in six months from of sowing the seed. As soon as the rains ased, put the suckers that have rooted into beds, each not less than one foot apart, a row; this will give twenty-five in each s many as can be easily looked after and d without trampling on the bed, and injuring the plants. When the earth is of y consistence, Dr. Riddell has seen the rry cultivated on ridges. Some think this od plan, but he prefers the beds. It is nes necessary, in consequence of flooding s, to put tiles under the fruit to keep it ut it also attracts the notice of the birds. or grass be used, then the chances are ite ants destroy the plants. This it is that some persons prefer the ridge system of g, as they say the fruit is cleaner in con- e. Fine fruit may be grown either nd if on ridges, the same distance must be l between the plants as in beds, and even in the latter the plants may be put on raised cones of earth. The common vegetable manure is all that is required at first until near flowering, when a handful or two of goats' or sheep's dung should be put round the plant, opening the earth, and scraping it together. Water during the evening and very early in the morning.—*Drs. Birdwood, Cleghorn, Stewart, Riddell, Hooker, and Hogg.*

STRI-HARIKOTTAH MUTTAH, a small forest tract on the north of Madras.

STRIPERMATUR or Sri Perumbudur, lat. 12° 58′ N., and long. 79° 56′ E., in the Carnatic, 27 miles west of Madras; properly Sripermatur.

STRIVIGUNTUM, an anicut across the Tambrapurney river, in Tinnevelly, about 16 miles from the sea, provides irrigation for 32,000 acres. There are other seven anicuts across the bed of the river.

STROBILANTHES, a genus of plants of the order Acanthaceæ, which grow in the Khassya Hills, Nepal, Nagpur, and Ceylon. In Ceylon, species of Strobilanthes, the Nillu plant, are used as sticks to put in mud walls. Fourteen species of Strobilanthes grow abundantly in the mountain ranges of Ceylon. The golunda rats feed on the seeds, also the jungle-fowl, whose eyes are said to become affected from it.—*Tennent's Ceylon*, p. 30; *Fergusson.*

STROMBOSIA CEYLANICA. *Gardn.*

Sphærocarya leprosa, *Dalz.* | S. Javanica, *Thw.*

A large timber tree of Ceylon and the Canara Ghats. The wood is white and durable. S. Javanica, *Blume*, a closely-allied species.—*Beddome, Fl. Sylv.*

STRUTHIONIDÆ, the Ostrich family.

Naam, Naamah, .	ARAB.	Strutho-camelos, .	GER.
Thar-ud-jemmel, .	,,	Struzzo, Struzzulo, .	ITAL.
Autruche, ...	FR.	Struthio camelus, .	LAT.
Strausse, ...	GER.	Shutr-murgh, . .	PERS.

A family of birds of great size, which may be thus shown,—

Fam. I. Struthionidæ.

a. Struthioninæ.
Struthio camelus, Africa.
Rhea Americana, Rep. Argentine.
R. macrorhyncha, Rep. Argentine.
R. Darwini, Patagonia.

b. Casuariinæ.
Casuarius galeatus, Ceram.
C. bicarunculatus, Aru.
C. Kaupi, Salawatty, New Guinea.
C. uniappendiculatus, —?
C. Bennettii, New Britain.
C. Australis, New Holland.

Fam. II. Apterygidæ.
Apteryx Australis, New Zealand.
A. Mantelli, New Zealand.
A. Owenii, New Zealand.
A. maxima, New Zealand.

The distribution throughout the world of the struthious birds has this peculiarity, that each region which they inhabit has a separate form. The ostrich is found only in Africa, the three known species of rhea only in S. America, the emu only in Australasia, and the cassowaries only in the Moluccas and adjacent islands.

The common cassowary is Casuarius galeatus; Kaup's cassowary is Casuarius Kaupi. Cassowaries are usually wild and difficult to manage, and very rarely breed in captivity. The male takes sole charge of the duties of incubation.

The common cassowary is only found in Ceram, is replaced in the Aru Islands by another species (the Casuarius bicarunculatus), distinguished by having the caruncles on the throat widely separated, and in Northern Australia by a third species. Kaup's cassowary is peculiar to New Guinea, where

a second species of the genus, with only a single throat-wattle (C. uniappendiculatus), also occurs.

The southern apteryx is A. Australis, Mantell's apteryx is A. Mantelli, and Owen's apteryx, A. Owenii. See Ostrich.

STRYCHNOS, a genus of tropical plants. S. colubrina, *Linn.*, in the hot, drier parts of Ceylon; S. minor, *Blume*, at an elevation of 6000 feet, Ceylon; S. nux vomica. S. bicirrhosa, *Lesch.*, is a native of Tanjore; S. lucida, *R. Br.*, is from tropical New Holland; S. Madagascariensis, *Pet. Th.*, is of Madagascar; S. axillaris is of the Khassya Hills, and S. monogynus, *Roxb.*, in Sylhet. Στρυχνος was a name applied by Theophrastus and Dioscorides to a kind of nightshade, but adopted by Linnæus for this genus of the Apocynaceæ. One species is used in ordeals at Gaboon, in Africa, under the name of Cusa or Icaja, and at Cape Lopez it is called M'boundu. It grows in swampy places to the height of 4 to 6 feet. The active principle is contained in the red bark of the root, which is scraped off and steeped in about a quart of water, and when the water has acquired a reddish colour, the poison is ready. S. laurina, *Wall.*, grows at Galle, Kornegalle, and other of the warmer parts of Ceylon. S. cinnamomifolia, *Thw.*, Atta-kirindi-wel, SINGHALESE, a native of Ceylon, growing in the Hantani district, at an elevation of 3000 feet. S. Gaultheriana, of Cochin-China, is employed in cases of leprosy and hydrophobia.—*Eng. Cyc.*; *Thw. En. Pl.*; *Thw. Nature.*

STRYCHNOS COLUBRINA. *L.* Snake-wood.

Kuchila luta,	BENG.	Madira kaniram,	MALEAL.
Bois de couleuvre,	FR.	Pao-de-cobra,	PORT.
Lignum colubrinum,	LAT.	Naga musadi,	TEL.

A scandent plant with a stem often 8 to 12 inches in diameter, growing in the hot, drier parts of Ceylon, and in Malabar, Konkan, Coromandel, and Khassya. The wood is of a light-grey colour, hard, and intensely bitter. That of the root is deemed a remedy for the bite of the cobra capella; but several woods have, however, received the appellation of Bois de couleuvre (Lignum colubrinum), viz. the Ophyoxylon serpentinum in Amboyna, the Ophiorhiza mungos in Java, Polygala senega in North America, etc., all for their supposed virtues as antidotes to snake poison. A very large proportionate quantity of strychnine exists in the wood of this root.—*O'Sh.*; *Eng. Cyc.*; *Thw. Enum.*; *Roxb.*

STRYCHNOS LIGUSTRINA.

Caju-alar,	MALAY.	Caju-badaira pail or laut,	MALAY.
Caju-nassi,	,,		

A tree of the Eastern Archipelago, resembling the orange tree; berries globose, yellowish-green, two to eight seeded. This yields the Lignum colubrinum of Timor.—*O'Sh.* p. 443.

STRYCHNOS MINOR. *Blume.*

Var. a. S. parviflora, *Benth.* p. 341.

Grows in the warmer parts of the island of Ceylon, in the Central Province, up to an elevation of 6000 feet.—*Thw.*

STRYCHNOS NUX VOMICA. *Linn.*

Khanek-ul-kalb,	ARAB.	Lignum colubrinum,	LAT.
Falus mahi,	,,	Jhar-katchura,	MAHR.
Kha boung,	BURM.	Vesha-mushti bijum,	SAN.
Kha gyee?	,,	Kulaka, Kutaka,	,,
Caniram,	CAN.	Kudaka dornatta?	SINGH.
Snake-wood tree,	ENG.	Gada-kadooroo,	,,
Poison-nut,	,,	Yetti-cotay maram,	TAM.
Kuchila,	HIND.	Musadi, Mushti,	TEL.

A middling-sized tree, with a short, crooked trunk, which grows in the East Indies. The seed is inodorous, but its taste insupportably acrid and bitter. It is very difficult to reduce the seeds to powder; they must be first rasped, the raspings steeped in mucilage, then dried and powdered; or the raspings should be exposed to the steam of water for an hour, then stove-dried, and powdered in a covered mortar. The bark is of an ash-grey colour; is known to the European druggists under the name of the 'false angustura.' Dr. O'Shaughnessy found the bark commonly sold in Calcutta under the name of Rohun, and substituted for the harmless bark of the Soymida febrifuga. It acts as a powerful exciter of the spinal cord, and as a tonic. By Europeans it is principally used in paralysis and neuralgia, also in muscular tremors and incontinence of urine; and natives of India are now using strychnine as an excitatory agent. The pulp of the poisonous fruits are the favourite food of the Buceros Malabaricus hornbill, and other birds. The hard and durable wood is used for many purposes by the natives. It is exceedingly bitter, particularly that of the root, which is in intermitting fevers, and in cases of ve[ry] snake-bites, when that of Naga musini, S[.] brina, cannot be had. The seeds are empl[oyed] distillation of country spirits, to render the[m] intoxicating. Its timber is strong and grained, but never of large size; wood ha[s] of a white or ash colour, streaked with specific gravity, 0·706. A cubic foot we[ighs] lbs. It is used for ploughshares, cart wh[eels] Travancore for making cots, and is adapt[ed] fancy work and cabinet-making. It furnish[es] of the snake-woods of commerce. Iron to[ols] sharpened on blocks of this wood. Whit[e ants] will not touch it.—*O'Sh.*; *Royle*; *Roxb.*

STRYCHNOS POTATORUM. *Linn.*

Induga,	BENG.	Ingivi,	
Kha-boung,	BURM.	Tettan kotte maram	
Yæ-kyie,	,,	Tettan parel maram	
Chil-binj-ka-jhar,	DUKH.	Indupu chettu,	IND.
Clearing nut tree,	ENG.	Katakamu,	
Nirmul, Nirmuli,	HIND.	Chilla ginja chettu	
Kataka,	SANSK.	Kotoko,	

This tree grows in the drier parts of [India] is found in various parts of India, and gr[ows] larger size than the S. nux vomica, but [is] It has shining fruit, which is black when [ripe] attains a height of from 15 to 60 feet. T[he] lish name is derived from the property [of] seeds of purifying muddy water, bein[g] stantly used for that purpose by the nativ[es] rub the inside of their brass pots with the[m] impurities very soon fall to the botto[m]. nature of the action has not been clear[ly] tained. It probably depends on astring[ent] the fruit. The fruit is used medicinally [and] when ripe, eaten by the natives. Th[e] plant is destitute of the poisonous ingre[dient] the other species. This seed can often be [used] when alum cannot be procured. The nativ[es] drink clear well water if they can get [it] river water, which is always more or less [bad] —*Drs. Roxb.*, *Wight*, *Gibson*, *Cleghorn*; *Macdonald.*

STRYCHNOS SANCTI IGNATII. *Berg.*

Ignatia amara, *Linn.*

St. Ignatius' bean,	ENG.	Papeeta,	HIND.

A branching tree, a native of the Philippin[es]

Islands, with seeds an inch long, the size of a large olive. According to the analysis of Pelletier and Caventon, these beans contain igasurate (strychnate) of strychnia, wax, concrete oil, yellow colouring matter, green starch, bassorine, and vegetable fibre. The strychnine is present in three times the quantity of that in S. nux vomica nuts, but there is no brucine. Its activity is consequently very great, its uses the same as those of nux vomica. In small doses they are said to purge; they are an efficacious vermifuge. When given in over-doses, the symptoms are those of poisoning by strychnia, as vertigo, convulsions, etc., and the remedy used for these effects is lemonade in large quantities, which is said to afford relief speedily.—*Eng. Cyc.; OSh.*

STRYCHNOS TIEUTE. *Lesch.*

Ypo, ... CELEBES.	Tietti, Tiette, . . JAV.
Upas tjeute, Tshellik, JAV.	Antiar, ... ,,

Has elliptical, acuminate, 3-nerved, glabrous leaves, and simple tendrils, which are thickened opposite the solitary leaves. This plant is a ng shrub, a native of Java, and is said to true Upas tree of that country. It is tedly the most poisonous species of the and yields the greatest quantity of strych- The root is called Upas raja, but another ree of Java is the Antiaris toxicaria, and other plants are called Upas. The natives a prepare from this species one of the that are used for producing death by wounds.—*O'Sh.; Eng. Cyc.*

RGEON.

. DAN., GER., SW.	Robalo, ... PORT.
. . . . . DUT.	Osetr, ... RUS.
eon, ... FR.	Esturion, ... SP.
ne, ... IT.	

e Sturionidæ family of fishes belong to the n Chondropterygii. Four genera are con- in this family, — Accipenser, Spatularia, era, and Collorhynchus. The sturgeon, Acci- sturio, ranges through the seas of the coasts pe, and is largely captured by the Rus- the Caspian Sea. Its swim or sound fur- he best isinglass of commerce. The sturgeon Borysthenes are mentioned by Herodotus fish without prickly bones, called antacæi, r pickling; and, according to Professor on, caviare also was known to the Greeks. mon sturgeon (Accipenser sturio, *Linn.*) nfrequently met with in mouths of English It is of an elongated form, and has the rotected by numerous indurated plates; is forked, and the upper lobe is the largest, e sharks.—*Eng. Cyc.; Yule, Cathay.*

RNIDÆ, the starling family of birds, which ists arrange into the Sturninæ, the star- mynas; the Lamprotorninæ, glossy mynas les; the Buphaginæ or ox-peckers; the næ or boat-tails; the Icterinæ or hang- nd the Agelainæ or maizes. The Sturninæ, torninæ, and Buphaginæ are peculiar to l World. In the E. Indies, the more ntly occurring genera and species of the ily are as under :—

Fam. Sturnidæ. *Sub-Fam.* Sturninæ.

Sturnus vulgaris, *Linn.*, common starling.

St. Indicus, *Hodgs.*	St. splendus, *Temm.*
Telia maina, . . HIND.	Nakshi-telia, . . HIND.
Tilora, ... ,,	Tilgiri, . . . KASHMIR.

The glossy black starling of Europe, Asia, Africa, Azores, is common in the Himalaya, and N. India, Kashmir, Afghanistan, etc., as in Britain.

Sturnus unicolor, *Marm..*, of Sardinia, Barbary, etc., is very distinct, and much less bright in its glosses than the common starling. It is said by Adams to be common in Sind, the Panjab, and Kashmir.

Sturnus cineraceus, *Temm.*, Japan.

Sturnopastor contra, *Linn.*, pied starling.

St. Capensis, *Linn.*	Pastor jall, *Horsf.*
Ablaka-gosalik, . BENG.	Ablak-maina, . . HIND.
Guia-leggra, . . ,,	Venda gorinka, . TEL.

Found throughout a considerable part of India, but absent in the S. and S.W.

Sturnopastor superciliaris, *Blyth.*

Pastor roseus, *Linn.*, the rose-coloured starling. of all India and Burma.

P. jalla, *Horsf.*, Malayana.

P. tricolor, *Horsf.*, Java.

P. temporalis, *Wagler*, China.

Acridotheres tristis, *Linn.*, the common myna.

Gracula gryllivora, *Daudi.*	Mina tristoides, *Hodg.*
Salik, Bhat-salik, BENG.	Salonka, ... MAHR.
Gorwantera, . . . CAN.	Goranka, Gorinka, . TEL.
Bemni, Saloo, CHUT.-NAG.	

All the head, the crest, neck, and breast glossy black. It occurs all over India and Burma. It was introduced from the Mauritius into India to destroy the grasshoppers.

Acridotheres ginginianus, *Latham.*

Turdus ginginianus, *Lath.*	P. Mahrattensis, *Royle.*
Pastor gregicolus, *Hodg.*	
Gang-salik, . . . BENG.	Gilgila, ... HIND.
Ram-salik, . . . ,,	Bardi maina, . . NEPAL.
Bank myna, . . ENG.	Lali, ... SIND.
Ganga maina, . . HIND.	

Occurs from Afghanistan and the Himalaya southwards to the Nerbadda.

Acridotheres fuscus, *Wagler.*

A. griseus, *Blyth.*	Mama cristatelloides, *Hod.*
Pastor Mahrattensis, *Sykes.*	Gracula cristatella, *Sund.*
Jhont-salik, . . BENG.	Jhonti maina, . . HIND.
Pahari maina, . . HIND.	

Occurs in hilly and jungly districts throughout India, Nepal, Assam, and Burma.

Acridotheres cristatellus, — ? China.

Acridotheres Javanicus, *Cabanis*, Java.

Temenuchus pagodarum, *Gmelin.*

Pastor nigriceps, *Hodg.*	Turduspagodarum, *Gmel.*
Maina sylvestris, *Hodg.*	
Monghir pawi, . . BENG.	Bahmani maina, . HIND.
Pabiya pawi, . . ,,	Papata pariki, . . TAM.
Brahmany myna, . ENG.	Rawanati, . . . ,,
Popoya maina, . . HIND.	Papata gorruki, . TEL.

Occurs throughout all India. It is the black-headed myna.

Temenuchus Malabaricus, *Gmelin*, is the Pastor caniceps, and T. Blythii, *Hodgson*, the Pawi of Bengal.

Temenuchus Blythii, *Jerdon*, the white-headed myna of the Malabar forests, and other six species of Further India.

Saraglossa spiloptera, *Vigors*, of Western Himalaya.

Eulabes religiosa, *Linn.*, hill myna, of S. India, Coorg, Wynad, and Malabar.

Eulabes intermedia, *A. Hay*, the Nepal hill myna, of N. India.—*Blyth; Jerdon.* See Starlings.

STYLIDIUM BEGONIFOLIUM. *R. Br.*

S. Chinense, *Lour.* | Marlea begonifolia, *Roxb.*

Khassya Hills, extending northwards beyond 30° of N. lat.; middle-sized, white, with large

yellow anthers, from March and April to July and August. Timber employed by the natives in the construction of their houses.—*Voigt.*

STYLOCORYNE WEBERA. *A. Rich.*

Webera corymbosa, *Willd.*	Rondeletia Asiatica, *Linn.*
Canthium corymbosum, *Pers.*	Cupia corymbosa, *D. C.*
	Tarenna Zeylanica, *Gærtn.*
Kommi chettu, . . TEL.	Konda papata, . . TEL.
Bomma papata, . . ,,	

The wood of this small tree is small, but hard, prettily marked, and much esteemed by the natives. The tree is met with on the Godavery. Its leaves and fruit are used in medicine.—*Roxb.; Voigt.*

STYRACEÆ, a sub-order of plants, consisting of trees or shrubs, and comprising eight or nine genera; Symplocos, Styrax, Paralea, and Decadiathera. The E. Indian species are:—

Symplocos ferruginea, *Roxb.*, Khassya.
S. spicata, *Roxb.*, Khassya.
S. racemosa, *Roxb.*, Bardwan, Nepal, Kamaon.
S. sinica, *Kerr*, China.
S. pulcherrima, *Wall.*, Nepal.
Styrax benzoin, *Dryand.*, Sumatra.
S. serrulatus, *Roxb.*, Chittagong.

This order is chiefly remarkable, in an economical point of view, for furnishing the storax and benzoin of commerce, which contain a peculiar acid called the benzoic acid. Some of the species are used for dyeing yellow.

STYRAX BENZOIN. *Dryander.*

Lithocarpus benzoin, *Blume.*

Bakhur, Kunnuk, . ARAB.	Kominjan, . . MALAY.
[illegible]ood, Ood, DEKH.	Husse luban, . . PERS.
Gum-benjamin tree, ENG.	Husse-ul-jawi, . . ,,
Storax, ... ,,	Sambranee, . . . TAM.
Luban, ... HIND.	

This tree is a native of Sumatra, Siam, and Java, and yields the gum-benjamin of commerce, by making incisions into the tree in its seventh year. The juice hardens on exposure to the air, that which flows first being the purest and most fragrant. It is supposed that Styrax Finlaysonianum also yields it. It occurs in masses composed of white lumps, joined together by a brownish-red substance. It has an agreeable odour and taste. It contains a resin mixed with a considerable quantity of benzoic acid, which may be prepared from this drug. It is a very useful stimulant, expectorant, and diuretic, but is chiefly used as incense. It is principally used in chronic bronchitis and laryngitis, also in jaundice and disease of the bladder.—*Voigt; Birdwood; Powell.*

STYRAX OFFICINALE. *Linn.* A native of Asia Minor and Syria, common in Greece, and cultivated in the south of Europe. As this plant does not yield a balsamic exudation in all these situations, some storax has been thought to be yielded by Liquidamber orientale. See Storax.

STYRAX SERRULATUS. *Roxb.* Koom jameeva, BENG. A small tree, a native of Chittagong, where it blossoms in March, and the seed ripens in October.—*Roxb.*

SU, also Abar, a great Scythic horde who entered India B.C. 126, and gave their name to the province of Indo-Scythia.—*Elliot.*

SUAR or Surah, a wild, half-savage, forest tribe inhabiting the Eastern Ghats of the Peninsula of India. They are known to their settled neighbours as the Chenchu kulam, Chenchwar, and Chensuar. Wilson names them Chenchu-vadu (Vadu, TEL., a man). They dwell in the tract covering the westernmost range of the Eastern Ghat line, between the Pennar river and the Kistna, and known locally as the Nullamallay and the Lankamallay. They inhabit clearings in the forest, live in beehive-shaped huts, like the African, Nicobarian, and many of the ruder Asionesian tribes. These are of wicker-work, with walls about 3 feet high, and a conical straw roof, with a screen for a door. The men, almost nude, have in general only a rag for covering. The women dress like the wandering female basket-makers, whom they resemble in features. The features of the men are small, but the expression is animated, cheek-bones higher and more prominent than those of the Hindus in general, nose flatter, and nostrils more expanded; their eyes black and piercing. In stature they are somewhat shorter than their neighbours, and they are slightly, but well made, except about the knee and the leg, which is large. The colour of the skin is dark. Newbold characterizes them as between a Teling and a Jakun of the Malay Peninsula. They speak Telugu with a harsh and peculiar pronunciation. They have large dogs, and a few are employed as hill police pass from the Kuman to Badwail. They h images. They are polygamists; they bur dead, but sometimes burn, and they ca deceased's weapons to the grave. They spear, hatchet, the matchlock, or a bamb and reed arrow tipped with iron. They weaving and other manufacturing arts wi tempt. They are patient and docile. Mr. has suggested that the Chenchwar are a co tion of the wild forest Surah of the mount tracts farther north in the line of Eastern Vocabularies of the Kond, Savara, Gadaba, kala, and Chentsu are given in the Beng. A Journal of 1856.—*Newbold in Beng. As. Soc.* 1865; *Logan in Jour. Ind. Arch.*

SUBAH, a province, a government, som a smaller division, also the officer in charg subah. Subah under the Moghul rule was a subdivision of their dominions, such as Behar, Bengal. Each subah was divid a certain number of circars, and eac into parganas or mahals (which are equivalent expressions), and the pargana were aggregated into dustoor or districts; the parganas of the dustoor were always ous, the dustoor statement in old regi copied with any regard to correctness, means of the verification of doubtful Subah is an Arabic word, signifying a money or a granary. Circar is literally a supervisor; dustoor, besides signifying a also a minister, a moonshi. The title of dar, or lord of the subah, is long subseq Akbar's time. Sipahsalar was then t designation of the emperor's viceroy subah. A subahdar, in the British India is a native commissioned officer of native or cavalry.—*Elliot; Malcolm's Central In*

SUBAH. ARAB. The morning. S kazib, a false dawn, is a transient appea light on the horizon, which often appears a an hour before the subh-i-sadik, or real dawn o day. Subah-ul-kheir, good morning.

SU-BAHU. SANSK. Five-armed, a royal Hindu title.

SUBAKTAGIN, governor of Khorasan, declared himself independent at Ghazni in A.D. 975;

he afterwards carried his arms across the Indus, forcibly converting the natives to Islamism. These inroads were repeated, and in the last (A.D. 997) he was accompanied by his son, the celebrated Mahmud, who, after his succession to the throne of Ghazni, repeatedly invaded India. Mahmud subjugated the whole of the level district west of the Indus to the very foot of the Brahui mountains. His son Musaud extended these conquests still more westerly into Mekran. He adhered, however, to his father's plan of not ascending the lofty ranges.—*Hist. of Panjab*, i. 64.

SUBANSIRI, a river in the north-east of the province of Assam, which contributes to form the main stream of the Brahmaputra. It is supposed to rise far up among the mountains of Tibet. It enters the district of Lakhimpur from the Miri Hills, and, flowing south through North Lakhimpur, forms, together with the channel of the Lohit, the large island Majuli Char, and finally empties itself into the main stream of the Brahmaputra in Sibsagor district. In the plains it is navigable by steamers as far up as Patalipani, 16 miles from Lakhimpur town. Below this place it is [illegible]e fordable.—*Imp. Gaz.*

[illegible]ARNAREKHA, meaning the streak of [illegible] a river in Bengal, which rises 10 miles [illegible]est of Ranchi in Lohardaga district, and [illegible]owards the north-east, leaving the main [illegible] in a picturesque waterfall called Hun[illegible]rh.

[illegible]RNAREKHA, in lat. 21° 34′ 30″ N., and [illegible]° 22′ E., on the Orissa coast, was the site [illegible]first maritime English settlement in Bengal. [illegible]rt is unsafe during the south-west mon[illegible]ut within the bar the Subarnarekha pos[illegible]a magnificent deep channel.—*Imp. Gaz.*

[illegible]BATHU, a military cantonment and sana[illegible]n in the Simla district of the Panjab, in lat. [illegible]′ N., and long. 77° 2′ E. It occupies the [illegible]f a ridge on a table-land at the extremity of [illegible]la range, overlooking the Ghambar river, [illegible]s from Simla station. It is 4253 feet [illegible]he sea. It has been held as a military [illegible]ce the close of the Gurkha war in 1816, [illegible]acks exist for a whole regiment. Suba[illegible]9 miles from Kussowlee on the road to [illegible]the hills are bare of wood; the climate [illegible]rom that of Kussowlee in being hotter in [illegible] and colder in winter. It is altogether [illegible]y and sheltered, and has an advantage in [illegible]ldom visited by fogs. Subathu is noted [illegible]ummulitic strata.—*Imp. Gaz.* See Sana[illegible]

[illegible]HA, a Bedouin tribe on the right bank of [illegible]es below the Weldi. They are constantly [illegible]with the Shammar of Al Jazirah, and on [illegible]ount are protected by the Anazeh. They [illegible]ge flocks of sheep and camels, and have [illegible]rses. Some families grow grain.

[illegible]ADRA (Su, beautiful, Bhadra, good), [illegible]r of Vasudeva, sister of Krishna, and [illegible] Arjuna. Bala Rama, her elder brother, [illegible]to give her to Duryodhana, but, at [illegible]shna's suggestion, her marriage was by seizure [illegible]f the maiden by Arjuna, near the Raibuta mountain, where she had gone to perform religious ceremonies, and Bala Rama subsequently acquiesced in their union. She was the mother of Abhi Manyu. Her lamentation for her son after he was killed in battle was addressed to his spirit, and she prayed for its being associated with the holy and heroic in the heavenly sphere.—*Dowson; Mahabharata; Cal. Review.*

SUBHAGNA (of good fortune) was an only child, a maiden widow. It is related of her in a Hindu legend, that, having learned from her preceptor the solar incantation, incautiously repeating it, the sun appeared and embraced her, and she thence became pregnant. The affliction of her father was diminished when he discovered the parent. Nevertheless (as others might be less charitable), he sent her with a female attendant to Balabhipura, where she was delivered of twins, male and female. When grown up the boy was sent to school, but, being plagued about his birth, whence he received the nickname of Ghaibi (concealed), in a fit of irritation he one day threatened to kill his mother if she refused to disclose the author of his existence. At this moment the sun revealed himself; he gave the youth a pebble, with which it was sufficient to touch his companions in order to overcome them. Being carried before the Balhara prince, who menaced Ghaibi, the latter slew him with the pebble, and became himself sovereign of Saurashtra, taking the name of Silladitya (from Silla, a stone or pebble, and Aditya, the sun). His sister was married to the raja of Baroach. We are struck by the similarity of production of these Hindu Heliadæ, and that of the Tatar dynasty from which Chengiz-Khan was descended. The Nooranyon, or children of light, were from an amour of the sun with Elancua, from which Chengiz Khan was the ninth in descent. Authorities quoted by Petis de la Croix, in his life of this conqueror, and likewise by Marigny, in his history of the Saracens, affirm Chengiz Khan to be a descendant of Yezdejird, the last Sassanian prince. Chengiz was an idolater, and hated the very name of Muhammadan. A courtier telling Aurangzeb of his celestial ancestry, gravely quoting the affair of the mother of the race of Timur with the sun, the monarch replied, 'Mama caba bood.'—*Tod's Rajasthan*, i. p. 234.

SUBHAN. ARAB. Praising or glorifying God. Subhan Allah, May God be praised! a frequent solemn ejaculation of devout Muhammadans.

SU-BHANGI or Aghiri are wandering Hindu mendicants. They drink from human skulls water mixed with urine and sugar, and as if for purposes of nature squat before houses, extorting alms by the disgust they create. They likewise do the tricks of producing from their mouths, milk, liquor, etc. They are believed to engage in gang robberies.

SUBHAN RAI, author of Khulasat ut Tawarikh.

SUB-HIMALAYA is a term originated by Mr. B. Hodgson to distinguish all the mountains and their inhabitants below the snowy range. But the term is inappropriate, as it includes precipitous mountains 8000 and 10,000 feet high, and people dwelling in them, higher than the highest mountaineers of Europe. The Sub-Himalayas comprised in Bhutan, Sikkim, and Nepal are chiefly occupied by Tibetan or Bhotia tribes, and by tribes more akin to the Gangetic race. The first fossil remains of the colossal tortoise, Colossochelys atlas, were discovered in 1835 in the tertiary strata of the Siwalik Hills, or Sub-Himalaya skirting the southern foot of the great Hima-

laya chain. They were found associated with the remains of four extinct species of mastodon and elephant, species of rhinoceros, hippopotamus, horse, anoplotherium, camel, giraffe, sivatherium, and a vast number of other mammalia, including four or five species of quadrumana. The Siwalik fauna include also a great number of reptilian forms, such as crocodiles and land and fresh-water tortoises. Some of the crocodiles belong to extinct species, but others appear to be absolutely identical with species now living in the rivers of India, in particular to the Crocodilus longirostris, from the existing forms of which naturalists have been unable to detect any difference in heads dug out of the Siwalik Hills. The same result applies to the existing Emys tectum, now a common species found in all parts of India. A very perfect fossil specimen, presenting the greater part of the evidence of the dermal scutes, is undistinguishable from the living forms, not varying more from these than they do among each other. There are fair grounds for entertaining the belief as probable that the Colossochelys atlas may have lived down to an early period of the human epoch, and since become extinct,—1st, from the fact that other chelonian species and crocodiles, contemporaries of the colossochelys in the Siwalik fauna, have survived; 2d, from the indications of mythology in regard to a gigantic species of tortoise in India. —*Campbell*, p. 46; *Jour. As. Soc. Ben.*, No. 247 of 1855. See Siwalik.

SUBRAMANYA, among the Hindus of Southern India, a name of Kartikeya, the god of war. Subramanya is a favourite deity of the Tamil and Teling races.

SUBRAMUNI, below the ghats in the south of the Peninsula, is one of the principal seats of serpent-worship in India.

SUBRAON is in the neighbourhood of Ferozpur in the Panjab. It was the scene of a battle between the British and the Sikhs after the death of Ranjit Singh.

SUBSIDIARY FORCE, a term by which is designated a brigade of the British Indian army, about 5000 strong, lent to the Hyderabad Government, under treaty, and the expenses of which are met by the revenues of the Ceded Districts, now forming the revenue collectorates of Bellary, Cuddapah, and Kurnool. It was the Marquis of Wellesley who established the relations between the Nizam and the British on their present basis, and who initiated that political status of subsidiary alliances which has continued with but little alteration down to the present day. By this system a native sovereign receives a British Resident at his court, and receives and maintains a British subsidiary force within his dominions. This system was carried out with the Nizam of the Dekhan in 1798 and 1800. It was also tried on the sultan of Mysore, but Tipu flamed up at the idea of becoming a pensioned prince, and the result was his own overthrow and the establishment of a dependent raja in his room. Then it was tried on the Peshwa of the Mahrattas, and would also have been tried on Sindia and Holkar, had not Wellesley been recalled, and Cornwallis sent out in his room. This system was subsequently extended to the whole of the Native States, and belongs to the general history of India. By this arrangement Nizam Ali was compelled to give up his French force, and to become really dependent on the British power. He died in 1803, very shortly after the change.

SUCCOTH BENOTH, an Assyrian deity, whom the Jews worshipped under the name of Astarte or Ashtaroth, and it is said that this deity was of both sexes. This physiological or androgynic union of the sexes is attributed to a form of Siva, the right side being male and left side female, and his female energy or sakti is fabled to have assumed both appearances as circumstances required. The Babylonian goddess identical with Succoth Benoth was Mylitta, meaning mother, and the term Mat'ha or mother is applied to the wife of Siva. Amongst the Assyrians, the women, once in their lives, had to make a sacrifice of virtue to the goddess Succoth Benoth. Lemprière says that Succoth Benoth was a surname of Venus, in whose temples all the women were obliged to prostitute themselves to strangers. Amongst other names of the wife of Siva is Bali or Vali, under which appellation she assumed the form of a girl of twelve years of age. And in Madura, Balane, and other places, bea[illegible] virgins used to go to the temple once in [illegible] lives to offer themselves in honour of the g[illegible] It was the belief that a god had converse[illegible] them.—*Roberts*, p. 9.

SUD, Sudh, or Sudhan, in Chutia Na[illegible] term which includes all Hindu castes, Bra[illegible] Rajputs, Goalas, Kurmis, Kahars, etc. [illegible] word means pure, and they designate [illegible] origines Kol, meaning vile or impure, or [illegible] robber. The Kol accepted the distinctive d[illegible] nation. Uniting in themselves a Dravidia[illegible] Kolarian element (the Oraon and Munda) [illegible] were in want of a generic term to disti[illegible] them from the Sudhs, but to the latter the[illegible] apply the epithet Diku, a word of unc[illegible] meaning, but not intended to be complime[illegible] —*Dalton, Ethnol. of Bengal*, p. 309.

SUDANA or Sudatia, illustrious giv[illegible] title of the famous Buddhist prince Wess[illegible] king of Sibi or Siwi, and son of Raja Sand[illegible] is believed to have been one of the p[illegible] incarnations of Buddha. His history and [illegible] his wife Phusati and two children, ar[illegible] sented in the sculptures on the north gat[illegible] great Bhilsa tope. He gave away what [illegible] was asked for, even his kingdom, a[illegible] dethroned by the people. His capital [illegible] is supposed to be the modern Shahbaz ga[illegible] a rock within its bounds is one of the rock [illegible] tions of Asoka.

SUDDHODANA, father of Gautama Si[illegible] the Sakya Buddha. He was chief of a [illegible] Sakya, whose country lay among the spu[illegible] Himalaya, along the banks of the R[illegible] modern Kohana. He was one of the las[illegible] sentatives of the pure Aryan or Solar d[illegible] who held sway in Ayodhya, the moder[illegible] and were deposed by the Lunar dynastie[illegible] mixed Aryan and Turanian races, and re[illegible] mere chieftains of tribes, who still main[illegible] precarious independence under the prot[illegible] shadows of the Himalaya. The Rohini (Kohan[illegible] divided the Sakya rule from that of the Koliyan on its opposite bank, and in times of drought and famine the river was often the subject of fighting between them. But during the rule of Suddhodana there was peace between the clans on either

side of the Rohini, and Suddhodana had married two daughters of the Koliyan chief. Both continued childless, until, in her 45th year, the eldest sister presented her husband with a son, the prince Gautama Siddharta, who when 19 years old was married to his beautiful cousin Yasodhara, daughter of the Koliyân chief, who bore a child to her husband when he was in his 29th year.

SUDI. HIND. The bright or increasing half of a lunar month from new to full moon; a fortnight of the growing moon.

SUDIKKODUTTA NAYSSIYAR, a Tamil poetess, who is said to have been a foundling, who consecrated herself to Vishnu, as worshipped at Tirupati. 173 stanzas, called Tirupavai and Tirumoli, part of the Nalayira Pirapantam, are attributed to her.

SUDRA or Sudar is the caste appellation of the mass of the Hindu inhabitants of India. This word is of very rare occurrence in the Vedas. The Aryans commonly styled their native foes Dasya, but in several passages of the Atharvan, [illegible]or çudra is directly contrasted with arya. [illegible]recognises the name in that of the town [illegible] the Lower Indus, and especially in that [illegible]ations of the Sudroi in Northern Ara-[illegible]nd he supposes them to have been, with [illegible]ira and Nishada, a black long-haired race [illegible]gines, subdued by the Aryans. It cannot [illegible]te[illegible] that by the Aryans the term was [illegible]d in course of time to all who occupied or [illegible]luced to a dependent condition, whilst the [illegible]'hlecha continued to be the appellation [illegible] unsubdued un-Aryanized tribes. Lassen [illegible]ax Muller suppose that the whole of the [illegible] or primitive servile classes of Northern [illegible]belonged to a race different from their [illegible] conquerors; but Dr. Caldwell thinks it [illegible]le that a considerable portion of them [illegible]cd of the slaves, servants, dependents, or [illegible]s of the high caste Aryans, and, like the [illegible]belonged to the Aryan race. And the fact [illegible]e Brahman, Kshatriya, Vaisya, and Sudra [illegible]epresented as having sprung from Brahma's [illegible]ough from different parts of it, is in [illegible] the idea that the Sudra differ from the [illegible]rn Aryans in rank only, not in blood. [illegible]e farmers, gardeners, mechanics, artisans, [illegible]urers of every description. But in these [illegible]ocations will be found persons of the [illegible]nd third tribes, castes, or classes, but of [illegible] comparatively few. According to Menu, [illegible]ral duty of the Sudra is servitude. Many [illegible] and sub-castes of Sudra burn their dead [illegible]er Hindus. Others inter them decently [illegible]l in a horizontal position, while others, [illegible]ngaets, artisan goldsmith caste, etc., put [illegible]d in a sitting attitude. The Sudra have [illegible]s subdivisions in their castes, and the [illegible] of the Aryan Brahman races has been [illegible]nise as of the Sudra caste all the ab-[illegible]races who adopt Brahmanism. In the [illegible]a of India, the great Vallalar, Idiga, and [illegible]aces, the Balja, Pakinati, Mootati, Vella-[illegible]n with the titles of Rao, Naidoo, and Sitti, [illegible]ll the Kunbi, Kurmi, all the Hindu barber and [illegible]mutton butchers, claim to be of Sudra origin. [illegible]Part of the Sudra have by some authors been [illegible]believed of a Cushite or Caucasa race, who invaded [illegible]ndia anterior to the Aryan immigration. If other employments fail a Sudra, says Menu, he should subsist by writing.—*Oriental Linguistic Studies.*

SUDRA. The Parsees are invested with the sudra or sacred shirt, and the cord or kusti, at the age of six years and three months. This investiture is the initiation of the child into the religion of Zoroaster, the jubhla being then discontinued. The sudra is made of linen or gauze or net, while the kusti is a thin woollen cincture or cord of seventy-two threads, representing the seventy-two Has or chapters of the Izashne, one of the sacred books of the Parsees. The sudra and kusti are worn alike by men and women, but the latter likewise dress in the saree, generally of coloured silk, and the short-sleeved silk vest called the kanchri or choli.—*Parsees*, p. 70.

SUDRAKA, author of the drama Mrichchha Kati, or the Toy Cart.

SUEDA FRUTICOSA. *Moq.* The Lanee and Loonuk, a plant of the Chenopodiaceæ, growing abundantly in the Panjab and Sind. It is burned along with Salsola Indica, *Roxb.*, and Chenopodium, to obtain Sajji khar, crude carbonate of soda.—*J. A. Murray.*

SUEVI. Su, Tuisto (Mercury), and Ertha (the earth), were the chief divinities of the early German tribes. Tuisto was born of Ertha (Ella) and Manus (Menu). He is often confounded with Odin or Woden, the Budha of the eastern tribes, though they are the Mars and Mercury of these nations. The Suevi or Suiones, the most powerful Getic nation of Scandinavia, was divided into many tribes, [illegible] who[illegible] Su (Yu-chi or Jit), made human sacrifices in their consecrated groves to Ertha (Ella), whom all worshipped, and whose chariot was drawn by a cow. The Suevi worshipped Isis and Ceres (of Rajasthan), in whose rites the figure of a ship is introduced, 'symbolic,' observes Tacitus, 'of its foreign origin.' At Udaipur, the festival of Isa or Gowri, wife of Iswara, is performed on the lake, and appears to be exactly that of Isis and Osiris in Egypt, as described by Herodotus. The Getic race carried their veneration for the horse, symbolic of their chief deity the sun, into Scandinavia, equally so of all the early German tribes, the Su, Suevi, Catti, and Sucimbri Getes, in the forest of Germany and on the banks of the Elbe and Weser. The milk-white horse was supposed to be the organ of the gods, from whose neighing they calculated future events: notions possessed also by the Aswa, sons of Budha (Woden), on the Yamuna and Ganges, when the rocks of Scandinavia and the shores of the Baltic were yet untrod by man. It was this omen which gave Darius Hystaspes (Hysna, to neigh; Aspa, a horse) a crown. The bard Chund makes it the omen of death to his principal heroes. The steed of the Scandinavian god of battle was kept in the temple of Upsala, and always 'found foaming and sweating after battle.' 'Money,' says Tacitus, 'was only acceptable to the German when bearing the effigies of the horse.'—*Tacitus; Rajasthan*, i. p. 64.

SUEZ, the Es-Suweys of the Arabs, is at the northern end of the Gulf of Suez. It is supposed to be the Klysma mentioned by Lucian, and later on the Kolzum of the pilgrims, and the sites of these places are indicated by mounds on the backwater which formerly extended for miles inland. Prior to the construction of the Suez Canal, Suez

remained a small Arab village, with perhaps 1000 inhabitants, and although the population has considerably increased, the town presents to this day a decayed appearance, the stimulus given to it by the opening of the canal and docks having been transient.

SUEZ CANAL, connecting the Red Sea and the Mediterranean, was constructed in the middle of the 19th century, having been projected and its works superintended by Count Ferdinand de Lesseps, a native of France. Rameses the Great constructed a canal from the Nile at Bubastes, which reached to the neighbourhood of the lake Timsah. Upon this canal Rameses built his strong towns, Pithon and Rameses, and Israelites were employed in building these cities. This canal was constructed to prevent the passage of the horses of the Hyksos for the purpose of plundering Egyptian territory, and it was certainly completed in the 14th century B.C., and was in use at the time of Herodotus. Necho, a king of Egypt, who reigned about 600 years B.C., is said to have commanded some Phœnicians to sail from the Red Sea to the Mediterranean, round the Cape of Good Hope,—a voyage which they accomplished in two years. If the Phœnicians really did complete the voyage, they anticipated the discovery made by the Portuguese about 2000 years after. Necho entertained the idea of connecting the Mediterranean and Red Seas, and with this view he commenced extending the canal of Rameses, though he succeeded in his [illegible] only in extending it as far as the Bitter Lakes.

About 100 years later, Egypt fell under the kings of Persia, and Darius determined upon completing the projects of Sesostris and Necho by digging a canal between the Red Sea and the Nile; but, being assured by the engineers of the period that the Red Sea was higher than the Nile, and that its salt water would overflow and ruin the whole land of Egypt, he abandoned his purpose.

The next king of Egypt who gave his attention to the construction of a Suez Canal was Ptolemy Philadelphus, who reigned about 300 years B.C. He dug a canal from a branch of the Nile to Damietta, a port on the Mediterranean. This canal was 100 feet broad, 30 feet deep, and 10 or 12 leagues in length, extending, in fact, to the Bitter Wells. He meant to have continued it to the Red Sea, but desisted from fear that the Red Sea was three cubits higher than the land of Egypt. That this canal, though deeper than that of M. de Lesseps, did not succeed, is evident from the fact that in B.C. 277 Ptolemy Philadelphus changed the direction of Indian traffic. Alexandria was now made the port on the Mediterranean side, and merchandise from Europe was carried thence up the Nile to the city of Coptus (probably near Keneh), and conveyed across the desert from thence to the seaport of Myos-Hormos (probably near Cosseir) on the Red Sea. On account of the dangers attending this port, Philadelphus sent an army to construct the haven of Berenice, in which the ships engaged in Indian commerce took shelter. Trade increased enormously by the new route, and Alexandria became rich and famous. The father of Cleopatra received a prodigious revenue from customs alone. After the reduction of Egypt and Alexandria by the Romans, the trade increased still further. 120 ships were sent yearly from the Red Sea to India, sailing about the middle of July, and returning within the year. The returns on this Indian trade are said to have amounted to 'an hundred for one,' and through this increase of wealth the matrons and noble ladies of Alexandria were exceedingly profuse in decorating themselves with pearls and precious stones, and enhanced their personal charms by the use of musk and amber, and other rich perfumes.

Soon after this the mighty Roman Empire fell, and history itself is blotted out for a number of years. Not only the trade with India, but India itself, was completely lost to the western world. When, after some centuries, we find the Genoese engaging in commerce and navigation, a new trade route had been opened up between India and Europe.

The design, so long imagined, of connecting the Mediterranean and the Red Sea by a canal, remained unaccomplished, till M. de Lesseps brought his wonderful engineering skill and perseverance to bear upon the work, and the Suez Ca[illegible] opened for navigation 17th November 18[illegible]

The Suez Canal starts from Port Said, [illegible] east of the Damietta mouth of the Nile, a[illegible] across the isthmus, and through lakes M[illegible] El Ballah, and Timsah (on the shores o[illegible] latter stands the new town of Ismailia[illegible] through the Bitter Lakes to Suez. Its tota[illegible] is 92 miles. Its actual width (over the [illegible] part of its length) does not permit of two [illegible] passing or crossing each other in the canal[illegible] but there are numerous sidings, by which [illegible] are enabled to cross one another. Vessels mea[illegible] 430 feet in length, and drawing 25 feet 9 in[illegible] water, have safely passed through the canal[illegible] actual cost of the canal, according to a [illegible] of the year 1877, was £17,518,729. Th[illegible] receipts, from all sources, of the Suez Cana[illegible] pany in the year 1877 amounted to £1.3[illegible] and the expenditure to £1,169,549. T[illegible] year in which the receipts exceeded the e[illegible] was in 1872, when the surplus amou[illegible] £82,849. In 1870, 491 vessels of 436,[illegible] passed through; in 1877, 1651 vessels of 2[illegible] tons; in 1882, 3198 vessels of 7,122,1[illegible] and total receipts, 63,409,593 francs.

The isthmus has been ascertained to[illegible] of fresh-water formations, passing on t[illegible] side into marine deposits of the Red Sea[illegible] the north into those of the Mediterranea[illegible] whole of the service of the canal is supplie[illegible] one end to the other, by a fresh-wate[illegible] leaving the Nile near Cairo. For 70 m[illegible] ship canal is carried through lakes, its[illegible] being marked by buoys, and the botton[illegible] been dredged to the requisite depth; whi[illegible] miles it takes the form of a land ditch, th[illegible] way being cut partly through sand an[illegible] through clay. The prices of the canal sha[illegible] fluctuated. Their nominal value is 500 f[illegible] were quoted in 1861, 438 f. 75 c.; in 18[illegible] varied from 220 f. to 558 f.; in 1869, the [illegible] the opening of the canal, they rose to 633 f. 50 [illegible] in 1875 they were at 875 f.; in 1880 they went [illegible] from 715 f. to 1327 f. 50 c.; in June 1881 they [illegible] were quoted at 1700 f.; from that period they [illegible] rose even to 3500 f. In January 1884 they were [illegible] selling at 2015 f. per share. In 1875 the British [illegible]

Government bought 176,602 shares from the Khedive for £3,976,852.

SUFFUR, the 2d month of the Muhammadan year.

SUFI, by some authors, is derived from the Greek Sophos. Others point to the Arabic Suf, wool, in allusion to the woollen robes worn by the majority of the darvesh. The Sufi philosophy is called Tasawwuf, and is based on some mystic verses in the Koran and Hadis. Its main principle is that there is no real existence except that of God, and that all the phenomena of the material universe are but emanations from him, and tend ultimately to reabsorption in him. This form of doctrine is spoken of as a tariqat or path (to salvation), the disciple as a traveller (salik), and the manāzil are the various stages of spiritual development. It is a religion of the heart, as opposed to formalism and ritualism. Sufis talk of love to God, of union with God, of death to self, and life eternal in God; of the indwelling in man of the Spirit, of the nullity of works and ceremonies, of grace and spiritual illumination, and of

s.
d-Din says, in the Masnavi, 'In whatever set our foot, we are always, Lord, within t.' The Sufi creed is a philosophy, a n. The whole visible creation is the manifestation of the invisible Being irit is diffused everywhere through it. stage of a Sufi disciple is styled Sharyat n which he practises all the external rites monies of religion. Tariqat, from Tariq, a path, way, or direction, is the second which the disciple discards the outward religion, and devotes himself to the mental of the deity. The third stage is Haqiqat, aq, the All-Righteous. It means the state h, and is a condition accompanied by a atural knowledge or meditation, obtained evotee through a long meditation on God. th stage is the Marifat, from Arif, to know, tained by long and painful fasts, dwelling ry deserts, seeing only his teacher. Few he severities of this stage. But when it d, the soul, absorbed into the divine s again with God. But the purified Sufi ke of the nature of God, which is termed d signifies that mild and gentle beauty es to do good and hurts not. Or he toxicated with the wine of the divine absorbed in the contemplation of the onsuming glory of the deity; in which s full of wrath with the iniquities of the d if provoked to imprecations, they take effect. Or he may pass from one stage r, may at one time assert that God is in and then fall back into the condition of mortals, trusting that God will forgive ins and make his latter days righteous. spiritualist is often almost with views te to eastern pantheistic ideas, but with ost atheistic, a sort of esoteric doctrine. many sects, tracing their tenets to par- unders, whose views they are supposed o hold. Some of them have attained to the con- lition of the highest spiritual exaltation; but ome of the darvesh or fakirs are degraded beings, nd in British India are held in great disesteem. lso many of the educated classes in Persia accept ufi doctrines, adopting a mystical pantheism and spiritual love in secret, outwardly conforming to Muhammadanism.

Sufi spiritualism, though contrary to materialism, has in reality much in unison. Sufi doctrines are principally held amongst the partisans of Ali, and out of it grew the belief in the infusion of divinity in Ali. Evidences of its antiquity may be found in the annals of almost every ancient and civilised race. The Sufi were called by the Guebres (Gabr), Wahia-daran, Roushan-dil, etc.; by the Hindus, Gnaneshwar and Atma-gnani. Among the Greeks they became Platonists, and have continued up to the present time. The number of Muhammadan sects is considerable. As a broad distinction, they are generally classed as Shiah and as Sunni, but the six bodies of sectarians who oppose the Sunni are classed by them as Rafziah, Kharjiah, Jabriah, Kadriah, Jahmiah, and Marjiah, each of whom are broken up into smaller bodies. Before the end of the 1st century, the ascetic turn and the theosophy inseparable therefrom, a combination styled among the Arabs Sufi, had arisen. This made rapid strides; and in the end of the 3d century was already, itself, the subject of learned works, and the Muhammadan world has carried this system to the utmost extreme. Their Sufi outstrip in every point of view both the Hindu Jogi and the Christian monks. The asceticism of the Sufi is more systematic, their pantheistic teaching deeper and more consistent, and their vices more enormous, than those of any other people. Spinoza and Schelling are left far behind by Ibn Arabi.

Taüs Abu Abd-ur-Rahman died A.H. 102 (A.D. 720). He was the friend of Zain-ul-Abi grandson of Ali. He was a pupil of Abu Hurayr the most devout of Mahomed's friends, and Ibn Abbas, renowned alike for his profound learning and for his spotless life. Taüs was the founder of a school of disciples whom he trained in mortification, poverty, contempt of the world, and the various spiritual arts and devout practices of the contemplative life. It was he who first adopted the high cap of suf, woollen stuff, from which the term Sufi originated, and the Khirqa or long patched robe, which is their distinctive habit. Among his followers has been Ibn-us-Sammak, an eloquent preacher, who said, 'Fear God as though you had never obeyed him, and hope in him as though you had never sinned against him.'

Fazl Abu Ali Talikani, of Khorasan, lived in the 2d century of the Hijira. He commenced life as a robber, but while on the watch on one occasion, he overheard a verse of the Koran, which awed him so that he was instantly converted, and became widely celebrated for his sanctity and works. On one occasion he said to Harun-ur-Rashid, 'Oh, Khalifah, I have only detached myself from this little world, but you have detached yourself from the world which shall endure for ever.'

Fazl's successor as the head of the order was Bashr (Bishr), the barefooted, who was converted in Baghdad by a dream.

Zu un Nun, a native of Egypt, lived in the 3d century, and his tomb at Cairo still attracts pilgrims. He courageously rebuked wickedness in high places. He scourged himself; was in chains and bondage.

Husn-ul-Hillaj, who was martyred at Baghdad A.H. 303 (A.D. 915), founded a school, which subsequently attained to great influence.

In the 4th century also there lived the famed Abd-ul-Kadar Ghilani, the doctor Mohi-ud-Din-ibn-ul-Arabiya-ul-Maghrabi, and also Umar-ibn-ur-Ridh, author of a celebrated Dewan. He fasted for three or four days, and was subject to ecstasies or Wajd. He taught the freedom of the human will, and was put to death with circumstances of revolting cruelty, on the accusation of teaching Christianity in a covert manner.

Farid-ud-Din Attar, author of the Pind Nama, of the Lives of the Pirs, and the Mantiq-ut-Taer. He had a biographer in Daulat Shah of Samarcand. He was born A.H. 513; but one day he spoke harshly to a darvesh, who rebuked him so as to subdue Farid, who entered the monastery of Rukn-ud-Din Asaf, and attained a high degree of spirituality. He was martyred by the Moghul invaders under Chengiz Khan.

Jalal-ud-Din Rumi, commonly entitled Maulana, also Maulana Rumi. His father was Baha-ud-Din, a lineal descendant of Abubakr, successor of Mahomed. His mother was a princess of the royal house of Khorasan. He was born A.H. 603 (A.D. 1205). When Jalal-ud-Din was five years old, Baha-ud-Din left Balkh, after denouncing the innovations there in the religion. He went to Baghdad, where he rebuked the khalif; then on to Mecca, and finally settled in Qonya, the ancient Iconium, whose monarch he also rebuked; and he died A.H. 628. After his demise, Jalal-ud-Din studied in Aleppo and Damascus, particularly following the philosophy of Al Gazzali, his teacher being Shaikh Syed Burhan-ud-Din, a pupil of his father and an [illegible] of great renown, and from him Jalal [illegible] instructed in the mysteries of mute reality and [illegible]stasy, and the science spoken of in Koran xviii. 64. He afterwards assumed the rectorship of his father's college in Qonya, where he abode till his death. His son Baha-ud-Din survived him. At his funeral, mourners of all creeds and of various nations attended his remains to the grave. He died at sundown, Sunday, 5th Jamadi-ul-Akhir, A.H. 672 (16th December A.D. 1273), 68 years old. In the religious dances of the darvesh, he introduced instrumental music, the flute, the rebec, the drum, and the tambourine. He says—

'Learn what are the terms of the Musalman's creed,—
Fasting, pilgrimage, prayer, and alms.'

'Thus, when self-abased, man's spirit
From each earthly tie
Rises disenthralled to inherit
Immortality.'

Sad-ud-Din Mahmud, of Shahbistari, near Tabreez, lived in A.H. 717 (A.D. 1317). 15 questions were received from Amir Syed Husaini of Herat on the Sufi doctrines, and Sad-ud-Din was chosen by his sect to answer them. This he did in verse, and his book is called the Gulshan-i-Raz or Mystic Rose Garden. Little is known of the writer. In his answer to the 13th question he says—

'The spiritual world is infinite,
How can finite words attain to it?
How can the mysteries beheld in ecstatic vision
Be interpreted by spoken words?
When mystics treat of these mysteries,
They interpret them by types.'

On this point, however, the outside world will regard it, to say the least, as unfortunate that the Sufi should employ, in telling of their love of God, all the expressions usually adopted when describing the beauties of a mistress, the joys of sexual love, and pleasures of alcoholic stimulants.

The Sufi rest all their system of morality upon the practice of divine love, and the darvesh and fakirs are their expounders.

M. Dozy says the influence of Sufism is rather increasing than diminishing in Turkish provinces, and M. de Kremer considers it the preponderating element in Muhammadan civilisation.

In Constantinople they have 200 monasteries, and there are 32 distinct orders in Turkey. They are styled fakirs, and constitute thoroughly organized bodies, minutely discriminated from each other. Every school, every brotherhood, has its own distinctive teaching and technicalities, its peculiar practices and observances, its great men and founders, its saints and doctors. Within the 19th century, owing to Sufi efforts, Muhammadanism has had a revival in Turkey. A system of primary schools has been established, and the present generation has been taught to regard the ordinances with reverence. Sufi doctrines have been but little avowed in British India. Mullah Shah, a saint and poet, died at Lahore, A.H. 1072 (A.D. 1661–62), and Fatima, daughter of Shah Jahan, erected a tomb over him.—*Burton's* [illegible] p. 406; *Westminster Review*, 1869; *A* [illegible] *Persia*, ii. pp. 382-445; *Home and Foreign* [illegible] iv. p. 571; *W. S. Lilly in Cont. Rev.*, 1883; *Gulshan-i-Raz*. See Zikkir.

SUFI-SUFIYANA, fabric of silk an[illegible] mixed, lawful for Muhammadans to wear.

SUFOORA, Moses' wife Zipporah.

SUGAR.

Shakkar,	AR., GUJ., HIND.	Soola, Sakar,	.
Kyan,	BURM.	Gula,	.
Shih-mih-sha-t'ang,	CHIN.	Acucar,	.
Sukker,	DAN.	Sachar,	.
Suiker,	DUT.	Sarkara,	.
Sucre,	FR.	Azucar,	.
Zucker,	GER.	Socker,	.
Sakxar, Sakkari,	GR.	Sakkarai;	.
Zucchero,	IT.	Panchadara,	.
Saccharum,	LAT.		

The commercial sugars of Asia are ch[illegible] products of the Saccharum officinarum, S. [illegible] Phœnix sylvestris, Borassus flabelliformis [illegible] nucifera, Arenga saccharifera, Nipa f[illegible] and Sorghum saccharatum.

Coeval with the use of other vegetable [illegible] for domestic purposes in India, appears to l[illegible] the employment of the juice of the su[illegible] though it would not seem that the anci[illegible] sessed any knowledge of the process [illegible] this saccharine matter is converted into [illegible] lized substance. But Marco Polo, who [illegible] in the east in the year 1250, found abun[illegible] sugar produced in the province of Ben[illegible] from the almost universal growth of th[illegible] that province at the first occupation of th[illegible] by the British, there is good reason for [illegible] that its culture had rapidly extended [illegible] early period. From the earliest Europe[illegible] course with India, sugar, in a great v[illegible] forms, was met with in daily use. N[illegible] lives without it, either as crystallized or [illegible] called jagari. Upon the first possession of [illegible] by the E. I. Company, there was a flouris[illegible] port trade in sugar to the Indian coasts, some of [illegible] the Eastern Islands, and a few ports in Arabia and [illegible] Persia, to the extent of about 1500 tons; whilst [illegible] the local consumption of the article was enormous. [illegible] The quality of this sugar was, however, very in[illegible] ferior; and about the year 1776 some unsuccessfu[illegible]

attempts were made to introduce into India the Jamaica mode of growing the cane and manufacturing the sugar.

In China, from unknown times, the people have manufactured sugar both from the sugar-cane and from the sorgo-cane. In the reign of the emperor Tai-Tsung, of the Tang dynasty, the method of boiling the crushed cane was introduced into Sze-chuen and other parts of China from Turkestan or Central Asia. Hence, in China, sugar is called tang, the name of the dynasty being combined with the radical for food.

In Europe, cane-sugar has been largely supplemented by that manufactured from beet-root. One ton of beet-root is said to yield about 100 lbs. of ra[illegible]55 lbs. of refined sugar. The imports in[illegible]ritain were from—

	Sugar-cane—tons.	Beet-root—tons.
[illegible]	144,119	687,552
[illegible]	168,836	565,351

[illegible] there were about 1,925,000 acres [illegible]r-cane in India, and 168,700 acres [illegible]-palm, besides an area of 17,000 acres [illegible]myra and cocoanut in the Madras Presid[illegible]m which sugar is made. Of the total [illegible]r sugar-cane, the North-Western Pro[illegible]ne comprise 921,000 acres; the Panjab, [illegible]cres; Bengal, 185,000 acres; and Oudh, [illegible]cres. Next to these come the Central [illegible] with 94,000 acres, and the Bombay [illegible]y with 89,000 acres; the Madras Presid[illegible]s only 34,000 acres, and the remaining [illegible]have returned comparatively small areas. [illegible]otal area under date-palm utilized for [illegible]king, Bengal had 131,000 acres; and next [illegible]ysore, then Madras, Burma, and Bombay, [illegible]as respectively of 29,000, 4000, 3708, and [illegible]res.

[illegible] imports into and exports from India of [illegible]d sugar-candy have been as under :—

[illegible]ed into India.		Exported from India.		
Cwt.	Rs.	Year.	Cwt.	Rs.
[illegible]10,524	89,39,283	1875–76	107,288	11,04,274
[illegible]18,202	1,47,75,653	1878–79	51,043	6,96,792
[illegible]72,672	1,08,69,610	1882–83	1,207,423	67,86,420

[illegible] imports, four-fifths from Mauritius, one-[illegible] China and Straits. The great bulk into [illegible]a small part into Burma, smaller into [illegible]adras, and Sind. The exports, in the [illegible]gar, sugar-candy, molasses, jagari, gur, [illegible]hiefly to Great Britain. Large quantities [illegible]re made from the juice of the palmyra [illegible]he Jaffna Peninsula, Ceylon, chiefly in [illegible]bourhood of Point Pedro, the agent used [illegible]t fermentation being coralline, a little [illegible] is put into each chatty. The coarse [illegible]r which results from evaporation over [illegible]ired into minute olah baskets (made of [illegible]aves of the palmyra), and exported [illegible] Pondicherry, where it is refined and [illegible]d. The natives of the interior obtain a [illegible] cakes of which very much resemble the [illegible]ar of North America, from the kittul [illegible]yota urens.

SUGAR-CANDY.

[illegible]ing-t'ang, . . .	CHIN.	Shakr-kand, . . .	HIND.
[illegible]hini, ...	HIND.		

[illegible] Is made in China by crystallizing the raw sugar; [illegible]e best comes from Foh-kien, called Chin-chew, [illegible]om which province, especially through the port [illegible] Amoy, the exportation is likely to increase.

Pingfa sugar is the name given to pounded sugar-candy. Pingfa means crystal flowers, and is applied to this sort because it is the Ping-t'ang or candied sugar made fine. It was formerly carried to the United States and to India.

SUGAR-CANE.

Kassib shakar, . .	ARAB.	Nai, Nai-shakar, .	HIND.
Kan-che, ...	CHIN.	Kumad, Ukh, Ikh,	,,
Chuh-che, Tih-che,	,,	Shakkar, ...	PERS.
Ghanna, Ganda, .	DEKH.	Kairam-boo, . .	TAM.
Oons, Gundari, .	GUJ.	Sherakoo, . . .	TEL.

The sugar-cane, Saccharum officinarum, *L.*, S. violaceum, *Toss.*, and S. Sinense, *Roxb.*, thrives from the equator to the 32d parallel of latitude. It is one of the largest of the grasses, from 8 to 12 feet in height, and acquiring a diameter of one to two inches; the sugar being contained in the loose cellular juicy pith with which the stalk is filled. The sugar-cane of India was introduced into Arabia, Europe, Africa, W. Indies, and Mauritius. The mention made of it in the Hebrew Scriptures down to the Christian era, is simply that of a sweet cane, or of a fine kind of honey found in an Indian reed. Nearchus, the admiral of Alexander the Great, was the first who made known the existence of the sugar-cane in the western world; and from his time it is mentioned by Theophrastus, Varro, Dioscorides, and others. Herodotus alludes to 'honey made by the hands of men.' Lucan speaks of the sweet juice expressed from reeds, which the people of India were fond of drinking, and which Pliny calls saccharine. Still later, Arrian, in his Periplus of the Red Sea, alludes to the honey from reeds called saccharí, as an article of trade between the Indian ports and the countries of the Red Sea. Sugar-cane was found in the Crusades growing in the meadows about Tripoli in Syria; and mention is made by a writer of that day of eleven camels loaded with sugar being taken by the Crusaders.

Will and Fresenius, of the Gressen laboratory, give the inorganic elements of Otaheite cane as—silica, 47·75; soluble matters, 32·35; phosphate of peroxide of iron, 4·45; phosphate of lime and magnesia, 3·95; carbonate of lime, 4·10; magnesia, 3·90; carbonaceous matters and loss, 3·50. The 32 per cent. of soluble matters consisted of potash, 10·05; sulphuric acid combined principally with potash, 8·40; chlorine in combination with soda as common salt, 4; soda, 2·65; gelatinous silica in combination with potash, 2·55; carbonic acid combined with potash and soda, 1·10; phosphoric acid combined with potash, 0·85; loss, 2·40.

There are many varieties of it, some used only as fruit, others for the manufacture of sugar, an acre of cane yielding six tons of sugar; but in the little advanced countries, in the absence of machinery and of scientific appliances, where the rough sugar press or sugar mill is used, much of the juice of the cane is left in the refuse. At places the mill is dispensed with, the cane being cut into thin slices, and the saccharine contents of its cells extracted by bringing the slices into contact with water at an elevated temperature. The water extracts only the soluble substances contained in the juice of the plant, while most of the impurities—which in the ordinary process pass into the juice, and must be subsequently removed at great expense—are left in the unbroken cells of the cane, and do not contaminate the

juice. By this process, it is said, the extraction can be carried so far that 95 per cent. of all the sugar contained in the cane is passed into the clarifier, while the best roller mills at present in use do not extract more than 75 per cent. of the sugar contained in the cane. The diffusion process thus not only improves the quality of the sugar, but produces an increased out-turn of 20 per cent.

In Oudh, three presses are in use,—the Panjabi, the Bairam, and the Tantia. In the Panjabi mill, the canes are crushed whole, and the produce is greater; it is costly, and difficult to keep in order. The Tantia mill is in common use, and consists of a mortar of hard wood, a pestle, a boom to which the cattle are yoked, and another boom connecting the cattle beam and the pestle.

Mr. Bonnefin claims to extract the whole of the saccharine matter from the cane, to prevent fermentation, to thoroughly clear the syrup of all suspended matters ready for filtration, to completely purify the juice by filtration, and to make direct from the cane only pure white, refined sugar. Mr. Bonnefin does away with the cane mill, and substitutes for it what he calls a 'pulpefactor,' which consists of a series of vertical saws, which rapidly cut the bundles of canes into slices. The cut cane falls into a disintegrator placed beneath the saw frame, and in which the cane is quickly reduced to a fine pulp. It is afterwards passed between a pair of rollers, and the whole percentage of the juice extracted. The juice is then mixed, gallon by gallon, as it is produced, with a proper proportion of lime, and passed over a continuous 'preparator,' which consists of a long and broad table having a corrugated or furrowed surface, heat being applied underneath. There are a series of pockets at intervals in the corrugations, and as the juice flows along, the impurities held in suspension are deposited by gravity, and become collected in the pockets, or catchpits, from whence they are cleared out at intervals. The juice travels backwards and forwards for a long distance through the corrugations, finally arriving at the outlet in a favourable condition, both as regards quality and temperature, for filtration. This process is effected in a filter specially devised by Mr. Bonnefin, and which consists of a series of metal rings covered with india-rubber, and placed horizontally in a press. Over each alternate ring—the internal diameter of which is 12 inches—is hung a filter-cloth made of pure unspun cotton of the finest fibre. The rings and cloths, to the required number, which varies according to the rate of filtration desired, are closely pressed and held together by screws, and the syrup is pumped into the press. It passes through the whole series of rings and cloths, the solid impurities being intercepted and retained by that portion of each filter-cloth which covers the opening in the ring, while the syrup passes by capillary attraction through the surrounding portions of the cloths, and is delivered in a perfectly clear and pure condition at the outlet. The pure juice as it leaves the filter-press is conducted either to the ordinary vacuum pan or to the more rapid and effective evaporator and concentrator designed by Mr. Bonnefin. In the evaporator the juice is rapidly deprived of such water as it may contain, while in the concentrator it is as rapidly brought into the condition of sound sugar. All these operations, from the time the cane is placed in the pulpefactor to the moment when it leaves the concentrator in the form of crystallized sugar, it is said, do not occupy more than one hour, as against some 6 to 12 hours with the ordinary process, and its attendant drawbacks.

There are many varieties of sugar-cane in India, some used only as a fruit. For instance, in the N.W. Provinces and Oudh, the thun, paunda, and kala ghanna are edible; and for making sugar are dhaunr, dikchan, matna, padara, and rakhri.

Other varieties mentioned in Benares and E. Oudh are barokha, katara, khusyar, khiwahi, munga, reora, rukra, saranti.

In the Lahore district is a purple cane, called kumad kala; a hard, thin cane, called mad lahori, another called kata, and others of which were obtained from Jala Saharunpur. In Gujranwalla are thr cane, daula, treda, and chinkha. Daul is the best, treda is yellowish, chinkha reddish and small, produces good kand

A large variety in Canton has a ba appearance, but a smaller variety is c largely for making sugar, and to be eaten in Sze-chuen, Ho-nan, Foh-kien, and Ca

Tahiti has eight varities.

Sugar-cane in W. Oudh is planted in and March, irrigated from one to three tin the rains, and the cutting begins about th of November. The cuttings used for plan be of all parts of the cane.

Ukh or Ikh generally applies only to the other names to the cane.—*Cal. Cat. Ex Mad. Ex. Jur. Rep.; Les Anglais et l'Inde Faulkner*, iii. p. 113; *Powell.*

SUGRIHITA NAMNA ARYA CRHA ASYA is a phrase of constant occurrenc Sanskrit dramas, and indicates the impo attached, not to well-sounding, but to lu propitious appellations. This superstit common amongst the ancient nations of and, according to Cicero, care was take lustration of the people, that those who c the victims, and on the formation of th that the first soldier on the muster-rol have auspicious names. Cum imperato tum, censor populum lustraret, bonis n qui hostias ducerent, eligebantur, quo delectu consules observant, ut primus bono nomine.—*Hind. Theat.* ii. p. 160.

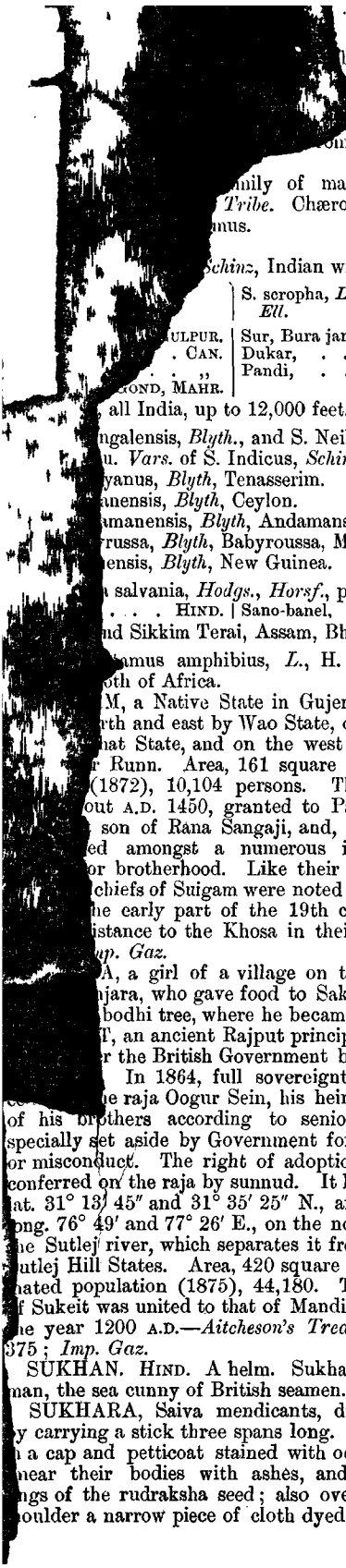
SUGRIVA, a monkey prince and Rama. He was dethroned by his broth but the latter was killed, and Sugriva r king of Kishkindhya.—*Dowson.* See Vi

SUHAI or Sahai. There are four gran of the government of Mewar, viz. the or prime minister; Bukshi, command forces; Surutnama, keeper of the record keeper of the signet, or rather, who n monogrammatic signet, Suhai, to all deed etc.—*Tod's Rajasthan*, i. p. 479.

SUHAILEA. HIND. A song of j Homage.

SUHAILI, ARAB., from Sahilah, a sea-shore, a name given to the African races dwelling along the coast to the south and north of the Straits o Bab-ul-Mandab; also applied to those on th Morocco coasts, known to Europe as Riff from Portuguese Ripa, a shore.

SUHOYUM. KASH. A burning ground men



bari. It lies
he pargana
e valley
00 feet in
m the spot.—

mily of mammals, viz.
Tribe. Chærodia, *Blyth.*
nus.

Schinz, Indian wild boar.

	S. scropha, *Linn.*, *Blyth*, *Ell.*
ULPUR.	Sur, Bura janwar, . HIND.
. CAN.	Dukar, ... MAHR.
. . ,,	Pandi, ... TEL.
GOND, MAHR.	

all India, up to 12,000 feet.

ngalensis, *Blyth.*, and S. Neilgherriensis,
u. *Vars.* of S. Indicus, *Schinz.*
yanus, *Blyth*, Tenasserim.
nensis, *Blyth*, Ceylon.
manensis, *Blyth*, Andamans.
russa, *Blyth*, Babyroussa, Malayana.
ensis, *Blyth*, New Guinea.

salvania, *Hodgs.*, *Horsf.*, pigmy hog.
. . . HIND. | Sano-banel, . . NEPAL.
nd Sikkim Terai, Assam, Bhutan.

amus amphibius, *L.*, H. Liberiensis,
th of Africa.

M, a Native State in Gujerat, bounded
rth and east by Wao State, on the south
at State, and on the west by the Salt
r Runn. Area, 161 square miles; pop-
(1872), 10,104 persons. The territory
out A.D. 1450, granted to Pachanji, the
son of Rana Sangaji, and, like Wao, is
ed amongst a numerous independent
or brotherhood. Like their brethren of
chiefs of Suigam were noted freebooters,
he early part of the 19th century gave
istance to the Khosa in their predatory
p. Gaz.

A, a girl of a village on the banks of
jara, who gave food to Sakya as he sat
bodhi tree, where he became a Buddha.

T, an ancient Rajput principality which
r the British Government by the treaty
In 1864, full sovereignty was con-
e raja Oogur Sein, his heirs and those
of his brothers according to seniority, unless specially set aside by Government for incapacity or misconduct. The right of adoption has been conferred on the raja by sunnud. It lies between lat. 31° 13′ 45″ and 31° 35′ 25″ N., and between long. 76° 49′ and 77° 26′ E., on the north side of the Sutlej river, which separates it from the Cis-Sutlej Hill States. Area, 420 square miles; estimated population (1875), 44,180. The country of Sukeit was united to that of Mandi until about the year 1200 A.D.—*Aitcheson's Treaties, etc.* p. 375; *Imp. Gaz.*

SUKHAN. HIND. A helm. Sukhani, a helmsman, the sea cunny of British seamen.

SUKHARA, Saiva mendicants, distinguished by carrying a stick three spans long. They dress in a cap and petticoat stained with ochrey earth, smear their bodies with ashes, and wear earrings of the rudraksha seed; also over their left shoulder a narrow piece of cloth dyed with ochre, and twisted in place of the zonar. They use the word A-lakh. See Rukhara; Ukhara.

SUKHAVATI, the abode of the blessed; in Tibetan, Devachan, the happy; in Chinese, Ngyan-lo, pleasure; also Kio-lo, the greatest pleasure; also Tsing-tu, pure or glorious land. Sukhavati is described as a large lake, the surface of which is covered with lotus flowers (Padma), red and white, with perfumes of rare odour. These flowers form the couches for pious men, whose virtues were the cause of their growth while yet sojourners upon earth.

SUKHPANNI, followers of Krishna who pay great attention to personal cleanliness, and wash themselves many times in the day, using various purifying substances. They live apart from society, and have no disciples. The Sukhpanni are of both sexes, and their bodies are burned after death.—*Sherring's Hindu Tribes.*

SUKKUR, a town in Upper Sind on the right bank of the Indus, in lat. 27° 42′ N., and long. 68° 54½′ E. Its tall minarets are seen a long way off, and the banks of the river, for some distance below the town, are densely clad with date and cocoanut groves. Opposite Sukkur is the old town of Rori, built high and overhanging the stream. In the centre of the stream, nearly opposite Rori, is the ancient fortress of Bukkur. Here the river is considerably narrowed, and the stream powerful. The heat of Sukkur is intense, and its climate unhealthy.

SULAIMAN HILLS, a mountain range in Afghanistan and the Panjab, of India on the west. It south from the Allah Koh and Ghazni, and, running break, forms the system of Afghanistan and Baluchista lat. 31° 35′ 39″ to 34° 40′ 59″ 58′ 39″ to 70° 0′ 45″ E., thus Dehrajat in Bannu, Dehra Isma Ghazi Khan districts. The h Takht-i-Sulaiman, nearly ue west Khan town, has two summits, respectively and 11,070 feet above sea-level. The Kuram almost the only river of any importance, ta its rise amongst their dry summits. Length fro north to south about 350 miles. They form the watershed between the Indus and the Helmand. The axis of this chain runs close to Ghazni, which is elevated 7726 feet, and to Quetta 5540 feet. The highest part of the chain is near the Koh-i-Baba. It is called the Safed Koh, and is 14,000 feet high. Near Ghazni it is 9000 to 10,000, and near Quetta the same, the peak of Chahal-Tan being 10,500 feet. The east face dips rather steeply to the Indus, but the west declivity, much more gradual, to the table-land of Seistan. From Tank down to Sind, the most important features in the range of hills are the three Tokes. These tokes are the narrow precipitous defiles separating the outer from the inner range. In places their gorges are so confined as to resemble fissures in the rock, not more than ten yards wide, and interrupted by rocks running right athwart the defile; occasionally it widens out, and the bed thus formed is choked up with sand. These glens and ravines, almost impassable to strangers, can be easily footed by mountaineers and their horses. From these defiles, running parallel with the outer range, there are numerous

outlets opening into the plains. The base of the hills is skirted by a Mehra, or open uncultivated plain from 10 to 20 miles broad, having villages on either side; it becomes contracted towards the south, near Dehra Ghazi Khan. In this vicinity it is overgrown with brushwood, but elsewhere it is generally a naked waste; without any sign of life or vegetation. Cultivation is scattered, and depends for irrigation on tanks, and on the mountain torrents rudely trained to descend in steps and terraces.

SULEA or Sele. BENG. The Polynemus sele, a large fish of the river Ganges and Bay of Bengal. It is migratory in habit, and in the cold weather enters the Bengal rivers in great shoals. Its swimming-bladder, as isinglass, is of value as an article of commerce, and the fish is esteemed as food. It is the Kala-min, TAM., of John of Tranquebar, and abundant in the Kistna and Godavery. From 8 to 12 oz. of isinglass may be obtained from each fish. Dr. M'Clelland supposed that isinglass is also afforded by a far larger species, namely, P. tetradactylus, Telia or Teriya bhangan, identical with the maga-jellee of the Coromandel coast, and which Buchanan often saw six feet long in the Calcutta bazar, and was informed it sometimes equalled 320 lbs. avoirdupois in weight. It is seldom used by Europeans. M'Clelland says he has frequently seen them loading whole cavalcades of carts on their way to the Calcutta bazar during the cold season.—*Indian Fishes*, pp. 183, 184; *Royle on Isinglass*.

SULIMAN, a [illegible]ant of Bussora who made [illegible]ia from the Persian Gulf, of [illegible]ount, A.D. 851 (A.H. 237). He [illegible]ara was ruled by the Balabhi [illegible] tolerably coherent account [illegible]between Oman and China, [illegible]e sea of Lar (which washes [illegible]), the sea of Harkand (from [illegible]lives, and Serendip or Ceylon, [illegible]umatra); the Lankha-balus or [illegible] and the two (Andaman) islands [illegible]ndaman, and of Kalabar, a depend- [illegible]Zabaj (Java); Tayumah (Tiyoman Island), [illegible]anj (Siam), Sanf (Champa and Camboja), [illegible]d Sandar Fulat (Pulo Condore). The port in China frequented by the Arabs was Khan-fu (the port of Kinsay or Hang-cheu). He notices the abstaining from wine of the Hindus. He voyaged to India and China in the beginning of the 9th century. His principal establishment was probably at Bussora. His book is styled Salsilat-ut-Tawarikh, and it was continued by Abu Zaid-ul-Hasan of Siraf.—*Ell. Hist.* p. 7; *India in the 15th Century.*

SULIMAN, prince of Nera, is by all the historians of his nation, and also by the more accurate Christian writers, affirmed to be forefather of the Turkish emperors. Suliman was of the noblest Oguzian family among the Scythians, and head of a horde or tribe of Tartars near the Caspian Sea. By these, as well as by the neighbouring people, Suliman was proclaimed by the title of shah. Treading in the steps of the great Chengiz Khan, he came forth from his country with 50,000 followers, the flower of the Scythian youth, and overran not only the neighbouring regions, but all Azerbijan and Syria, as far as Aleppo. When the news of these conquests was brought to the Persian court, the name Turk, common to the Chengiz Kha[illegible] army.

SULIM[illegible] bearing [illegible] and long. 45[illegible] South Kurdistan. T[illegible] in general, of low statu[illegible] robust, and healthy, and o[illegible] the swarthy Arabs; or thei[illegible] the neighbourhood of Kerm[illegible] out of the direct road to S[illegible] low hills crowned with a [illegible] rising from their clayey and [illegible] On the side of one of these hills[illegible] the north-west, Strabo described [illegible] ten in number. The springs co[illegible] pits or wells, seven or eight feet in d[illegible] ten or twelve deep. The whole number [illegible] the compass of 400 or 500 yards. A [illegible] steps in each pit, cut for the purpose of [illegible] ing the fluid, which rises and falls acc[illegible] the dryness or moisture of the weath[illegible] natives lave it out.—*Porter's Tr.* ii. p. 44[illegible] *Kurdistan*, i. p. 63; *Mignan's Tr.* p. 329[illegible]

SULMA. HIND. A peculiar kind[illegible] tinsel for embroidery. Gold and silv[illegible] used in making turbands, slippers, and l[illegible]

SULPHUR, Brimstone.

Kibreet, [illegible]	ARAB.	Balirang, [illegible]	
Kan, [illegible]	BURM.	Gowgird, [illegible]	
Shih-liu-hwang, [illegible]	CHIN.	Enxofre, [illegible]	
Svovl, [illegible]	DAN.	Syera, [illegible]	
Zwavel, [illegible]	DUT.	Gandhaka, SANS[illegible]	
Soufre, [illegible]	FR.	Azufre, [illegible]	
Schwefel, [illegible]	GER.	Svafvel, [illegible]	
Gaogird, Gandak,	HIND.	Sanyaya, Malilan[illegible]	
Solfo, Zolfo, [illegible]	IT.	Gendagum, [illegible]	
Walerang, [illegible]	JAV.	Kyukyurt, [illegible]	

Sulphur, from Sal, salt, and $\pi\upsilon\rho$, fire, [illegible] ployed in medicine by the Greeks, Ara[illegible] Hindus. Native or virgin sulphur unco[illegible] is either a volcanic product, or occurs i[illegible] many parts of the world; found in con[illegible] with metals, as in the ores called py[illegible] sulphurets of iron, copper, lead, merc[illegible] whence it is obtained by roasting. D[illegible] from earthen pots arranged in two rows [illegible] furnace, the sulphur fuses and sublimes, [illegible] through a lateral tube in each pot int[illegible] place on the outside of the furnace, wh[illegible] forated near the bottom, to allow t[illegible] sulphur to flow into a pail containi[illegible] where it congeals and forms rough [illegible] crude sulphur. This being re-distilled, forms refined sulphur. When fused and cast into moulds, it forms stick or roll sulphur.

The great repositories of sulphur are either beds of gypsum and the associated rocks, or the region of active or extinct volcanoes. In the valley o[illegible] Noto and Mazzaro in Sicily, at Conil near Cadi[illegible] in Spain, Bex in Switzerland, and Cracow i[illegible] Poland, it occurs in the former situation. Sicil[illegible] and the neighbouring volcanic islands, Vesuviu[illegible] and the solfatara in its vicinity, Iceland, Teneriffe, Java, Hawaii, New Zealand, Deception Island, and most active volcanic regions, afford more or less sulphur. The native sulphur of Sicily occurs i[illegible] beds along the central part of the south coast an[illegible] to some distance inland. It is found in th[illegible] United States of America, on the Potomac.

Most of the sulphur brought to Hindusta[illegible] contains a considerable portion of orpimen[illegible]

being much less pure than either that which is dug out of the solfatara near Naples, or that imported from Sicily.

Sulphur and saltpetre are found in the mountains behind Teheran; also in Kishm and in a hilly tract near Khamir, a town on the Persian continent, about 25 miles N.E. from Luft. It is met with in the district of Balkh; also, according to Morier, at Balianlia in Persia. In Baluchistan it is got from the Suni mine, on the ridges separating Saharawan from Cutch Gandava; the great mart for its sale is Bagh in Cutch Gandava; also in mountains south of Kalat, in the province of Mekran.

Sulphur, somewhat mixed with impurities, occurs in the Murree Hills, and the Sulaiman Hills near Dehra Ismail Khan, at Kalabagh. It is found extensively throughout the Salt Range.

The valley of Puga in Ladakh, from whence borax is obtained, yields also sulphur. The Puga sulphur mine is situated a short distance from the Rulangchu, a small stream which is full of hot springs, and runs into the Indus at the foot of gypsum cliff. Besides the numerous springs which are with sulphuretted hydrogen, and sulphur on the rock over which they pass, the grass and weeds by their sides, sulphur in small form occurs near the surface of the limestone at Jabba, a little above the springs, in a white porous gypsum. So occurs near Panobar, four miles from on the Indus. The crystals picked out of the rock are called Aunlisar.

Sipur it is to be met with, but of a quality inferior to that which is brought from the gulfs of Oman and Persia. It is found in small quantities at Trichinopoly, Masulipatam, Guntur, Cuddapah, and Nellore, where it is a monopoly, along with gypsum in marl and clay and is found in form of metallic sulphurets.

In the Wodiapolliam jungle, south of Wolandur-pettah in the N. Arcot district, and which extends S.W. across the Peninsula, a sulphurous earth is said to be found, covering an extent of low swampy ground, and the sulphur effloresces on the surface of the brown earth after rains, in yellow crystals. In Lower Burma it is manufactured from metallic pyrites to about four tons yearly. It is also found in the Shans at Toungthoo Einlay, to the north of Mandalay. It is found in the blue clay, and is sublimed and condensed. It is abundant in the Shan States to the N.E. of Bhamo. It is said to exist in the ravines near the petroleum wells of Yenangyoung.

The Malayan and Philippine Archipelagos, the most extensive volcanic region in the world, contain a vast supply of sulphur. From the Philippines it is exported to China. The quantity is such at the volcano of Taal, or Bombon, in the province of Botengas in Luzon, that many ships might be loaded with it.

In the volcanic district in the northern end of the island of Formosa are three solfataras. One of these is about five miles east from Tamsui, and a superior one is three or four miles to the north-east. The pits are about 1750 feet above the sea, in a rocky gorge in the mountains, and clouds of steam and sulphurous vapour issue from numerous vents in the rocks. Several hot springs and pools occur, and a miniature geyser throws intermittent jets of boiling water to a height of fifty or sixty feet. A third solfatara is near the village of Kim-pao-li, seven or eight miles N.W. of Kelung. The sulphur is obtained by a rude process of melting; when the frothy slag is skimmed off, the heavier impurities sink to the bottom of the shallow iron pan, and the liquid sulphur is ladled out into wooden buckets, which are broken up when the sulphur has become solid. Similar solfataras exist in Satsuma, in the island of Kiu-siu, in Japan. But the greatest quantity of sulphur of Japan is brought from the Satsuma province. It is dug up in a small neighbouring island, which, from the great plenty it affords of this substance, is called Iwogasema, or the sulphur island. The greater part of the sulphur which is exposed for sale in the Indian provinces is brought from Muscat, from Sumatra, or from the Banda Island called Gunong Api. The Chinese obtain their supplies from the volcanic districts of Turfan, Tangut, and Sze-chuen, and from Satsuma in Japan; formerly it was brought as tribute from Siam and Sumatra.

Sulphur springs exist in many parts of Java and Celebes, and in the Pekalongan district west of Mount Prau. At the base of a high volcanic peak in the island of Damma is another. In China, sulphur springs are met with near Chefoo, and waters containing sulphuretted hydrogen and sulphurous acid gases are not uncommon. —*Bikmore*, p. 126; *Masson's Journeys*, ii. pp. 124-149; *Mason's Tenasserim; Thomson's Tibet*, p. 168; *History of Japan*, i. p. 107; *Walton's State*, p. 37; *Mrs. Hervey's Tartary*, i. p. 163; [illegible] *Powell*; *Cat. Ex.*, [illegible] *Adams*, [illegible] 1862; *Smith's China*.

SULPHURIC ACID, Oil of Vitriol.

Maulkibrit, . . . ARAB.	Acidum sulphuricum, LAT.
Liu-hwang-yu, . . CHIN.	Arak-i-gowgird, . PERS.
Acide sulfurique, . . FR.	Gandaka rasa, . SINGH.
Schwefel-saure, . GER.	Ghendaga travagum, TAM.
Gandak-ka-tezab, . HIND.	

This acid is produced in small quantities in nature, as near volcanoes, in some acid springs, and it exists in combination in numerous sulphates, especially those of lime (gypsum) and of magnesia, found as minerals, also in the water of springs. It was known to the Arabs, Persians, and Hindus. Sulphuric acid appears, from its name, to have been originally made from the decomposition of sulphate of iron. In the present mode of making sulphuric acid, sulphurous acid from burning sulphur, nitric acid vapour, and steam, are simultaneously admitted into oblong leaden chambers, so partitioned that the vapours can only advance slowly, and thus allow the whole of the sulphuric acid to be deposited. Sulphuric, nitric, mixed nitric or aqua regia, and hydrochloric acids, are all made at Lahore, and sulphuric acid is largely made at other parts of India.—*Royle; Powell.*

SULS, an ornamental style of Arabic writing.

SULTAN. ARAB. King. The Adal Shahi dynasty of Bijapur, the Bahmani dynasty of Beder, Kutab Shahi dynasty of Hyderabad, Tipu son of Hyder Ali of Mysore, Kamran of Herat, the rulers of Johore and Palembang, all took this Arabic title. Tipu engraved it on his seal. Razzia, eldest daughter of Altamsh, whose reign lasted from A.D. 1235 to A.D. 1238, took this title under its feminine form, Sultana. Sultanat is dominion, rule. Sultan-us-Sulatin, king of kings, emperor.

SULTANIAH was built as a royal residence by Oljaitu son of Argun, the eighth of the Mongol

khans of Persia, in 1305. Long after the destruction of the city by Timur, indeed into the 17th century, the tomb of Oljaitu was still magnificent, and especially noted for its colossal gates of damasked steel. The city was reoccupied by some of the Persian kings in the 16th century, till Shah Abbas transferred the seat of government to Isfahan. The ruins were of vast extent in Chardin's time. The present dynasty of Persia has again adopted Sultaniah as a summer residence. Pope John XXII. set up an archbishopric at Sultaniah in 1318, in favour of Francis of Perugia, a Dominican, and the series of archbishops is traced down to 1425.—*Yule, Cathay* i. p. 49; *Porter's Tr.* ii. p. 471.

SULTANPUR, in a saline tract in Gurgaon and Rohtak district, Panjab, area 1565 acres. Salt is manufactured from brine in wells, evaporated by solar heat in shallow pans. This tract lies on the banks of the great Najafgarh jhil or lake, and the principal works, both as to quantity and quality of produce, are in a cluster of villages on the borders of the two districts. The number of wells 330, and the pans 3799. 50,000 tons could be turned out annually.—*Imp. Gaz.*

SULTANPUR, a British district in the Rai Bareli division of Oudh, lying between lat. 26° 39′ and 27° 58′ N., and between long. 81° 36′ and 82° 44′ E. Population, 1,000,336 persons. Among low castes, the Ahir are the most numerous, forming nearly 10 per cent. of the population, followed by the Chamar and Pasi. Gujar are more common in Sultanpur than in other districts of Oudh. Among the more skilful agricultural castes, Muraas are numerous, but Kurmi are remarkably few.—*Imp. Gaz.*

SULTAN SAKADA is a deity worshipped by the Kur. Sakal Deva, or Sakra Pen, the chain-god, is worshipped in Seone and elsewhere.

SULTAN SAKHI SARWAR, a Muhammadan noted for his liberal and charitable disposition, and great generosity of character. On his death he was exalted to the position of a saint, and during February to May a fair is held at the shrine, to which annually about 200,000 pilgrims, Sikh, Hindu, and Muhammadan, resort. It is at the mouth of the Sieree pass leading to Kandahar, and is built on the skirt of the mountain. There are about 1650 priests, who issue to poor people parwane or orders in the name of Sakhi Sarwar.

SULTAN SARWAR, a Muhammadan saint whose shrine is at Baluch, four cos from Multan. He was distinguished for piety and purity of manners, and died as a martyr with his brother, fighting against a troop of idolators, and was buried with his wife (who died of grief) and his son in the same tomb. Several miracles are related as having happened at his tomb.—*Araish-i-Mahfil.*

SULU ARCHIPELAGO is a chain of many islands which stretch from the N.E. point of Borneo to the island of Mindanao. Sulu, the chief island, is high, 35 miles long, and from 5 to 10 broad; it lies in long. 121° E., near the centre of the Archipelago. The amount of land available for agriculture is about 200,000 acres. Soil volcanic in origin, with enormous depth. This group is inhabited by a warlike race, bearing in their personal appearance a strong resemblance to the Malays. In 1775 the Sulu people attacked and drove the British from Balambangan. Sulu had, even then, long been an emporium not only of regular traders from most nations, but the head-quarters of piratical marauders, who there found a ready market for enslaved victims and heterogeneous plunder, and whose descendants, to this day, are proud of the deeds of their ancestors. Spain had a military station there in order to protect the Philippine Islands, and in 1883 assumed the sovereignty of Sula. The Muhammadan religion has made progress in Mindanao and the Sulu Islands, as has the Malay language, the usual channel through which it has at all times been propagated over the islands of the Indian Archipelago. There is a considerable trade between Sulu and Singapore in bêche-de-mer and pearl shells, and a few pearls.—*Keppel's Ind. Arch.* i. pp. 56, 57.

SUMACH. Sir A. Burnes tells of colossal idols and innumerable excavations called sumach, to be seen in all parts of the valley of Bamian for about 8 miles, and still form the residence of the greater part of the population. A detached hill in the middle of the valley is quite honeycombed by them, and is called the city of Gulgul. Ca... are in greater number on the north si... valley where the idols occur, on all sides excavations occur.

SUMACH, Shumac.

Tumtum, . . .	ARAB.	Sumac, . .	
Shih-chu-yu, . .	CHIN.	Schmack, .	
Sumak, . . .	DAN., SW.	Sommaco, .	
Smak, ...	DUT.	Sumak, . .	
Divi-divi, Libi-libi,	ENG.	Sumagre, .	

The sumach trees of Europe are t... coriaria and R. cotinus, that of India... Cæsalpinia coriaria, that of China is th... venenata. The Cæsalpinia coriaria, yielding... divi of commerce, was introduced abou... 1830 by Dr. Wallich. It is a hardy plant, ... cultivation; it requires a little care, attenti... watering during the first year, or till th... attains the height of two or three feet; it ... come into full bearing till about the thi... but in favourable localities it attains a l... 10 to 16 feet, and the produce of one f... tree is about 70 lbs. of pod, which ha... valued at £8 to £12 per ton as a tann... stance. It is a good hedge plant, and bears... Its pods were used for tanning at Hunsu... questionable if it will ever come into ... with the bark of the Cassia auricu... shrub abundant on waste ground in th... eninsula. Divi-divi at Hunsur answered ad... rably for light skins, such as sheep and goa... or fancy leathers, but for strong hides it is not ... suitable; it does not, as the tanners call it, fill the hide, and instead of pliant, thickish leather, gives a thin, hard material. Rhus cotinus, *L.*, and R. coriaria, *L.*, shrubs of South Europe and the Levant, are extensively employed in tanning light-coloured leathers, and also as an orange-coloured dye. Sumach from Sicily has been sold at 12s. to 14s. 6d. the cwt. in London.

SUMAH. SIND. A tribe of Jat, though they are generally known by the former title. Such also are the Machi and numerous other subdivisions of the Jat tribes.

SUMAICHA, one of the nyad or proselytes to Islam, from the Soda race, numerous both in the t'hul and the valley, where they have many hamlets. They resemble the Dhoti in their

habits, but many of them associate with the Sehrai. They never shave or touch the hair of their heads. They allow no animal to die of disease, but kill it when they think there are no hopes of recovery. The Sumaicha women never veil their faces.

SUMAJ-BARI. At Kulna is the Raj-bari of the raja of Bardwan, several noble buildings and lofty temples; there is also the Sumaj-bari, or the houses of sepulchre, where a bone of every deceased member of the raja's family is deposited. The raja belongs to the Kshatriya class, and observes the custom of preserving the ashes of the dead. They showed here the bone of the last raja, wrapped up in a rich cloth. It is placed on a velvet musnud with cushions, and silver salvers, tumblers, hookahs, rose-water, and attar-holders in front of the seat, just as the late raja used to sit with all the paraphernalia of state about him.—*Tr. of Hind.* i. p. 23.

SUMALI. ARAB. A people on the African coast, and found in Aden and along the west coast of Arabia. Those on the coasts are slaves [illegible] descendants, brought from the interior of [illegible] the traders. The dress of the men con[illegible] white cloth wound round their waist, one [illegible] which, after being carried across the breast, [illegible] negligently over the shoulder. In [illegible] a cloth of this kind of smaller dimen[illegible] women wear a piece of tanned hide [illegible] waist, to which is added a smaller [illegible] the same material, suspended by loops [illegible] shoulder, to conceal their breasts. The [illegible] the men is frizzled into large ringlets, [illegible] of which hang on either side of the face. [illegible] left in the middle is also frizzled and raised [illegible] same means, the whole being anointed with [illegible] quantities of mutton fat. Through the upper [illegible] they thrust a straight piece of wood, re[illegible] in form and size a skewer, which serves [illegible] double purpose of a comb, and also as an [illegible] ent for adjusting their curls.—*Wellsted's* [illegible] 370.

[illegible]NAP. The industrious, peaceful, and [illegible] people who speak the Madurese language, [illegible] dialect the Sumanap, occupy the island of [illegible] divided from Java by a strait, and form [illegible] districts the bulk of the population on the [illegible] shores of Java.

[illegible]NTU, the collector of the hymns of the [illegible] Veda, a pupil of Vyasa. Sumantu is mentioned in the Hindu Puranas as a descendant of Vasishtha. He is said to be the author of a work on civil law. His doctrines were, that there is in nature an uncreated seed, from which all beings spring.—*Ward*, iv. p. 52.

SUMATRA, a great island at the opening of the Eastern Archipelago. Nicolo de Conti, of Venice, returned from his oriental travels in 1449, and communicated to the secretary of Pope Eugenius V. a consistent account of what he had seen. After giving a description of the cinnamon and other productions of Zeilam, he says he sailed to a great island named Sumatra, called by the ancients Taprobana, where he was detained one year. His account of the pepper plant, of the durian fruit, and of the extraordinary customs of the Batech or Batta people, prove him to have been an intelligent observer. Sumatra was shortly after visited by Odoardus Barbosa, who wrote a journal of his voyage in 1516, in which he speaks of Sumatra with great precision. The productions of the island, he says, were chiefly exported to Catai or China. From Sumatra he proceeded to Banda and the Moluccas, from thence returned by Java and Malacca to the west of India, and arrived at Lisbon in 1508.

Sumatra consists of a rectilinear belt of elevation, stretching from the parallel of Penang to that of Bantam, and shutting in the Malay Peninsula and China Sea from the Indian Ocean. Its extreme length is about 925 geographical miles, and average breadth rather more than 90 miles. The gross estimate of Lieut. Melville van Carnbee is 8035 leagues = 128,560 English square geographical miles. The islands on the west coast give a further surface of 5000 miles. Its S.W. coast has a narrow tract of low land, beyond which the mountains suddenly rise.

Talang, . . .	11,820 ft.	Indrapura, estimated at . .	12,255 ft.
Singalang, . .	9,634 ,,	Luse, territory of Acheen, in 3° 40′ N., . .	11,250 ,,
Merapi, . . .	9,570 ,,	Lombok, according to Melville van Carnbee, by triangulation, about .	12,363 ,,
Sago, about . .	5,862 ,,		
Ophir, . . .	9,770 ,,		
Kalabu (west of Rau), . . .	5,115 ,,		
Seret Merapi, .	5,860 ,,		
Pitya Keling, .	680 ,,		
Lubu Raja, . .	6,234 ,,		

The island is divided into a number of petty states, the chief of which are Acheen, Delly, Langkat, and Siak. British political relations with Acheen date as far back as 1602; the various attempts, however, which were made to establish a factory at Acheen, failed. In 1815 a revolution broke out, and the reigning sovereign, Jowhar Shah, a dissolute prince, was deposed, and Syful-Alam Shah, the son of a wealthy merchant, who was related to the royal family, was raised to the throne. After protracted negotiations, however, the ex-raja was restored, through the mediation of Sir Stamford Raffles, and a treaty was concluded with him. With Delly, Langkat, and Siak, treaties exist, but after the treaty with the Dutch, of 1824, the diplomatic connection of the British with Sumatra ceased. In Sumatra island there are at least 15 nations, and the total population has been variously estimated at from 2,500,000 to 7,000,000.

Netherland India has the following settlements on the coasts of Sumatra:—

	Geog. Sq. Ms.	Europeans.	Natives.	Chinese.	Arabs.	Others.
Padang, .	2200	1372	937,007	8,997	77	707
Tapaneli, .	..	202	171,012	769	29	137
Bencoolen,	455	159	142,501	569	17	2
Lampong,	475	77	125,401	246	18	14
Palembang,	2558	280	621,900	4,245	1941	124
East Coast,	768	435	110,071	29,857	..	24
Atche, . .	928	228	474,300	3,509	222	839

Wild Tribes.—There are two races, at the opposite extremes of the civilisation of the island. The one is a half-wild people, the scattered remnants of the aboriginal inhabitants. In the north, they are known under the name of Orang Lubu; the Battas describe them as having inhabited Pertibi before they occupied it (Willer, Tigd. v. N. Ind. 8th y., 2d part, p. 402). They are found up the Mandan above Siak (J. Anderson, Mission to Sumatra, p. 349). In the south, they are mentioned under the name of Orang Kubu by Marsden and other writers who resided on the west coast; and we know, from information received from Malays, that they are found in the

interior on ascending most of the large rivers whose embouchures are on the east coast. Major Sturler, in his account of Palembang, gives a particular description of the Orang Kubu, who in condition and habits entirely agree with the wilder tribes of the Malay Peninsula. The same remark applies to the Orang Gunong of Banka.

The southern extremity of the mountain belt is inhabited by the Orang Abung, long a head-hunting race. These are the mountain nomades; but there are also half-wild people, some living in boats in the salt-water creeks, and others in the sago forests and low jungles of the east coast. In this lowest class of Sumatran tribes should be included those inhabiting some of the western islands, such as the Enganoans. Their physical resemblance to the Malays is everywhere remarked, and (Journ. Ind. Arch. ii. pp. 332, 517) there seems no room to doubt that they are the aborigines of the Malayan region of Sumatra, and the remnants of the stock from which the present Malays have descended. Their numbers may be provisionally assumed at 6000. The Abung and Kubu in the south appear to be about 2000.

Orang Malayu. — The Malay races are the principal inhabitants of the island. They entirely occupy the wildest and middle region of Sumatra, extending from the Rakan nearly to the Palembang on the east coast, and from Ayer Bangis to Kataun on the west coast, a length of about 275 miles, with an average breadth of about 190 miles, and a superficies of 52,250 square miles, or little short of one-half of Sumatra.

The Malay population is distributed as follows:

1. Malays of the mountain region.

a. Menangkabau.
b. Malays of the region of Sapulo Bua Bandar and Gunong Sungei Pagu.
c. The Korinchi.
d. The Rawa.

2. Malays of the hilly territories to the west of the mountain region.

a. The seaboard of Menangkabau (1700 square miles).
b. The seaboard of Sapulo Bua Bandar, having a surface of 1300 square miles.

3. The Malays of the low lands or eastern countries.

4. The Malays of the east coast of the northern region.

The *Batta* of Sumatra are not unlike the Malay and Binua of the Malay Peninsula in feature, but are a finer race of men. The Batta occupy wholly the valley of Mandeling, and have an alphabet and language of their own. The women wear the sarong only, from the waist to the knee.

The Batta language is alphabetic, and invented by themselves. It has several dialects. They believe in evil spirits and omens. They are an inland people, the Malays from Menangkabau having spread and occupied all the coasts. All the Batta beyond the territories of the Dutch are from time immemorial cannibals. On the Dutch acquiring the plain of the Mandeling valley, the Batta dwelling there were compelled to abandon their cannibalism. The writings of Marco Polo show that, so early at least as 1290, they were addicted to this. The raja of Sipirok assured the Dutch Government at Pedang that he had eaten human flesh at least forty times, and that nothing he had ever eaten was equal to it. Professor Bikmore, travelling amongst them in 1865, confirms what Sir Stamford Raffles wrote in 1820, after visiting Tapanuli Bay, viz. that for a person convicted of adultery, midnight robbery, prisoners of war, intermarrying into another tribe, and for treacherously attacking a village, house, or person, the punishment is to be cut up and eaten.

The races blend with each other at their boundaries, many districts and villages in the northern region, for instance, being peopled by Malays and Battas, Malays and Achinese, or Achinese and Battas, and most of the settlements near the coast possess in addition a very mixed population of foreigners from the rest of the Archipelago, China, India, and Arabia, while Europeans are found in small numbers in the Netherlands possessions, chiefly at Palembang, Bankaulu, and Padang, little more than two millions for the entire population. Mr. Francis estimated 4,500,000, but the following table exhibits ascertained results:—

		Area.	P... 1...
I.	Wild tribes,	...	
II.	Orang Malayu,	...	
	Mountains, viz.—		
	Menangkabau,	3,000	3...
	Its seaboard,	1,700	
	Sapulo Bua Bandar,	3,250	
	Its seaboard,	1,300	
	Korinchi,	5,000	7...
	Rawa,	1,600	2...
	Northern seaboards—		
	East coast,	3,000	6...
	West coast,	3,400	24...
	Eastern lowlands and hills,	36,000	184...
	Malays elsewhere,	...	10,...
	Southern Races, viz.—		
III.	Orang Palembang,	13,400	201,...
IV.	Orang Rejang,	4,500	72...
V.	Orang Serawi,	4,875	160...
VI.	Orang Lampung,	8,280	92...
VII.	Orang Batta,	...	4...
	West Coast, viz.—		
	Eastern lowlands and hills,	3,200	6...
	Mountain region,	...	...
	Northern division,	1,800	3...
	Middle division,	4,176	12...
	Southern division,	6,624	8...
VIII.	Orang Ache,	22,600	4...
	Western Islands, viz.—		
IX.	Orang Engano,	400	
X.	Orang Mantawei,	2,240	
XI.	Orang Niha or Nias,	1,800	2...
XII.	Orang Maruwi,	600	3,000 5

The inhabitants of Komring and of Komring Ulu have a peculiar language; their writing, in letter and sound, agrees much with that of the Battas. The menareh (dancing) and berswara (singing) also differ in Komring from what they are in the other districts. The young girls dress better, are more pleasing in their movements, and their voice is more harmonious than that of women of the country usually is in singing. Girls are able, in free, agreeable, and melodious tones, to pour forth improvised couplets and verses in honour of persons and events. In former days the concubines of the sultan were chosen from the women in Komring. The Sumatrans speak of tigers with a degree of awe, and hesitate to call them by their common name (rimau or maching), terming them respectfully satwa (the wild animals), or even nenek (ancestors), as reall...

SUMATRA.

believing them such, or by way of soothing and coaxing them.

In Sumatra and the groups of islands on its western coast, in addition to the Malay, there are at least nine other languages, five of which, the Ache or Acheen on the north-western end of this island, the Batak or Batta, the Korinchi, east of the Batak, the Rajang or Rejang, and the Lampung, are cultivated or written tongues. There are also several rude languages among the scattered tribes on the mainland. The Batak or Batta nation lie to the east of the Malays. The Lampung nation, which occupies that portion of the south-western side of Sumatra which lies opposite to Java, divided from it only by the Straits of Sunda, has its own peculiar alphabet, which consists of 19 substantive letters, with double or treble consonants, making them up to 44. It has a great deal of that angular, linear, and meagre form which characterizes the other Sumatran alphabets. The Lampung people occupy the eastern end of Java, on the Straits of Sunda, and fronting the western extremity of

the groups of islands on the western Sumatra are several unwritten tongues, which may be named that of the Pogy Islands, the language of the Nias, and that In Sumatra, beginning from the west, vidence of a native written character is e Batak, and it is singular that a nation als should possess the knowledge of There was assuredly nothing of the kind e or continental Asia until long after ceased to eat each other. The form of k letters is horizontal. The Bhima alphaerly in use amongst the Bhima people in nd of Sumbawa, east of Sumatra and Java, w given way to the alphabets of the The Acheen and Malay of Sumatra are in the Arabic character. The Rejang, at nanjong in Sumatra, are a distinct race e Malays of Menangkabau, though they to the Malay race. They have a language abet of their own.

natran scrupulously abstains from pro his own name, merely as a punctilio in It occasions him infinite embarrassen a stranger, unacquainted with their requires it of him. As soon as he rom his confusion, he solicits the interf his neighbour. He is never addressed, except in the case of a superior dictating to his dependent, in the second person, but always in the third, using his name or title instead of the pronoun, and when these are unknown, a general title of respect is substituted, and they say, for instance, 'Apa orang kaya punia suka?' 'What is his honour's pleasure?' for 'What is your or your honour's pleasure?' When criminals or ignominious persons are spoken to, use is made of the personal pronoun kau (a contraction of angkau), particularly expressive of contempt. In Sumatra there were formerly three perfectly distinct kinds of marriage,—the 'Jugur,' in which the man purchased the woman; the 'Ambel-anak,' in which the woman purchased the man; and the 'Semando,' in which they joined on terms of equality. In the Ambel-anak marriage, the father of a virgin makes choice of some young man for her husband, generally from an inferior family, which renounces all further right to or interest in him, and he is taken into the house of his father-in-law, who kills a buffalo on the occasion, and receives 20 dollars from his son's relations. After this, the buruk baik'nia (the good and bad of him) is invested in the wife's family. If he murder or rob, they pay the bangun or the fine. If he be murdered, they receive the bangun. They are liable for any debts he may contract in marriage, those prior to it remaining with his parents. He lives in the family, in a state between that of a son and a debtor. He partakes as a son of what the house affords, but has no property in himself. His rice plantation, the produce of his pepper garden, with everything that he can gain or earn, belongs to the family. He is liable to be divorced at their pleasure, and though he has children, must leave all and return naked as he came.

Sumatra is known among the eastern people by the two names of Indalas and Pulo Percha (or Pritcho). No country has been more famous in all ages for gold, and the quantity procured is considerable. There are also mines of copper, iron, and tin; sulphur is gathered in large quantities about the numerous volcanoes. Saltpetre is made from the earth, which is found impregnated with it, chiefly in extensive caves, the haunt of birds, of whose dung the soil is formed; and coal is collected.

Sumatra has about fifteen volcanoes, four of which are of considerable importance,—Dempo, 10,440 feet; Indrapura, 12,140 feet; Talang, 8480 feet; and Merahi, 9700 feet: the others are of less elevations, 6000 or 7000 feet.

Sumatra has the Galeopithecus, the Gymnura Rafflesii, Cervus rusa, Cervus hippelaphus, crocodilus biporcatus Rafflesii.

Mr. George Windsor Earl, in a pamphlet on the Physical Geography of South-Eastern Asia and Australia (1855), pointed out that the islands of Sumatra, Java, and Borneo are connected with the Asiatic continent by a shallow sea; and that a similar shallow sea connects New Guinea and all the adjacent islands with Australia, these last being all characterized by the presence of marsupial animals. Carrying out Mr. Earl's suggestion, Mr. Wallace maintains that some of the islands had long been connected with the Asiatic continent, and others equally long with that of Australia; and that a line of separation can be drawn between these; and he designates the Asiatic portion Indo-Malayan, and the Australian division Austro-Malayan. The seas between Sumatra, Java, and Borneo are so shallow that ships find anchorage in any part of it, as it rarely exceeds 40 fathoms, and the seas eastward to the Philippines and Java rarely exceed 100 fathoms. The elephant and tapir of Sumatra and Borneo, the rhinoceros of Sumatra and the allied species of Java, the wild cattle of Borneo, and the kind long supposed to be peculiar to Java, are now all known to inhabit some part or other of Southern Asia; and of the birds and insects, every family and every genus of the groups found in any of the islands occurs also on the Asiatic continent, and in a great number of cases the species are also identical. The great islands of Java, Sumatra, and Borneo even yet resemble, in their natural productions, the adjacent parts of the continent almost as much as such widely-separated districts could be expected to do, even if they formed part

of the Asiatic continent. The Philippine Islands agree in many respects with Asia and the western islands, but present some anomalies. The eastern portion, on the other hand, from Celebes and Lombok eastwards, exhibits as close a resemblance to Australia and New Guinea as the western islands do to Asia. Australia has no apes, monkeys, cats, tigers, wolves, bears, hyænas; no deer or antelopes, sheep or oxen; no elephant, horse, squirrel, or rabbit. In lieu, it has kangaroo, opossums, wombats, and the duck-billed polypus. It has no woodpeckers or pheasants; but has, in lieu, the mound-making brush turkeys, honeysuckers, cockatoos, the brush-tongued lories, which are found nowhere else in the globe; and all these peculiarities are found in the islands which form the Austro-Malayan division of the Archipelago. The islands eastward from Java and Borneo form a part of a previous Australian or Pacific continent, although some of them may never have actually been joined to it. The Aru Islands, Mysol, Waigyu, and Jobie agree with New Guinea in their species of mammalia and birds, and they are all united to New Guinea by a narrow sea. The 100-fathom line around New Guinea marks the range of the paradise birds. This separation has no relation to their geological character. The Indo-Malayan and Austro-Malayan divisions hold two distinct types of the human race, the Malay and the Papuan, who differ radically in their physical, mental, and moral characters; and, under one or other of these two forms as types, the whole of the peoples of the Eastern Archipelago and Polynesia can be classed, and the line separating these two types comes near but somewhat eastward of that part of the zoological regions. This easterly jutting of the Malay line has been caused by the maritime enterprise and higher civilisation of the Malay races, who have overrun the nearer part of the Austro-Malayan region, have supplanted the original inhabitants, and spread much of their language, their domestic inhabitants, and their customs far over the Pacific. To the Malay type and to the Papuan type respectively, all the people of the various islands can be grouped. The Asiatic races include the Malay, and all have a continental origin; while the Pacific races, including all to the east of the Malay (except, perhaps, some in the Northern Pacific), are derived not from any existing continent, but from lands that now exist or have recently existed in the Pacific Ocean.—*Bikmore; London Geog. Trans.* ix. xv.; *Bombay Med. Trans.; Bombay Geo. Trans.; Buist on Volcanoes of India, in Ed. Phil. Jour.*, 1852; *Jour. Ind. Archip.* iii.; *Newbold's British Settlements; Tijdschrift* v. *Neerl, Ind. in Jour. Ind. Arch.; Cal. Rev.*, 1861, pp. 43, 48; *Marsden's Sumatra*, pp. 4, 94, 162–262; *Wallace*, ii. pp. 19, 41, 53, 60.

SUMATRAS, also Sumatrans, a term given by navigators to tempestuous squalls from the south-west, often experienced in the south-west monsoon in the Straits of Malacca. They are sudden and severe, blowing a moderate gale for 6 or 8 hours, and accompanied with loud thunder, lightning, and rain. They are so called because they rise in the direction of the island of Sumatra. The approach of the squall is betokened by a dense black cloud, which rises from behind the opposite islands of Battam, and soon overspreads the sky, casting a dark shadow over the strait, within which the sea is lashed to foam by the strength of the tornado.—*Earl's Arch.* p. 354; *Horsfield; Newbold's British Settlements*, i. p. 3.

SUMBA or Sandal-wood Island, of about 4000 geographical square miles, is composed of a range of hills that rise immediately from the sea to a height of 2000 feet. It lies to the south of Flores, from the coast of which it is distinctly visible in clear weather. Mount Romba peak is 7000 feet. Vessels visit it in the S.W. monsoon from Sourabaya, and return in the N.E. monsoon with the active little ponies of the island. They are, after the ponies of the Batta of Sumatra, the best of all the horses of the Archipelago. Bikmore thinks its people are Malays, though this is questioned, and they are also said to have a different tongue. It yields sandal-wood and copper. The inhabitants of Savu possess a settlement near the south-west extreme of the island, and the Bugis traders of Ende have two or three small stations on the north coast, which are occasionally visited by small European vessels for the purpose of obtaining horses; but the natives of Sumba all dwell in the uplands, where they [illegible] maize, yams, and other produce simila[r] grown on Timor, and are said to use th[e] which is unknown in any other island to [the] ward of Sumbawa.—*Earl; Bikmore*, p.

SUMBAJI, son of Sivaji, succeeded [illegible] in 1680, and reigned for nine years. [He] a tyrannical, voluptuous prince, but co[ward]. He was captured and carried to the Dehli [court] Aurangzeb, who caused him to be put to [death] the most cruel manner. Sumbaji's wid[ow] infant son Saho were subsequently made pr[isoners] and left in the care of Aurangzeb's daught[er].

SUMBAWA, a high volcanic island, th[e] in a direct line east of Java. It is abou[t] times the extent of Bali or Lombok, and [is] by a deep bay into two peninsulas. It h[as] languages, the Sumbawa, the Bhima, and t[he] boro. The two former are written in th[e] character, but there exists in this island a[n] obsolete alphabet, ascribed to the Bhima [people] which has been displaced by that of the [Koran]. In Sumbawa, the Muhammadans take [the] place, and they are largely proselytiz[ing] mountaineers. In Grobagan, at the cent[re] limestone district, is a mud volcano, 1[00] diameter. The black mud every few [minutes] bubbles up and subsides; it rises to a [height] of 20 to 30 feet, then explodes with a d[ull] noise, scattering a shower of warm black mud in every direction; round about are warm brine springs, from which salt is extracted. Its eruptions are most frequent in the rainy season. It is called Kuwu, 'the place of abode;' and an old legend is that it is the residence of a monster snake, whose writhings cause the eruptions. Mount Tomboro rises to 8940 feet on a peninsula on the N. side of Sumbawa. On the 5th April 1815 commenced a series of frightful explosions, which lasted five days. They were heard so distinctly at Jokyokarta, in Java, a distance of 480 miles, that troops were sent out to repel, as was supposed, some attack that had been made. Similar movement of gunboats was made at Sourabaya; and to the north the reports accompanying the eruption were heard as far as the island of Ternate, near Gillolo, a distance of 720 geographical miles. To the westward, these reports were heard at Moko

Moko, a port near Bencoolen, which is in direct line 970 geographical miles. The ashes that were thrown out fell to the eastward, against the prevailing wind, as far as the middle of Flores, about 210 geographical miles; and westward on Java, in the mountains of Cheribon, about 270 miles from the volcano. So great a quantity of ashes were thrown out, it is estimated that on the island of Lombok, about 90 miles distant, 44,000 perished in the famine that followed; and Dr. Junghuhn calculates that within a circle described by a radius of 210 miles, the average depth of the ashes was at least two feet. During the eruption, Tomboro lost two-thirds of its previous height. A ship approaching the coast had to sail through a sea of pumice. About 7 P.M. of the 10th April, an eye-witness, the raja of Sangir, mentions that three distinct columns of flame burst forth from near the top of Tomboro, all of them, seemingly, within the verge of the crater, and on gaining some height in the air, the flames mingled in a confused manner. In a short time the whole mountain next Sangir appeared like a body of , extending itself in every direction. P.M., at Sangir, stones, some as large fist, generally of the size of walnuts, hick, and obscured the view of the Between 9 and 10 P.M., ashes began soon after a violent whirlwind ensued, down nearly every house in the village carrying their tops and lighter parts h it. In the Sangir district next to the whirlwind tore up trees and threw n, cattle, and houses. In November and r 1836, there were other eruptions. Sumthinly inhabited since the eruption of omboro on 11th April 1815.—*Bikmore*, p. *ourt's Palembang*, p. 129.

BOONATH, one of the oldest temples in It was erected when Nepal was ruled by f Tibetans, and its possession was at one imed by the Dalai Lama, or sovereign f H'Lassa, but he has since been obliged n the claim. The dagoba resembles the f Buddha, but is only about half its size; is covered with plates of copper, gilt. unded by pagodas, as well as numerous ern shrines of a bastard Hindu class, to merous Bhutya and Bhama, a tribe of esort. Occasionally the Gurkha visit es, the thunderbolt of Indra, which is here exhibited, being the object of attraction to them, as they pride themselves on being orthodox Hindus.—*Oliphant's Journey*, p. 84.

SUMBUL or Sunbul, a term in Arabic and Persian works on Materia Medica, applied to several fragrant roots. The Sumbul root of modern commerce reaches Europe by way of Russia. A Sumbul root introduced into the French market is the root of an umbelliferous plant, which is characterized by a strong odour of musk.

Sumbul-ul-taib, or fragrant Sumbul, is the roottocks of Nardostachys jatamansi, the Nardos or spikenard of the ancients, and is also applied to Hyacinthus orientalis.

Sumbul rumi is said to be the Narden ukluti, nd supposed to be Valeriana celtica.

Sumbul jibali, or mountain nard, is thought to e Valeriana tuberosa.

Sumbul-i-farsi, or Persian Sumbul, is supposed to refer to Adiantum capillus veneris; but it has the description of Hyacinthos applied to it, and Polyanthes tuberosa is substituted for it in India.

Sumbul-i-khatai, or Cathayan Sumbul, is Angelica.

A Sumbul of Central Asia is the root of Euryangium sumbul, known as the musk root.

In Persian works on Materia Medica, all translated from the Arabic, as, for instance, the Mukhzun-al-Adwiah, or Magazine of Medicines, we have four *different kinds of Sumbul*:—1. Sumbul Hindee; 2. Sumbul Roomee, called also Sumbul Ukletee and Narden Ukletee, evidently the above Celtic Nard, said also to be called Sumbul Italion, that is, the nard which grows in Italy; 3. Sumbul Jibullee or Mountain Nard. Hence it is evident that the kinds described by Dioscorides are alluded to, and in fact the accounts given are merely translations of his descriptions. The fourth kind of Sumbul appears to be a hyacinth or polyanthus. But the first is that with which alone we are at present concerned. The synonyms given to it are —Arabic, Sumbul-al-Taib or Fragrant Nard; Greek, Narden; Latin, Nardum; and Hindi, Balchur and Jatamansi.

SUMBULPUR. 21 Mahals form the S.W. frontier of Bengal, which may be classified in four groups,—Sumbulpur, Patna, Sirguja, and Singbhum,—viz.:

Sumbulpur Group.

Sumbulpur proper.	Sukti.	Bamra.
Burgarh.	Gangpoore.	~~Rohen Gola.~~
Raigarh.	Sarunghur.	Sonepore.
	Bunnie.	

Patna Group.

Bora Samur.	Bindra Nowagarh.	Patna proper.
Khuriar.		Phuljhur.

The territories comprised in the Sumbulpur and Patna groups were ceded to the British Government by the treaty of 1803 with Ragoji Bhonsla, but all except Raigarh were restored in 1806, and finally reverted to the British in 1826. The Sumbulpur and Patna groups are in the circle of the Cuttack Tributary Mahals.—*Aitcheson's Treaties.*

SUMERU, in Hindu cosmogony, a mountain ascending 600,000 feet from the surface of the earth, and descending 128,000 feet below it. On this mountain are the heavens of Vishnu, Siva, Indra, Agni, Yama, Nirita, Varuna, Vayu, Kuveru, Isha, and other Hindu deities. At its base are the mountains Mandara, Gandha-madana, Vipula, and Suparshwa, on each of which grows a fabulous tree 8800 miles high.

SUMITRA, B.C. 2100, Jones; B.C. 57, Tod. It is from this prince the Mewar chronicles commence their series of rajas of Saurashtra. It is the last name in the Bhagavat Purana, and he is said by Tod to have been contemporary with a Vikramaditya.

SUMMA claim to be descendants of Sam, son of Noah, to give themselves importance in the eyes of other Muhammadans; there is no doubt that they are Jat converts from Hinduism. Such also are the Machi and numerous other subdivisions of the Jat tribes.

Summa have been long in Sind. They were in power as rulers from A.H. 752 (A.D. 1351) to A.H. 927 (A.D. 1520), when they were overthrown by the Arghuni. Their subdivisions are very

numerous, nearly 200. The chief seem to be the Summa sections—

Abra.	Jaraja.	Nara.	Sootia.
Abraja.	Jasingorah.	Notia.	Subta.
Ageel.	Jokia.	Notiar.	Sumaja.
Amra.	Jugscea.	Numria.	Summa.
Babra.	Jutt.	Oodbahui-gora.	Sahd-Summa.
Beeya.	Kaka.	Oodbaja.	Sahib-Summa.
Bodia.	Kakajah.	Oodha.	Shekhab-Summa.
Buda.	Kidri-pota.	Oodhar.	Sind-Summa
Budio.	Koraja.	Oonur.	Dera-Summani.
Buttee.	Koria.	Oottur.	Joona-Summa.
Charshoo.	Loodia.	Phool.	Loond-Summa.
Chellaria.	Lookba.	Phoolnabia.	Oto-Summa.
Chugra.	Lound.	Potor.	Tukhra.
Coor.	Lukkha.	Pullee.	Vurriah.
Dissur.	Mindra.	Puria.	Wahud.
Doongua.	Moosra.	Rahtor.	
Gooba.	Muhur.	Ramabey.	
Hajana.	Munabya.	Randbheer.	
Halla.	Munapya.	Shora.	
Hingoja.	Mungra.	Sooltanote.	
Hingora.	Nalica.		
Janspuwar.	Nalua.		

The title of the Summa rulers was Jam, a dynastic designation still retained by the Jam of Beyla, the Jam of Cutch, and the Jam of Nowanagar.

SUMPITAN. MALAY. A blowpipe used as a projectile amongst the Malay races. That of the Dyak is a piece of wood bored; that of the Bermun tribes consists of two bamboos 7 feet in length, one enclosed within the other. The external one, which is merely for strength and ornament, is about 3–4ths of an inch in diameter, and neatly carved for about a foot at each end and in the middle. To prevent it splitting, the fibrous bark of the triap is bound round about 6 inches of the extremity, and a coating of dammer placed over it. The internal tube, which is the proper sumpitan, is of the same length with the case, but only 3–5ths of an inch in diameter. It is composed of two pieces of bamboo, united by a piece 8 inches long, which embraces the ends tightly at the junction. The bamboo used (the bulu timiang) is very light and fine-grained. The arrows (damak) are small darts, made of the stem of the birtam leaf, 10 inches in length, and 1-16th of an inch in diameter at the base, from which they gradually taper to a very fine sharp point. The base is inserted into a cone of kayu tutu (which is very porous and light) about an inch in length, and 1–3d of an inch in diameter at its base. The point of the dart is dipped for about 5–6ths of an inch in ipoh (upas). This is made by taking akar ipoh, batang ipoh (or kyas), limes, and tuba, which are bruised, boiled, and strained. To this arsenic is added. Other substances, such as pachet, jimardes, mallye, and gadong, are also sometimes added. The preparation called ipoh has the colour and consistency of chandu. An incision is made round the dart above the ipoh, so as to ensure its breaking off and remaining in the wound. Each dart is kept ready for use in a bamboo case, about 1–4th of an inch in diameter. 50 of these cases are laid side by side and united by strings. They are then rolled up and inserted into a bamboo case, which has a neat lid of jalutong. The same case contains a quantity of barok (a very light, spongy substance, also used as tinder), obtained from the arenga tree called runout. After inserting the dart into the sumpitan, a little barok is introduced. When the Binua blows into the tube, it is pressed against the kayu tutu cone, and prevents any of the air escaping between it and the sides. In shooting, the sumpitan is held firm by both hands being tightly clasped over its end, which is inserted into a handle.

The Malay use small poisoned darts, having on their end a piece of pith or some other light substance, adapted to the size of the bore of the tube. The sumpitan has, at its farthest end, an iron sight by which they regulate their aim. It is also at this end furnished with a large double-bladed spear. Both the sight and the spear are nicely bound on with rattans, which are woven over them. The dart used is poisoned with the ipoh, which is the same as the upas and chetik of Java, described by Dr. Horsfield; the darts, which are very thin and about 10 inches in length, are pointed with the sharp teeth of fish neatly bound on to them. A Meri, who was very expert with the sumpitan, at a distance of from 15 to 20 yards could readily transfix a bird of the size of a starling with one of the little darts. The whole distance to which the arrow can be blown with any thing like effect is 60 yards, and at that they would probably not pierce the sk sumpitan varies in length, being from 7 It is used also by the Mui people, the and the Tatow, and by all the tribes o coast. The Idaan or Meroot are said also to possess it. Mr. Low saw specim the river Essequibo, in South Ameri resembled those of the Dyak in appear size, but without the sight and the spea end. It is sometimes seen in India.

SUMRA, a dynasty of Agnicula Rajpu in A.D. 750, succeeded to the Arabs in the ment of Sind. The Sumra during the ea of their sway continued to be Hindus; many of the tribe still remain so, and r shepherds through the t'hals of Jeysulmir Upper Dhat country to the east of Sin Sumra of the desert are one of the sub of the Pramara Rajputs, and from their fr combining with the Umar, the two gave the large tract of country which is still re as Umra Sumra, and within which Alor is Some of the Muhammadans of Sind so A.D. 1032 adopted the Karmatian schism Sumra, before they apostatized from th tral faith to Muhammadanism, inter adopted the tenets of the Karmatian s Sumra race seem to have ruled in part of Sind even before Mahomed's death, at least as early as A.H. 423 (A.D. 1032), and were displaced in A.H. 752 (A.D. 1351) by the Summa. The name was originally pronounced Samra. The Sumra tribes in the Kurachee district are the Kumirpota, Mitopota, Budipota, and the Norungpota. In the Hyderabad district, the Sumra are cultivators and oil manufacturers.—*Elliot.*

SUMROO, the name by which Walter Reinhardt was known to the natives of India, supposed to be a dialectal variation from Sombre, which was the pseudonym applied to him by his French comrades. He was a native of Treve, in the Duchy of Luxembourg, half French, half German, and had been a sailor in the French navy; he deserted, and entered the British service as a soldier; next he deserted the British and joined the French; then he entered the service of the Nawab of Bengal, and was the murderer of the

English Resident at Patna and all his followers in 1763. He obtained the command of a large body of men, with lands to support them, and some years afterwards he married a remarkable woman, who was called, from his name of Sombre, the Begum Sumroo. The Begum was of Muhammadan extraction. She became a Romish Christian in 1781, and for many years after Sombre's death maintained a small army and ruled her petty state at Sirdhana with great vigour. She left her property to Mr. Dyce Sombre, son of Colonel Dyce, her minister or managing man, who had married her husband's daughter. The son came to England to urge certain claims upon the Government. He married the daughter of a peer, held for a short time a seat in the House of Commons, was prominent in the law courts, and at last was declared to be insane.

The year of Sumroo's death at Agra has been stated at A.D. 1778. The Begum built a large Romish church. During the Mahratta wars she led her troops into action, riding at their head very gallantly. In 1792 she married Colonel Le [illegible]. She died A.D. 1836.

[illegible]e races of the Sun and Moon furnished [illegible] lines of kings, who are supposed to [illegible] in the Ayodhya, and in the tract [illegible] Jumna and the Ganges respectively. [illegible]r other of these all the ancient royal [illegible] Hindustan claim to have been de[illegible]he list of the Solar dynasty gives 95 [illegible] that of the Lunar race 48 names; but [illegible]d the narrative are so full of absurdi[illegible]o part can be taken as a basis on which [illegible] a system of chronology.

[illegible]IRDS or honey-suckers are names of [illegible]tarinidæ, *Vigors*, Cynnyridæ, *Swainson*, [illegible]meropidæ, *Gray*, of the old world, their [illegible] South America being taken by the [illegible]-birds, some of the sun-birds almost [illegible]their American types. Their sub-families [illegible]Nectarininæ of Africa and Asia; the [illegible]e of Oceania; the Dicœinæ of Asia and [illegible] besides Promeropinæ of Africa and [illegible] of America. The Nectarininæ genera are [illegible]era, Æthopyga, Leptocoma, Arachnech[illegible] purple honey-sucker of Jerdon, the [illegible]blue-winged sun-bird (Arachnechthra [illegible]*ath.*), is common, and nothing can exceed [illegible]d elegance of its congener, the Ceylon [illegible]Leptocoma Zeylanica). The brilliant [illegible] on the wing of the male is wanting [illegible]nale. In the gardens tiny sun-birds [illegible]day long, attracted to the plants, over [illegible] hang poised on their glittering wings, [illegible]ng their curved beaks to extract the [illegible]t nestle in the flowers, and sucking [illegible]rom its flowers like a humming-bird. [illegible] birds only have handsome plumage. [illegible]domed nests suspended from the ends [illegible]anches.—*Adams; Tennent's Ceylon*, p. [illegible]9; *Jerdon*. See Birds.

SUN-WORSHIP has prevailed amongst various [illegible]ces since the most ancient times. The Baby[illegible]onian trinity was Anu, Bel, and Hea. Their [illegible]oddess Ishtar supplanted Anu at Erech. Bel [illegible]as lord of the visible world, and had his chief [illegible]at at Nipur. Sin, the moon-god of Ur, was [illegible]dest son of Bel. Their sun-god was Samas.

In the city of Heliopolis (Balbec) the Assyrians [illegible]lebrated the worship of the sun with great ceremony. The image had been brought from Heliopolis in Egypt. The Phœnician Hadad, in Syria, Palestine, and Mesopotamia, was the sun-god, representing the generative power of the sun; he was joined with the Phœnician Poseidon (Demarus), the water-god, and Astarte, with her cow-horns, the producing and nourishing earth.

The Egyptian sun deity was known as Mu, Osiris, and Ra.

Ham, the chief god of Thebes, was Amun-Ra, the sun, the king of the gods. Every king of Egypt was styled Ze Ra, or son of the sun, and he was often sculptured as the third person of the trinity in the place of Chonso. With the spread of the Theban power, the worship of Amun-Ra spread. In Nubia and at Elephantine, to the south of Thebes, the chief god was Kneph, the spirit, with a ram's head, who, in imitation of the worship in the capital, became Kneph-Ra. So Sebek, the crocodile, called also Seb, the father of the gods, became in due time Sebek-Ra. Chem, the god of generation, had his name from Chemi. He is in form a mummy, with his right arm raised, and a whip in his hand. He also was sometimes joined to the gods of Thebes, and formed a trinity in unity under the name of Amun-Ra-Chem. At Heliopolis and the neighbourhood, the name of the god of the sun was pronounced Athom, and he gave his name to the city of Thoum. At Mendes in the Delta, and at Hermanthis near Thebes, the sun was called Mando, and became Manda-Ra. Pasht, goddess of chastity, was worshipped chiefly at Bubastes, and has a cat's head. Athor was the goddess of love and beauty; at Momemphis, near Sais, she was worshipped under the form of a cow; at Sais was worshipped Neith, the queen of heaven, the mother of the gods. She wears sometimes the crown of Lower Egypt. Thoth, the god of letters, has the head of an ibis, and holds a pen in his hand. He was one of the gods of the moon, and lord of Hermopolis.

The myths of Gebal, of Tyre, of Sidon, and of the Canaanites generally, are all mixed up with each other. But they all acknowledged Baal as the sun-god; and Ashtaroth or Astarte was known as Pene-Baal, the face of Baal, also Baltis Baal.

The ancient Phœnicians and Egyptians used to paint the sun of the figure of a man sitting on a lotus or nenofar, which lives in the water without any communication with the clay, resting on itself, equally distinct from matter, swimming in empty space.

Porphyry says the sun was also represented by a man in a ship resting on a crocodile, an amphibious reptile, emblem of air and water.

The sun was the great object of the worship of the Canaanites, chiefly as creator and generator, the source of light and life. Baal, plural Baalim, was a title meaning lord, and the equivalent of Adonai, just as Melech, Moloch, and Malik means king. The Canaanitish gods had this title prefixed, as Baal Berith, the covenant god of Shechem; Baal Peor, the god of the mountains of Moab; Baal Zebub, the god of flies, etc. etc. (Numbers xxv. 3; 2 Kings i. 2; and Hosea ii. 16). It was also given as a man's name, and David's son was Baal Yada. The sun-god was also known as El, god, and Elyon, the most high god.

Amongst the Accadians of Babylon, the people of

Sipparah, and the Canaanites, children were sacrificed to Baal, to king Anu, and king Adar (Anammelech, and Adrammelech); but Hosea (ii. 16) declared Baali abolished as the god of the Israelites. Duzu or Tammuz was the youthful sun-god of the Accadians of Chaldæa; he was the bridegroom of the goddess Istar. He had the title of Adonai. Adoni-Tammuz was the Greek Adonis, and many legends and other names were applied to him.

In Canaan there were only two prominent goddesses, viz. Ashtoreth of the Northern Canaanites, and Ashera of the Southern Canaanites. Ashera is an Assyrian word, denoting the rich fecundity of nature. Ashtoreth is Istar, goddess of love and war, patroness of the moon and the planet Venus.

The temple of Astarte or Ashtoreth, the Phœnician Aphrodite, was at Paphos, on the Galgai or Galgal Hill. A stone column of cone-like shape was the only symbol inside the shrine, and they believed that it had fallen from heaven, as had the aerolite before which sacrifices were offered in the great temple of the Asiatic Artemis at Ephesus. The Egyptians called them Kefa or Kephene, the palm-land people. Keft was Phœnicia, and Keftur was the Caphtor of the Old Testament, but Canaan was the title they gave to their own country.

The Natchez of N. America worshipped the sun with singular honours, and preserved with the same reverence the sacred fires.

In Northern Asia the Samoyedes are said to have worshipped the sun and moon.

Apollonius, in his visit to Upper India, describes the magnificent temple of the sun at Taxila.

The great Getæ of Central Asia deemed it right to offer the horse to the sun, as the swiftest of created to the swiftest of uncreated beings. Colonel Tod tells us that Bal-nath was the sun-god of ancient India, and the Bul-dan was the gift of the bull to the sun. The white elephant and the white horse in the ancient sun-worship are emblems of the sun. In a legend as to Sakya's birth, a white elephant entered the womb of his mother, Maya Devi.

In the Vedas the sun is called the eye of Varuna; with the Persians the sun was the eye of Ormuzd; it was the Demiurge of the Egyptians, the Baal of the Babylonians, Assyrians, and Phœnicians, the Zeus of the Greeks, and the Wuotin or Odin of the Teutonic races. All Hindus still worship the sun, and the Parsee race turn to the sun as an emblem of light.

In Central India, at the present day, the worship of the sun as the supreme deity is the foundation of the religion of the Ho and Oraon, as well as of the Munda. By the former he is invoked as Dharmi, the Holy One. He is the Creator and the Preserver, and with reference to his purity, white animals are offered to him by his votaries. The sun and moon are both regarded as deities by the Khond, though no ceremonial worship is addressed to them.

The sun is worshipped by the Kharria of Chutia Nagpur, under the name of Bero. Every head of a family should during his lifetime make five sacrifices to it in succession,—fowls, a pig, a white goat, a ram, and a buffalo. The Munda worship the sun as Sing Bonga, to whom they pray and offer sacrifices as to a beneficent creator. The Bura-Deo of the Gonds is also a sun-god. There is a sun temple at Baroda, dedicated to Surya Naraiana.

At Sutrapada, in Kattyawar, between the town and beach, is a singularly fashioned temple of the sun, with an image of Rina-Devi; near it is a Surya-Kunda, and another dedicated to a rishi; also a castle on the way to Pattan.

The earliest objects of adoration in Rajputana were the sun and moon, whose names designate the two grand races, Surya or Solar dynasty, and Chandra or Indu or Lunar race. Budha, son of Indu, married Ella, a grandchild of Surya, from which union sprang the Indu race. They deified their ancestor Budha, who continued to be the chief object of adoration until Krishna, hence the worship of Bal-nath and Budha were coeval. That the nomade tribes of Arabia, as well as those of Tartary and India, adored the same objects, we learn from the earliest writers; and Job, the probable contemporary of Hasti, the founder of the first capital of the Yadu on the Ganges, boasts in the midst of his griefs th
he had always remained uncorrupt
Sabeism which surrounded him: 'I
the sun when it shined, or the moon
brightness, and my mouth has kisse
this also were an iniquity to be punis
judge, for I should have denied the
above.' That there were many Hi
professing a pure monotheism like
kissed the hand either to Surya or
Budha, we may easily credit from the
of the notions of the 'One God,' expres
by the ancients and moderns, by poets
princes of both races, but more espe
the sons of Budha, who for ages bo
before graven images, and deemed it im
raise a temple to them.

At Udaipur the sun has universal pre
his portal (Surya-pol) is at the chief en
the city; his name gives dignity to
apartment or hall (Surya-mahal) of th
and from the balcony of the sun (Sur
the descendant of Rama shows hims
dark monsoon as the sun's represent
huge painted sun of gypsum in high r
gilded rays, adorns the hall of audienc
front of it is the throne. In addition
the sacred standard bears his image, as
Scythic part of the regalia called the
disc of black felt or ostrich feathers, w
of gold to represent the sun in its cen
upon a pole. The royal parasol is term
in allusion to its shape, like a ray (car
orb. The most revered text of the Ve
Hindus, the Gayatri, is imparted to
youth on his initiation, and is an invoc
sun. By the Aryan Hindus the su
styled Savitar, the progenitor.

The ancient Aryans worshipped th
Mitra, or the living, which the modern Parse
still do as Mihr, and name their children afte
it, a Mihr Bi being in almost every household
The turning towards the sun is noticed in Ezekie
viii. 16. The Parsee looks towards the sun i
prayer; the Buddhist and the Hindu, when per
ambulating their temples, circle from right to le
as the sun's circuit. The Ansariah race in Syri
are sun-worshippers.—*Bunsen*, iii. pp. 525, 58
iv. pp. 269, 318, 325, 687, v. p. 127; *Sharp*

Egypt, i. p. 98; *Chatfield's Hindustan*, p. 191; *Lubbock's Civilisation*, p. 215; *Tod.*

SUNAB-DEO. The bhandara of the Ram Talao or Sunab-Deo in the Satpura had been destroyed by a Muhammadan agent from the Nimbalkar jaghirdar, who took some of the bricks to make a step well in his own village; but guinea-worm attacking the villagers, the people believed it to be a curse, and deserted the village. About 1830, the old Pahlki family induced the people to return, and used the bricks to rebuild the village choultry, but fever and dysentery appeared, and the site was a second time abandoned. And about 1870 the Assistant-Collector again wished to utilize the bricks, but the people stedfastly refused, and explained to him that 'the bricks are the property of Ram, and cannot be touched with impunity.'

SUNAHSEPHAS, a Brahman's son, destined to be a victim to Varuna in the place of Harischandra. He was already bound as the sacrifice, when he remonstrated, and was freed. The story is told in the Aitareya Brahmana, and seems to dy some change of ritual from that of the

in the Eastern Archipelago, forms and other islands a group, of which the chief. Sunda Strait has two hich lead into it from the westward, hannel between the west end of Java Island, and the great channel to the of the island, betwixt it and the south Sumatra, which occupies upwards of a longitude, indented by two large bays, es of which are fronted by numerous nd rocks. The Sunda people are shorter, hardier, and more active than the nts of the coast and eastern districts. respects they resemble the Madurese.—*Hist. of Java*, i. p. 59.

ARA-MISRA, A.D. 1599, wrote the na-Mavi, a drama in seven acts on the f Rama.—*Dowson.*

AY. In most countries the first day of is named after the sun. Amongst the lled Ravivara, from Ravi, the sun, Vara, o Irida, from Iru, the sun. The Muham- India call it Itewar or Aitewar, from rit Aditya, a name of the sun. The lays of the week are—

	Ravivara,	Ravi or the Sun.
	Somavara,	Soma or the Moon.
Tuesday,	Mangalavara,	Mangala or Mars.
Wednesday,	Budhavara,	Budha or Mercury.
Thursday,	Vrihaspativara,	Vrihaspati (Jupiter).
Friday,	Shukravara,	Shukra (Venus).
Saturday,	Sanivara,	Sani (Saturn).

SUNDHYA or Sandbya, SANSK., in Hinduism, s the recital of prayers accompanied by certain nodra or gesticulations, and their performance y Hindus.

SUNDERBANS, said to be derived from Sundari vana, a forest of sundari trees, is a name iven to the islands and swamps in the delta of the Ganges, extending for 60 miles from the zamindari and pargana lands in the north to the Bay of Bengal in the south, lat. 21° 30′ 40″ and 22° 37′ 30″ N., and from the Hoogly in the west to the Megna in the east, long. 88° 4′ 30″ to 91° 14′ E., a varying breadth of 30 to 81 miles, and along the coast in length 165 miles, about 5532 square miles.

The northern portion of the delta is highly cultivated and densely populated, supporting 420 souls upon each square mile, or nearly 5,000,000 inhabitants; the southern portion is occupied by extensive swamps and dense forests, and their few inhabitants live in boats, not daring to venture on shore by day on account of the numerous tigers, nor by night on account of the miasma. The name has also been supposed to be derived from the Chandra Bhanda tribe, employed, like the Molangi, on the salt manufacture there; others derive the term from the two Bengali words, sundar, ban, great or beautiful forest. The breadth of the delta from Chittagong to the mouth of the Hoogly is 260 miles, divided longitudinally by the Megna; all to the west of that river presents a luxuriant vegetation, while to the east is a bare muddy expanse, with no trees or shrubs but what are planted. On the west coast the tides rise 12 or 13 feet; on the east, to 40 or 80. On the west, the water is salt enough for mangroves to grow for 50 miles up the Hoogly; on the east, the sea-coast is too fresh for that plant for 10 miles south of Chittagong. On the west, 50 inches is the Cuttack fall of rain; on the east, 90 to 120 at Noacolly and Chittagong, and 200 at Arakan. The east coast is annually visited by earthquakes, which are rare on the west. And lastly, the majority of the great trees and shrubs carried down from the Cuttack and Orissa forests, and deposited on the west coast of the delta, are not only different in species, but in natural order, from those that the Fenny and Chittagong rivers bring down from the jungle. Mariners when approaching the Sandheads, having no land in sight, not even the height of a span, to guide them, are obliged to trust entirely to their lead to inform them of their position. The sand that is brought down by the rivers hardens under the surface of the sea into a concrete, nearly as hard as rock, to touch upon which is fatal to any craft; but as the waters descending the rivers cut a subaqueous channel through the sand, the lead informs the pilot at once whether he is on a bank or in a channel. Government pilots are always cruising a few miles from the land, and at night continually burn blue lights to inform ships of their position. The segregation of the sand from the mud is as follows: The freshes or heavy rains bring down from up-country vast quantities of sand and earth, calculated at 40,000 million cubic feet, or nearly one-third of a cubic mile, rendering the waters of all the rivers opaque or of a dull yellow colour. This body of water rushing along with great impetuosity reaches the sea; a contest immediately takes place between the rushing water and the advancing tides; the effect is to cause the heavier sand to subside, which is done on either side of the river channels, forming the Sandheads; the finer particles of mud are driven back or up the rivers, and deposited upon the ten thousand islands over which the tide sweeps; but as all the finer particles of sand and mud are not thus thrust back upon the Sunderbans, some portion of the alluvium is carried out to sea for forty, fifty, and even for sixty miles, where, silently and slowly, it finds its way to the bottom of the ocean, forming the soft, impalpable purple mud so well known to pilots and others approaching the shores of India. At sixty miles from the

Sunderbans the ocean is free from any appearance of natant impurities, but nevertheless a certain amount of alluvial matter is subsiding to the bottom of the sea that number of miles from the land, which probably only commence to sink at forty miles from the Sunderbans. On the eastern flank of the delta, by the deposition of soil driven up by the waves, the mainland of Noacolly is gradually extending seawards, and advanced four miles within 23 years. The elevation of the surface of the land is caused by the overwhelming tides and south-west hurricanes in May and October; these extend thirty miles north and south of Chittagong, and carry the waters of the Megna and Fenny back over the land, in a series of tremendous waves, that cover islands of many hundred acres, and roll three miles on to the mainland. On these occasions the average earthy deposit of silt, separated by micaceous sand, is an eighth of an inch for every tide; but in October 1848 these tides covered Sundeep Island, deposited six inches on its level surface, and filled ditches several feet deep. These deposits become baked by a tropical sun, and resist to a considerable degree denudation by rain. Whether any further rise is caused by elevation from below is doubtful; there is no direct evidence of it, though slight earthquakes annually occur; and even when they have not been felt, the water of tanks has been seen to oscillate for three-quarters of an hour without intermission, from no discernible cause. The Sunderbans have no defence whatever to seaward, not even an inch in height; every spring-tide and every cyclone-wave dashes its waters over the land, deluging the country with waves, the impetuosity and volume of which are unknown and unheard of in Europe; waves 30, 40, and even 60 feet in height have been known to rise in the Bay of Bengal, to dash over the highest trees, and to deluge the whole country for miles inland. The Sunderbans in their present state are exposed to the fury of the tropical hurricanes that arise in the Bay of Bengal, and their unhealthiness is great, from the stagnated air and corrupting vegetable deposits; but should this tract ever share in the upheaval that is now going on near Arakan and on the Tenasserim coast, rich would be the soil that would be brought under the plough, and great would be the population that would be found to occupy the seaboard tract. Until that time arrives, much of the Sunderban tract can but remain waste, an inaccessible and an impregnable defence to India towards the sea. The remains of temples, mosques, and other buildings, both Hindu and Muhammadan, prove that the country has not only been once populated, but had made great advancement in civilisation. Maharaja Pratadyta built a magnificent city in the Twenty-four Pargana portion of the Sunderbans. He made tributary all the princes of Bengal, Behar, Orissa, and Assam, overthrew Akbar's army on the shores of the Mutlah, but finally ended his days a captive in the Moghul capital. Storm-waves have devastated the Sunderbans, and the ravages of Mugs and Portuguese buccaneers completed the desolation. Mr. Long has stated that, when in Paris in 1848, M. Jomard, of the Bibliotheque Royale, showed him a Portuguese map of India more than two centuries old, in which the Sunderbans was marked off as cultivated land with five cities therein. This was confirmed by a map in De Barros' Da Asia, a standard Portuguese history of India.

The principal arms of the sea, proceeding from west to east, are the Hoogly, Sattarmukhi, Jamira, Matla, Bangaduni, Guasuba, Raimangal, Malancha, Bara Panga, Marjata or Kaga, Bangara, Horinghata or Baleswar, Rabnabad channel, and the Megna river.

Amongst the calamities that overtake the Sunderbans are great inundations caused by cyclones or hurricanes. About 1584, the tract lying between the Horinghata and the Ganges, known as the Backerganj or Burrisal district, was swept by an inundation, succeeded immediately afterwards by an incursion of Portuguese and Mug pirates. In June 1622 this same tract was again inundated, 10,000 inhabitants perishing, and many houses and property destroyed. In A.D. 1737 happened a great Calcutta storm. In 1736 A.D. the river Megna rose six feet above its usual level at Lukhipur. In A.D. 1833 Saugor Island was submerged 10 feet; the whole of the population, between 3000 and 4000 souls, tog
with some of the European super
perished; at Kedgeree, a building 1
was completely submerged. The *Du*
East Indiaman was thrown high and
rice-fields near Fultah in the Hoogl
1848 the island of Sundeep was subme
in 1876 a storm-wave overwhelme
portion of the delta, and destroyed ab
souls.—*Calcutta Review*, No. lxiii. p. 2
1859; *Hooker's Him. Jour.*—See Cyclon

SUNDIVA, an island of the Sunderb
for about half a century by the Po
Sebastian Gonzales and Fra Joan.

SUNDRAS or Sundrus, resin of the
Indica, called by the various names of East
copal, Indian anime, and Piney damm
Hindi, according to the Makhzan-ul
Chanderus, and Kahruba among the
folk.—*Powell.*

SUNDRI, in musical instruments a fr

SUNDUR, a small principality, in
N., and long. 76° 34′ E., 24 miles west o
level of the nalah is 1900 feet. It is in
of the Bellary district, and is an in
state of 140 square miles, of which m
third is hill territory. Its population
and revenue Rs. 45,000. The ruler is
Ghorpara Mahrattas.—*Cull.*

SUN-FLOWER is the name give
of the Helianthus genus of plants, of
annuus, the annual sun-flower, is c
gardens; H. Indicus, *Linn.*, is prob
variety of H. annuus; H. multiflorus i
flowered sun-flower; H. tuberosus, th
artichoke, the tubers of which form a
stitute for potatoes. The stem of H. thurif
yields a resinous matter. The botanical nam
of this genus is from ἡλιος, the sun, and ανθος,
flower. H. annuus, the Tournesol, Fr., Girasol
It., is cultivated in India for its seeds and th
oil they yield, a pale amber-coloured oil, free of
smell, and sweet to the taste. It is obtained
from H. annuus and H. perennis. Sun-flowe
seeds are used to fatten poultry, pheasants, an
partridges; they are said to increase the numb
of eggs. The leaves are given to cattle.

SUNGA, a dynasty which ruled over Ind

112 years, after the Maurya sovereigns, from B.C. 188 to 76, the first of whom, Pushpamitra, put his master, the last of the Maurya, to death.

Pushpamitra, .	B.C. 188	Bhagavata, . .	B.C. 112
Agnimitra, . .	,, 152	Devabhuti, . .	,, 83
Suiyeshtha, . .	,, 144	Kanwa dynasty 45 years—	
Vasumitra, . .	,, 137	Vasudeva, . .	B.C. 76
Budraka or Ardraka,	,, 129	Bhumimitra, .	,, 67
Pulindaka, . .	,, 127	Narayana, . .	,, 53
Ghoshavasu, .	,, 124	Susarman, . .	,, 41
Vajramitra, . .	,, 121	Susarman died,	,, 31

—*Fergusson*, pp. 19, 716.

SUNGA-BADI, an atheistical sect among the Hindus.

SUNG-DIRAN. HIND. Impure and weak nitro-muriatic acid, made by attār or druggists by mixing equal parts of alum, nitre, and salt with a little water in an earthen pot (gurra), and distilling; an acid fluid comes over that is applied to cure herpetic eruptions.—*Genl. Med. Top.* p. 152.

SUNG-I. CHIN. A substance resembling tar, used in China in skin diseases.

SUNGROOR, the ancient Sringara, a town on the left bank of the Ganges, and on the frontier and the Bhil country. In ancient surrounding country was inhabited by r wild tribes, and Guha, the friend of their chief.—*Dowson.*

TAN HILLS border on Foh-kien, in t of Ping-yang, Wan-chan prefecture, se proximity to Peh-kwan harbour, lat. N., and long. 120° 32′ 6″ E. Alum-establishments occupy about a mile of of a lofty hill, adjacent to the quarries, hich alum-stone crops out. The stones wn into a fire of brushwood, where they ith a slight lambent flame, and as they he fragments are raked out, broken into ieces, and macerated in vats. Subsequently integrated mineral is thrown with water essel having an iron bottom and sides of nd boiled for a short time. The lixivium poured into large reservoirs, where it zes into a solid mass. Blocks of alum about fifty catties each are hewn out servoir and carried in this state in bamboo one on each end of a porter's pole, to e of shipment, where it is broken into . When not designed for immediate n, the blocks are stored away for Granitic and porphyritic rocks abound cinity, and some parts of the district produce iron and silver. According to the Wan-chan topography, the working of silver was discontinued in the reign of Wan-lih (1615), in consequence of imperial prohibition. This part of the coast has recently become the seat of extensive poppy cultivation.

SUNG-YUN, a Buddhist Chinese pilgrim, who visited India A.D. 502.

SUNJOGATA, daughter of Jye-chand, a Rahtor Rajput, the last Hindu king of Kanouj. Her father, Jye-chand, celebrated the last Raj-shahi in India. He did this to soothe his vanity, which had been mortified by his rival Prithi, a Chauhan Rajput, assuming empire by performing the sacrifice of the Aswa Medha. At the Rajshahi, Sunjogata was led forward to select her husband from the assembled princes; but she threw the Bar-mala, marriage garland. over the neck of the gold effigy of the absent Prithi-raj. Prithi-raj hearing of this, he, with the élite of his warriors, in A.D. 1175, carried her off from Kanouj in open day. There was a desperate running fight for five days all the way to Dehli, Prithi-raj losing the best of his warriors, but he kept his prize and gained immortal renown. For a few years they lived happily together, but on the invasion of Muhammad Gori she urged him to battle. As he left she exclaimed, 'I shall never more see him in Yoginipur (Dehli), but in the region of Swarga;' and her prediction was verified, for he was taken captive and slain (A.D. 1193). She then mounted the funeral pyre, and this is the first authentic record of sati in India.—*Cal. Rev.*

SUNKISA is generally recognised amongst the learned natives of India to be the site of the Sunkasya of the Ramayana. Cunningham thinks that Sunkisa was destroyed in the wars between Prithi-raj and Jye-chand; but there seems reason to conclude that the town must have belonged to the latter when it was captured, for it is familiarly known as one of the gates of Kanouj. The ruins of Sunkisa (not called now Samkassa) can enter into no comparison with those of Kanouj, even if we include the ancient k'hera of Suraee Uqut'h. It is stated that the worship of the identical Naga mentioned by Fa Hian is still annually performed there; but the mound where this worship takes place is nothing more than the common heap of bricks, or earth, which we see in every village, erected for worship during the Nag-Panchami.

SUNN. BENG., HIND. Crotalaria juncea, LAT.

Ghore sunn, . .	BENG.	Taag, ...	MAHR.
Meesta pat, . .	,,	Wucko nar, .	MALEAL.
Brown hemp, . .	ENG.	Sana, ...	SANSK.
Hemp, Sunn hemp,	,,	Kenna, ...	SINGH.
Konkani hemp, .	,,	Janapa, Shanapa-nar,	TAM.
Salsette hemp, .	,,	Vuckoo-nar, . . .	,,
Bombay hemp, .	,,	Janamoo, ...	TEL.

Sunn fibre is an article of extensive export. The plant is largely grown all over India for the manufacture of rope, string, and gunny bags. Dr. Wight gave the following as the results of his experiments of the strength of fibres:—

Coir, ...	224 lbs.
Pooley Mungi (Hibiscus cannabinus), . .	290 ,,
Marul (Sanseviera Zeylanica), . . .	316 ,,
Cotton (Gossypium herbaceum), . . .	346 ,,
Cutthalay nar (Agave Americana), . .	362 ,,
Janapa (Crotalaria juncea), Sunn, Hindi, .	407 ,,
Yercum (Calotropis gigantea), . . .	552 ,,

It is equal to Petersburg hemp for many purposes, and when well prepared will bear comparison with flax. In February and March, soon after the flowers drop, and before the seed is ripe, it is plucked up by the roots; the *stems*, which are about five feet long, are tied in bundles, and steeped in water, weighted with stones. A few days thereafter, they are beaten, which detaches the integument and coarse cellular tissue, after which they are well washed in repeated waters, and the individual fibres picked out, free of the vegetable mucous and other impurities. It is then to be well beaten in water, to free it from impurities, wrung, and hung over bamboo frames to dry.

It requires but comparatively little tillage, and not much after-tending. The plants, when site and soil agree, attain to a height of 8 to 9 feet. The hemp is bought in the bazar about 7 lbs. per shilling, and rope made of it at 5 lbs. weight for a shilling. Paper is made from this article.—*Cat. Ex.*, 1862; *Mad. Ex. J. R.*

SUNNAH, also Sanat. ARAB. The traditions of Mahomed; a recital containing a sentence or a declaration of Mahomed regarding some religious question, either moral, ceremonial, or theological; the traditional laws of Muhammadanism, based on the sayings and doings of Mahomed. The Sunni sect regard them as of scarcely inferior authority to the text of the Koran, established by usage and the law of custom; they are not recognised by the Shiah sect. The fathers of tradition are styled Shaikh. The traditions began to be gathered about forty years after Mahomed's death. Abu Horeira (A.H.. 58), himself a companion of Mahomed, collected from the lips of eye-witnesses, or of those who had heard, no fewer than 3500 traditions regarding Mahomed. The traditions include predictions and prophecies, which Sprenger considers were invented to oppose Christians; also stories of genii, idols, and soothsayers, invented for the heathen Arabs; and, for the Persians, announcements as to Chosroes and the east. The Sunnah commands are optional, whilst the Farz is a divine command, but usually applied to the five indispensable obligations of purification, prayer, almsgiving, fasting, and pilgrimage.

The Sunni sect of Muhammadans regard the Sunnah (Sunnat) or legendary account of the actions and traditions of Mahomed as of equal value to the Koran. The Muhammadan religionists are of two great sects, the Sunni and Shiah, the former being in India, Turkestan, Turkey, and Arabia, while the Shiah are most numerous in Persia. The Sunni hold, amongst other points, the succession to the khalifat to have followed in the line of Mahomed, Abubakr, Umar, Usman, and Ali; the Shiah sect, on the other hand, maintaining Ali to have, and by right, succeeded his cousin and father-in-law Mahomed. There are other points on which their sectarian differences turn, but small numbers of the Shiah religionists, in several parts of Asia as in the west of India, believe in incarnations of Ali, and of these the Ismaili sect may be instanced. The Muhammadans of India, of these two great religious sects, worship apart; but amongst both sects are to be found, mixed together, the people of the various races, Syud, Shaikh, Persian, Indian, Moghul, Pathan, into which the Muhammadans are found arranged, and, as in the families of some Christian countries, the sons will be found as Sunni and the daughters Shiah. The Sunni are occasionally styled Char-yari, or four friends, as recognising Abubakr, Umar, Usman, and Ali to have been the four khalifs. The Shiah are styled the Teen-yari, or three friends. Amongst the Sunni in the south of India the Maharram is a period of extravagant amusement, in which many non-Aryan and Aryan Hindu races join. The Sunni, by far the majority, at this period grossly outrage the grief of the Shiah sect, and scandalize the learned and devout; and many of the mummers or Jalali are of the Pariah, Dher, and Mahratta races.—*Wilson's Gloss.*

SUNN-BHANG is the fibre of Cannabis sativa, common hemp.

SUNRI, a title which includes the Kalwar tribe. The Sunri, though deemed impure from their occupation, frequently style themselves Sudras, especially those who have adopted agriculture as a pursuit.—*Cal. Rev.* No. 110.

SUNTARAR belonged to a Brahman family of Tirunavalur. While a child, he is said to have been adopted by king Narasingha Muniyar. On the day fixed for his marriage, he broke off the engagement, and as an ascetic went about singing hymns in honour of the Saiva temples. With Appar and Sampantar, he was a zealous champion of Saivism. A collection of hymns attributed to him has been printed.

SUNYASI, SANSK., from Sang, prep., and Nyasa, to renounce, a Hindu devotee, some of whom besmear their faces with ashes. The Jews, as an act of mourning, covered themselves with ashes, and the Sunyasi do it as an act of mortification. Persons who seek concealment often assume, for a time, the appearance of Sunyasi.

SUPA, also Supli. HIND. A winnowing sieve. It is worshipped by the Irular races of Southern India.

SUPERSTITIONS. Amongst Hindus the left side is the lucky side in a woman, the right in a man. The purport of the palpitations of the eyes, or throbbing of the eyeballs, is fancied, and seems to have been similarly understood by t
The powder of white mustard is appl
top of the head and forehead and othe
new-born child as a protection against
A mixture of the same with oil and rice
about to every quarter upon the com
of a sacrifice, to keep off ghosts and fiend
stain a new cloth with turmeric to keep
and disease. Amongst the avenging
sent direct from the gods, the Singhales
both the ravages of the leopard and the
of the small-pox. The latter they call
ledda,' the great sickness; they look upo
special manifestation of Devi; and the at
of the cheetas to the bed of the suffere
attribute to the same displeasure of the go
few years ago, the capwa, or demon pri
'dewale,' at Oggalbadda, a village near
when suffering under small-pox, was dev
a cheeta, and his fate was regarded by
an opposite faith as a special judgme
heaven. Such is the awe inspired by t
in connection with the small-pox, that
afflicted with it is always approached a
immediate communication with the d
attendants address him as 'my lord' a
lordship,' and exhaust on him the whol
honorific epithets in which their languag
for approaching personages of the mos
rank. At evening and morning, a lamp is lighted before him, and invoked with prayers to protect his family from the dire calamity which has befallen himself. And after his recovery, his former associates refrain from communication with him until a ceremony shall have been performed by the capwa, called awasara-pandema, or 'the offering of lights for permission,' the object of which is to entreat permission of the deity to regard him as freed from the divine displeasure, with liberty to his friends to renew their intercourse as before. With the Burmese, if a hen lay an egg upon a cloth, its owner will lose money; to see mushrooms at the beginning of a journey is a fortunate sign; a snake crossing the path denotes delay; if a dog carry any unclean thing into its master's house, the man will become rich. Auguries are drawn from the flight and numbers of birds, from the barking of dogs, the flight of bees, and

in many other ways.—*Hind. Theat.* ii. pp. 15, 113; *Tennent's Ceylon*, p. 28.

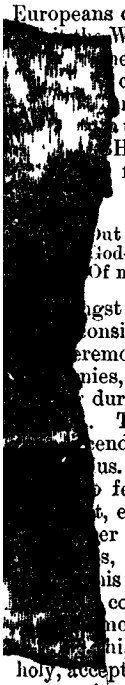
SUPREME COURT, a court of judicature of the highest in rank in India. During the E. I. Company's rule, there was a court of first instance and of appeal. Beneath it was the Sadr Adawlat Court. On the abolition of the E. I. Company, the Supreme Courts of Calcutta, Madras, and Bombay were amalgamated with the courts of Sadr Adawlat under three Presidencies, and the united body designated the Supreme Court of Judicature.

SUR, a Sind grass, perhaps Arundo kurka; its flower-stalks are beaten into firm fibres called Moonyah, from which string or twine is fabricated.

SUR, a tone in music; a melody, a tune; a bass or drone to the shuhnaee.

SUR (Soor), a Muhammadan dynasty who ruled at Dehli during the 15 years of Humayun's displacement, A.D. 1540–1557.

SURA. ARAB. A chapter of the Koran. The scattered Sura were collected by Zeid, and Europeans call these the Koran. Muhammadans



Word of God, Kalam Allah, also Koran-
e holy Koran, also Furhan.
chieftain of the Yadava, father of
nd Kunti.
a tyrannical giant, slain by Subbramanya.
HI, in Hindu legend, a cow obtained as
fourteen products from churning the

. . . 'And first
ut of the waters rose the sacred cow,
od-shaped Surabhi; eternal fountain
Of milk and offerings of butter.' . . .

gst Hindus, at marriage, part of the cere-
onsists in the donation of a milch cow.
remony is attended by many appropriate
nies, finishing with prayers, the acceptor
during the recital the sacred animal by
. The boon-granting cow Surabhi, and
endants, are much revered by all classes
us. It is common for Brahmans and
feed a cow before they take their own
t, ejaculating as they present their food,
er of Surabhi, framed of five elements,
s, pure, holy, sprung from the sun,
his food of me; salutation unto thee!'
conduct the kine to grass, 'May cows,
nothers of the three worlds and daughters
hi, and who are beneficent, pure, and holy, accept the food given by me.' In marriage ceremonies, the hospitable rites are conducted by letting loose a cow at the intercession of the guest; a barber, who attends for that purpose, exclaims, 'The cow! the cow!' Upon which the guest pronounces this text: 'Release the cow from the fetters of Varuna. May she subdue my foe, may she destroy the enemies of both him (the host) and me. Dismiss the cow, that she may eat the grass and drink water.' When the cow has been released, the guest thus addresses her: 'I have earnestly entreated this prudent person, saying, Kill not the innocent, harmless cow, who is mother of Rudras, daughter of Vasus, sister of Adityas, is the source of ambrosia,' etc. 'It is evident,' says Mr. Colebrooke, 'that the guest's intercessions imply a practice, now become obsolete, of slaying a cow for the purpose of hospitality.' In the Hitopadesa, p. 110, the earth is called Surabhi, and the learned translator (Wilkins) notes the name to be not usually so applied, although the earth may well be called the cow of plenty.

SURABHI MANU. TEL. A tree growing in the Nagari Hills; literally, full of milk.

SURACHARYA, SANSK., from Sura, the gods, and Acharya, a teacher.

SURAJ-ud-DOWLA succeeded Alivardi in 1756 as subahdar of Bengal. On the 18th June, instigated by the Dutch and French, he appeared before Calcutta with a large force, on which the women and children of the British residents were sent away in a ship to a place of safety. He had previously manifested aversion to the English, owing to the governor of Calcutta having refused to deliver up one of the principal officers of finance under the nawab's late uncle, the governor of Dacca, whom the nawab had resolved to plunder. After a weak defence, the Calcutta garrison capitulated, and 146 of them were placed at night in a guard-room scarcely 18 feet square, and 123 of them died before morning. Of those still alive many were delirious. The guard-room became known as the Black Hole of Calcutta. On 2d January 1757, Calcutta was retaken by a force which had been despatched from Madras under Clive and Admiral Watson, and on the 4th of February Suraj-ud-Dowla's army was surprised and defeated by Clive. Overtures were then made by the nawab, and on the 9th February 1757 a treaty was concluded, by which he agreed not to molest the Company in the enjoyment of their privileges, to permit all goods belonging to the Company to pass freely by land or water without paying any duties or fees, to restore the factories and plundered property, to permit the Company to fortify Calcutta and to establish a mint. War having broken out between France and Great Britain, Clive attacked the settlement of Chandernuggur, but Suraj-ud-Dowla furnished the French with arms and money, and was preparing to make common cause against the British. At this juncture a confederacy was formed among Suraj-ud-Dowla's chief officers to depose him. The British joined this confederacy, and concluded a treaty with Mir Jafar Ali Khan, and at the battle of Plassey, which was fought on the 23d June 1757, the power of Suraj-ud-Dowla was completely broken, and Jafar Ali was installed by Clive as subahdar of Bengal. Suraj-ud-Dowla fled from the battle-field of Plassey, on a camel, to the city of Murshidabad, which he left in disguise, and hired a boat to take him up the river to Patna. But at Rajmahal the boatmen refused to go on farther till next day, and he concealed himself in a garden, where he was recognised in the morning and delivered to his enemies, who put him to death.

SURA-LOCA, the abode of heroes, the Valhalla of the Rajput mythology, literally the sun-place.

SURASENI. With Mathura as a centre and a radius of eighty miles, describe a circle. All within it is Vrij, which was the seat of whatever was refined in Hinduism, and whose language, the Vrij-basha, was the purest dialect of India. Vrij is a name tantamount to the land of the Suraseni, derived from Sursen, the ancestor of Krishna, whose capital Surpuri is about fifty miles south of Mathura on the Yamuna (Jumna). The remains to this day are called Surpuri. The province of the Suraseni or Saraseni is defined by Menu, and is particularly mentioned by the historians of Alexander.

SURASHTRA, a province in Western India, now Surath or Gujerat, the same as Balabhi.

SURAT, lat. 21° 9½′ N., long. 72° 54¼′ E., in Kandesh, a large town situated on the left bank of the river Tapti, near its mouth, a wide and pleasant stream, cooled by the fresh breezes of the Arabian Sea, 12 miles distant. It was here where the East India Company formed their first mercantile establishment. It has a pinjrapol, or hospital for animals. It was ceded on the 13th May 1800. Boats of 50 tons can come up to it. It is the chief town of a revenue district of the Bombay Presidency, to which it gives its name. The district is a broad alluvial plain, stretching between the Dang Hills and the coast of the Arabian Sea, where it begins to narrow into the Gulf of Cambay. Its population in 1881 was 107,154, mostly Hindus, with Muhammadans and Parsees and aboriginal races. The great famines of 1623, 1717, 1747, 1790, and 1803 affected this district and all Gujerat. In April 1837, 9373 houses of Surat city were burned, and later in the year it was flooded by the river rising. In 1843 and 1849, other destructive inundations took place. The Surat municipality undertook a series of protective works in 1869, and these have somewhat sufficed to secure the city against the loss of life and property; but in July 1883, 250 houses were destroyed.—*Imp. Gaz.*

SURAT-WALI. HIND. Literally good-looking, a term by which the harlot women of Muhammadans are designated, to distinguish them from the Shadi wives.

SURBULI. URIYA. A fast dye of a golden tinge is extracted from this plant, which grows on sandy spots along the coast south of Puri.

SURDAS, a disciple of Ramanand, was a native of Oudh, and blind. He lived during the reign of Akbar, and was appointed Amin of Sandila by Todar Mull. When he adopted an ascetic life, he delivered all the taxes he had collected to the shrine of Madan Mohan, a form of Krishna at Bindraban, and sent to the treasury a chest filled with stones, accompaning them with the following rhyme:—

'Terah lakh Sandile upje, sab santan mile gatke,
Surdas Madan Mohan adhi rat hi satke.'

Which may thus be rendered:—

'The saints have shared Sandile's taxes,
Of which the total 13 lakhs is,
A fee for midnight service owing
By me, Surdas, to Madan Mohan.'

On this Todar Mull arrested him, but the emperor forgave him, and before he died he wrote 125,000 stanzas of religious hymns in the groves of Bindraban.—*Oudh*, p. 118.

SURF. Along the east coast of the Peninsula of India, the waves break as they near the shore, and necessitate the use of masulah boats and catamarans. The height of the surf and the distance from the shore at which the waves break, vary with the run of the sea, modified by the wind and current. In a squally day, such as would be dangerous to catamarans or boats, the outer surf breaks at a distance of 450 feet from the shore, and during a gale of wind at 828 feet; but in such a case the swell, the breakers, and the surf merge the one into the other, and render it difficult to decide at what point the surf first breaks.

SURI. HIND. The husks or skins of pulse, mash, etc., which come off when it is split into dal.

SURINJAN. HIND. A root in appearance like the pig-nut, imported via Pali, is bitter and sweet in taste, used as an aphrodisiac.—*Gen. Med. Top.* p. 150.

SURJEE, a Hindu reformer, since the middle of the 19th century, had been urging the population on the frontier of Mewar and Gujerat to reform. He preached the worship of one God, peace, and goodwill. His followers took an oath to abstain from all crimes and offences, from spirituous liquors, and from causing death to any living thing. They bind themselves to live on the produce of the soil, and to bathe before eating. In 1874 he had upwards of 1000 disciples, and three assistant guru or teachers.—*Moral and Mat. Progress*, 1874–75.

SURKHAB or Vakhsh or Kizzel Su, one of the principal streams which form the Ab-i-Panj or Upper Oxus. It rises on the Alai plateau. It enters the state of Karatagin, in which it receives many affluents, and falls into the Ab-i-Panj.

SURKHEL, the chief civil minis
Puducottah state.

SURMA. HIND. Antimony; bl
animony, a ter-sulphide. Indian Mu
have a belief that the finest kind of su
from Arabia, from the hills of Sinai o
Their tradition is, that when Moses
mount, he asked that the glory of the
might be shown him; he was answered
mortal sight could not bear the glory, bu
a chink of the rock a ray of the light was
to fall on him, and the rock on which the
became melted into antimony. Galena, l
is sold as antimony. Muhammadan me
antimony to their eyelids, but their wom
kohl or lamp-black for this purpose. Surm
a small toilet-box for holding antimony
used as a cosmetic. Surma-i-Isfahani is g
iron-ore, used by men for staining the
Surma-Safed, Iceland spar, found in
Kābul, is extracted and broken into c
fragments, more or less opaque. It is
by the natives as an astringent in op
gonorrhœa, and other fluxes, in doses of
internally, and also externally as a local ap

SURMA RIVER is the main bran
Barak river in Sylhet district, Assam
banks are Sylhet town and Sonamganj
marts the limestones, oranges, potatoes of the
Khassya Hills are collected for transmission to
Bengal. The valley of the Surma is separated
from that of Munipur by a range of moderate
elevation, which is continued to the southward,
and separates Tiperah, Chittagong, and Arakan
from the kingdom of Ava. About 70 miles up
the Surma, the mountains on the north, which
are east of Jaintia, rise 4000 feet high, in forested
ranges like those of Sikkim. Swamps extend
from the river to their base, and penetrate their
valleys, which are extremely malarious; these
forests are frequented by timber-cutters, who fell
the jarool, Lagerstrœmia reginæ.

SUR-NAI. HIND. A musical instrument like a bagpipe.

SURNAMUKY RIVER rises in the table-land, lat. 13° 26′ N., and long. 79° 11′ E., runs N.E. to Bay of Bengal; length, 99 miles.

SURNUREA, an abbreviation of Surjuparea

or people living in Surnar, *i.e.* the other side of the Surju or Gogra.

SURPUR, an ancient city, once the capital of the Yadu race. Its site is on the Jumna.

SURU-l-BALDAN, or Pictures of Countries, an ancient Persian compilation from the works of Istakhri and Ibn Haukal.—*Elliot.*

SURVEYS have been in progress in the East Indies ever since the British were there. Marine surveys from the Red Sea to the Straits of Malacca and China, including the banks and islands to the south of India, were carried out by officers of the Bombay marine, later (in 1832? 1829) designated the Indian Navy. Captains Lancaster (1601), Middleton, Keelinge (1607), Sharpey, Saris to Japan, drew up in their voyages charts and sailing directions, which were condensed into rules for the East India Navigations by the famous Captain John Davis of Limehouse, who made five voyages. Richard Hakluyt, Archdeacon of Westminster, was appointed historiographer of the East Indies in 1601. In 1616 Edward Wright was appointed to perfect the E. I. [illegible]'s charts, and in the same year, on [illegible]leath, he was succeeded by the Rever[illegible]el Purchas, who in 1625 published [illegible]is Pilgrims, giving an account of the [illegible]y voyages. Purchas died 1626. The [illegible]ome of the later surveyors can alone [illegible]here. Captains John Ritchie, 1770 to [illegible]eam, 1770; Huddart, 1780–1790; John [illegible]and Lieutenants Wedybrough and Court, [illegible]93; Lieut. Blair, 1777 and 1795; Captain [illegible]Topping, 1788 to 1794; Lieut. Warren, [illegible]1799 to 1820, Sir Home Popham, Lord [illegible]t, Captain Keys, Captain Court, Mr. [illegible]nd others were examining the Red Sea; [illegible]bsequently, the coasts of Southern Asia [illegible]en surveyed by Captains Maxfield, Knox, [illegible]James Horsburgh, and Crawford. In the [illegible] Gulf (1820–1830), Captains Guy and [illegible]Ross, Owen, Haines, Kempthorne, Cogan, [illegible], Ethersay, Whitelock, Lynch, and [illegible]n. In the Red Sea, Captains Moresby, [illegible]he brothers John and James Young, [illegible]of Horsburgh, Pinching, Powell, Barker, [illegible]er Wellsted, Felix Jones, Grieves, Car[illegible]bsequently Captain Moresby, with some [illegible]fficers, and with Lieutenants Robinson, [illegible]l, Riddle, surveyed the Maldives, the [illegible]rchipelago, and the Saya. [illegible]506 to 1834 there was a Marine Surveyor[illegible]p at Calcutta, filled by Court, Daniel [illegible]Lloyd; and from 1828 to 1838, during [illegible] Malcolm's command of the Indian [illegible] were several well-equipped surveys. [illegible]861 to 1871 Indian coast surveys were [illegible]ogether, and in the interval many [illegible]awings, which had cost millions, were [illegible]820, a survey of the Persian Gulf was com[illegible]enced under Captain Guy of the *Discovery*, 268 [illegible]tons, with Captain Brucks as his assistant, in the brig *Psyche*. He was succeeded by Captain Brucks, who had under him Lieutenants Haines, Kempthorne, Cogan, Pinching, Ethersay, Whitelock, and Lynch, all of them men of scientific and literary attainments, with Lieut. Houghton, an accomplished draughtsman. While surveying, they suppressed piracy and the slave trade. The survey was continued until 1830. Captain Brucks retired in 1842, and resided at and became Mayor of Exeter, where he died in 1850.

Surveys, in British India, are being conducted by the archæological, cadastral, field, geological, marine, revenue, trigonometrical, and topographical departments, and geographical research by the aid of learned Asiatics termed pandits. Colonels Lambton, Everest, Waugh, Walker, and Thuillier have been prominent as chiefs of the Trigonometrical Survey.

The greater portion of the North-West Provinces of India has been surveyed by Government officers. The area of each village (or rather parish, to use an English term) is given in imperial acres, but the areas of the fields appertaining to each village are given in local bighas. The introduction of the acre therefore was only partial. In the surveys lately made in the Bombay Presidency, the area of each field is recorded in acres, not only in the English, but in the vernacular accounts, and the term is well known and understood among the people. In the Madras Presidency, the districts of Bellary and Cuddapah were measured field by field (as far as the land was cultivable) in acres in 1803, and Kurnool in the same way in 1842. In Salem, the records of field measurements, made about 1800, are entered both in the native terms and their equivalents in acres, and the acre is by far the best known. Colonel Thuillier pressed forward the revenue and topographical surveys for twenty years. In a period of thirty years, with but very few parties at the commencement, and only increasing very gradually, 160,000 square miles of country, an area considerably larger than the whole of the British islands, was completed and mapped by one branch of the department alone, at a cost of not more than thirty-two shillings and eightpence per mile; whilst the revenue surveys likewise yielded excellent topograpical maps on a similar scale of 364,000 square miles of country, between the years 1846 and 1866, or during Colonel Thuillier's incumbency and superintendence of the operations, at a mean average cost of fifty shillings and eightpence per square mile. The combined results form the large area of 524,000 square miles, or upwards of four times that of Great Britain, executed at a total cost of Rs. 1,25,00,000, yielding a mean average rate of forty-seven shillings and threepence.—*Ann. Ind. Adm.* xii. p. 81; *Home News; E. I. Marine Surveys*, 1871.

SURWAMANYA and Jodimanya are revenue terms introduced into the Mahratta country from the Carnatic, the former meaning grants of land on which Government takes no quit-rent, the latter being grants on which quit-rent are taken.

SURYA, the sun. In Hindu mythology, the deity of the sun is sometimes alleged to be identical with Savitri and Aditya, sometimes is called son of Dyaus, sometimes son of Kasyapa and Aditi, and sometimes fabled to be the husband, sometimes the child, of Ushas, the dawn, and sometimes the father of the Aswini twins. Amongst Hindus the sun is adored under a variety of names, as Surya, Mitra, Bhascar, Viava, Vishnu, Carna or Kana, the last likewise an Egyptian epithet for the sun. In the centre of pictures Surya is represented standing on a lotus pedestal, and holding in each hand a richly-sculptured lotus sceptre. His mughut or cap, ear-rings, dress, and ornaments

are equally rich. Before him stands, also on a pedestal, a handsomely-formed woman, Prabha or brightness, his consort or sakti. At her feet, and in the front of the pedestal, is the legless Arun, holding 'the heaven-spun reins' in one hand, and a whip in the other, guiding the seven (saptaswa) coursers of the sun, which are represented on the socle. On each side of Surya are two attendants carrying chowries, another a sword, and the fourth a cup. At their feet are smaller figures with bows, from which they appear to have just discharged their arrows. In the background are the figures, animals, and foliage usually seen in Hindu sculptures. In other representations, Surya is pictured of a deep golden complexion, with his head encircled by golden rays of glory; sometimes with four, and in others with two arms, holding a lotus in one hand, and sometimes the chakra or wheel in another, standing or sitting on a lotus pedestal, or seated in his splendid car with one wheel, drawn by a seven-headed horse of an emerald colour, or the seven coursers green of the sun. Surya is the personification of that luminary, the orb of light and heat.

'Bright god, thou scann'st with searching ken
The doings of all busy men,
Thou stridest o'er the sky; thy rays
Create and measure out our days;
Thine eye all living things surveys.'

Sir William Jones in a hymn has endeavoured to convey the Hindu views of the sun's position amongst their other gods——

'Lord of the lotus! father! friend! and king!
Surya, thy powers I sing:—
Thy substance, Indra, with his heavenly bands,
Nor sings nor understands;
Nor e'en the Vedas thee to man explain,
Thy mystic orb triform, tho' Brahma tun'd the strain.
"First, o'er blue hills appear,
With many an agate hoof,
And pasterns fring'd, seven coursers green;
Nor boasts yon arched woof,
That girds the show'ry sphere,
Such heaven-spun threads of colour'd light serene
As tinge the reins which Arun guides—
Glowing with immortal grace,
Young Arun, loveliest of Vinatian race;
Though younger he, whom Madhava bestrides,
When high on eagle-plumes he rides.
But oh! what pencil of a living star
Could paint that gorgeous car,
In which, as in an ark supremely bright,
The lord of boundless light,
Ascending calm o'er the empyrean, sails,
And with ten thousand beams his awful beauty veils!"'

The mystic orb triform alludes to the omnipotent and incomprehensible power represented by the triple divinity of the Hindus. The flower of the lotus is said to expand its leaves on the rising of the sun, and to close them when it sets. The Aswini Kumara, the twins of the Hindu zodiac, are called the children of Surya, from Aswini, a form of Parvati in the shape of a mare, into whose nostrils Surya breathed, and thus impregnated her with sunbeams and gave birth to the Aswini.

Surya is, by some Hindu writers, called the regent of the south-west. He presides over Aditwar, or Sunday, from Adit, the first, and War, day. Surya has various names. In the Gaitri he is called Savitri, as the symbol of the splendour of the supreme ruler, or the creator of the universe. Prabha, or brightness, is the consort or sakti of Surya. She is also Chaya, or shade, which form she assumed in consequence of not being able to endure the intensity of the splendour of her lord. The Sauria sect of Hindus derive their name from the radiance of their deity, Sur, bright. Surya is, in his mortal form, the progenitor of the two great Khetri tribes, the Suryavansa and Chandravansa, the descendants of which are termed the children of the Sun and Moon. Surya is believed to have descended frequently from his car in a human shape, and have left a race on earth, who are equally renowned in the Indian stories with the Heliades of Greece.

The Aswini, apparently a personification of light and moisture, as sons of the sun, also as the sun's rays, are noticed as the physicians of the gods. They are described as young and handsome, and riding on horses. Vayu or the air, and the Maruts or winds, are personified and invoked. The Maruts are depicted as roaring amongst the forests, compared to youthful warriors bearing lances on their shoulders, delighting in the soma juice like Indra, and, like him, the bestowers of benefits on their worshippers. Ushas or the dawn, the early morning, the first pale flush of light, is compared to a mother awakening her children, to a lo[ver] awakening a sleeping world, to a yo[ung] maiden, 'like a youthful bride before [her] thou uncoverest thy bosom with a s[mile]' goddess, she is styled the (Rig Veda, [i.] mighty, the giver of light; from o[ver] beholds all things; ever youthful, ev[er] she comes forth to the invocation. In[dra] ing to Bunsen (iii. 587, 8, iv. 459), is [the] type of Zeus, and was a personification [of] soma was offered to him in sacrifice.

In the Rig Veda, l. 115, 1, is, Surya at[mā] tashthusas' cha, The sun is the soul o[f] moves and rests. Surya, called also [Mi]tra, Aryaman, and other names, was [a] god, but continues to be worshipped dow[n] present day, [by Hindus] and Zoroastria[ns]. Solar race of Kshatriyas, who appear in th[e] yana, derive their origin from the sun[,] the higher spirit, the sun is reg[ar]ded as pervading all things, as the soul [of] supporter of the universe. In a verse o[f] Veda (iii. 62, v. 10) this idea is suppo[sed] indicated. It is O'm! Bhurbhuva suv[ar] Tatsa vit'hru varennyam. B'hargo [de]dhimahi dhiyo yona ha pracho daya[t]. earth, air, heaven. O'm! let us medi[tate] supreme splendour of the divine su[n] illuminate our minds. And, at the p[re]even the most enlightened Brahmans [re]verse as an invocation to the several [gods] are implored by the worshipper to aid [him] in the apprehension and adoration [of] connection with the sun as a Hindu [god] twelve Aditya, sons of Aditi, the u[niver]the later Vedic age, these were id[en]twelve signs of the zodiac, or the sun [in] successive signs.

Early objects of adoration in Rajputa[na] the sun and moon, whose names designate two grand races, Surya and Chandra or Indu Budha son of Indu married Ella, a grandchild of Surya, from which union sprang the Indu race. They deified their ancestor Budha, who continued to be the chief object of adoration until Krishna hence the worship of Bal-nath and Budha were coeval. That the nomade tribes of Arabia, as well as those of Tartary and India, adored th[e]

same objects, we learn from the earliest writers; and Job, the probable contemporary of Hasti, the founder of the first capital of the Yadu on the Ganges, boasts in the midst of his griefs that he had always remained uncorrupted by the Sabeism which surrounded him: 'If I beheld the sun when it shined, or the moon walking in brightness, and my mouth has kissed my hand, this also were an iniquity to be punished by the judge, for I should have denied the God that is above.' That there were many Hindus who, professing a pure monotheism like Job, never kissed the hand either to Surya or his herald Budha, we may easily credit from the sublimity of the notions of the 'One God,' expressed both by the ancients and moderns, by poets and by princes, of both races, but more especially by the sons of Budha, who for ages bowed not before graven images, and deemed it impious to raise a temple to

'The Spirit in whose honour shrines are weak.'

...e the Jain, the chief sect of the Buddhists, ...rom adoring the spirit (Jin), were ...with idolatry until the apotheosis of ...ose mysteries superseded the simpler ...Budha. Nemnath (the deified Nemi) ...tiff of Budha, and not only the contem... Krishna, but a Yadu, and his near ...d both had epithets denoting their ...; for Arishta, the surname of Nemi, has ...mport as Sham or Krishna, 'the black,' ...e latter is of a less Ethiopic hue than ...was anterior to this schism amongst ... of Budha that the creative power was ... under sensual forms, when the pillar ...aal or Surya in Syria and on the Ganges; ...serpent, 'subtlest beast of all the field,' ...ped as the emblem of wisdom (Budha), ...njoined with the symbol of the creative ... as at the shrine of Eklinga, where the ...serpent is wreathed round the lingam. ... descendants, the Indu race, preserved the ...ign of their lineage when Krishna's fol...lopted the eagle as his symbol. These, ...dorers of Surya, form the three idolatrous ... India. Surya, or the sun, is exclusively ...d by the Saura sect, who acknowledge ...leity; but this sect is not numerous. ...rship still prevails everywhere through... The sun-temple at Kanarak, nineteen ...V. of Jaganath or Juggurnath, looks ...n the sea. Sculptures in high relief, ... indecent character, cover the exterior walls, and bear witness to an age when Hindu artists worked from nature. The nymphs are beautifully-shaped women in voluptuous attitudes. Each architrave has as usual the Nava-Graha, or nine Brahmanical planets, very finely sculptured in alto-relievo. Five of them are well-proportioned men with mild and pleasing countenances, crowned with high-pointed caps, and seated cross-legged on the lotus, engaged in religious meditation. The form of the planet which presides over Thursday (Vrihaspati or Jupiter) is distinguished from the others by a flowing majestic beard. Friday or Venus is a youthful woman, with a plump, well-rounded figure. Ketu, the descending node, is a Triton, whose body ends in the tail of a fish or dragon; and Rahu, or the ascending node, a monster, all head and shoulders, with a grinning, grotesque countenance, frizzly hair, dressed like a full-blown wig, and one immense canine tooth projecting from the upper jaw. In one hand he holds a hatchet, and in the other a fragment of the moon. At Jeypore, also in Orissa, is a figure on the wall of a temple of the sun-god, with his seven-horse chariot, and a colony of sun-worshippers continues to keep alive the sacred fire in a neighbouring grove. Throughout India, the stricter Vaishnava sectarians refrain from animal food on the first day of the week, which bears the name of Sunday, Rabi-var or Ravi-var. South of Orissa, sun-worshippers are a class of Brahmans. The highlanders on the N.W. of Orissa will not break their fast till they catch a clear view of the sun, and sun-worship still continues amongst wild races of the central plateau of India. The earnestness with which Surya is worshipped is well shown in the Suriyanamaskara Patikam, a Tamil song, which, after an invocation of Ganesa, begins with, 'O thou god, Suriya Narayana, thou art Siva, thou appearest in the vast expanse of the sky with brilliant light; thou art the light of true wisdom; thou art the only deity that filleth the whole universe; thou art the true teacher, that teacheth the five-lettered mantra (namasivaya), the mysterious doctrines; thou assumest bodily shape, thou art the soul of the whole universe, thou hast from the beginning appeared in the shape of this world and the thousand and eight worlds beyond the mundane sphere; and thou ridest every day in a most brilliant single-wheeled chariot.' — *Tod's Rajasthan; Tennent's Christianity in Ceylon*, p. 206; *Cole. Myth. Hind.*; *Moor*, p. 253; *Hindu Infanticide*, p. 175; *Cal. Rev.*, 1868; *Malcolm's Central India*, ii. p. 193. See Sun-Worship.

SURYA SAVARNI, one of the 14 patriarchs who preside successively over the 14 Manwantaras of the calpa.

SURYA SIDHANTA, a learned work on Hindu astronomy of the 5th or 6th century B.C. Mr. Colebrooke thinks it contemporary with Brahma Gupta, whom he afterwards fixes at the end of the 6th century. It contains a system of trigonometry, which not only goes far beyond anything known to the Greeks, but involves theorems which were not discovered in Europe till the 16th century. It is held in veneration by all Hindu astronomers, although they acknowledge that its elements, without the assistance and use of the tikas, or commentaries, no longer furnish means for representing the true positions of the planets. Hindus allege that this book was revealed 1000 years before the beginning of the Treta-yuga (A. 3,027,101, Ante-Christum). European commentators differ vastly in opinion touching its true epoch. Mr. Bentley, however, seems to have proved, after a very profound research, that let the antiquity of the Surya sidhanta be what it may, it only came into general use in A.D. 538.—*Kala Sankalita.*

SURYA-VANSA, or Solar race, or race of the sun, was a race of Kshatriyas, descended in three lines from Ikshwaku. The Surya-vansa, as collated from the lists of Sir William Jones, Professor Wilson, Colonel Tod, and Hamilton, commenced with Marichi.

Kasyapa, a Muni, married Aditi, who was Daksha's daughter.

Vaivaswata or Surya, the sun.

Sradha Deva or Vaivaswata (the sun), king of Ayodhya.

Ikshwaku in the Treta-yuga, B.C. 3500 Jones, 2200 Tod.

Prinsep says from Ikshwaku sprang the two Solar dynasties of Ayodhya (Oudh) and Maithala (Tirhut). In the Oudh dynasty we find Haris-chandra, king of India, Bhagirathi, who brought down the Ganges. In that of Tirhut, Swadhaja, the father of Sita, who married Rama, the last of the line of Oudh in the Dwapar-yuga or brazen age.

The third Solar line of Vesala was also descended from Sradha Deva, Vaivaswata (the sun), king of Ayodhya, and father of Ikshwaku; in this line occurred Trinavindhu, father of Brabira, who married Visvarawa Muni, and Besabiraja or Visala, who founded Vaisali (Allahabad).

Mr. Dowson says the elder branch of the Solar race, which reigned at Ayodhya, was descended from Ikshwaku through his eldest son Vikukshi; the younger dynasty, which reigned at Mithila, was descended from Nimi, another son of Ikshwaku. Amongst others of the Ayodhya line were Satyavrata, Dasaratha, Rama, Nala; and of the Mithila line were Krita, Vijaya.

Rama, king of Oudh, was the 34th in descent from Ikshwaku, son of Vaivaswata Muni, the son of the sun. Ikshwaku was therefore grandson of the sun. The existing Rajput tribes of the Solar race claim descent from Lava and Kush, the two elder sons of Rama. They are the present princes of Mewar, Jeypore, Marwar, Bikanir, and their numerous clans.—*Prinsep; Dowson.*

SURYA-VANSA. SINGH. The principal castes in Ceylon are four, viz. the Surya-Vansa, or royal race. This has two divisions, viz. Goe Vansa, cultivators, the most numerous in the island, and to it belong the nobles, chiefs, priests, and nearly all the Government servants. Nille Makareya, or shepherds, is the second division of the Surya.

SURYA-VELOKANAM, a household ceremony of the Brahmanical Hindus, in which an infant, when four months old, is taken out of doors and shown the sun.

SUS, the hog or swine genus of mammals of the family Suidæ.

Khanzir, . ARAB., PERS.	Dukar, ... MAHR.
Baraha, . BENG., SANSK.	Babi utan, . . MALAY.
Indian wild boar, . ENG.	Babi alas, Babi, . ,,
Hog, ... ,,	Ghrishvi, . . . SANSK.
Choiros, ... GR.	Varaha, ... ,,
Hazir, ... HEB.	Walura, ... SINGH.
Jangli Sur, Sur, . HIND.	Koka, Koku, . . . TEL.
Sus scrofa, Porcus, LAT.	

The wild hog occurs in many parts of Europe and in India. The males attain to a large size. It is generally believed that there is no specific difference between the wild hog of Europe and India. The adult males dwell apart from the herd. All the wild hogs in the Archipelago are small animals, compared with the wild boar of Europe, or even with that of continental India.

Sus verrucosus, so called from the fleshy excrescence on the sides of the cheeks, has a grotesque and a formidable appearance, but is in reality a timid animal. The number of them in Java is immense.

Sus barbatus. Mr. Blyth has distinguished from the hog common in India, by a specimen sent to him from Ceylon, the skull of which approaches in form to that of a species from Borneo, the Sus barbatus of Muller.

Babirussa of F. Cuvier takes its name from two Malay words, Babi, hog, and Rusa, a deer. It is the Sus babirussa of Linnæus, and the B. alfurus of Lesson, and occurs in the islands of Buru or Bourou, one of the Moluccas, and in Celebes and Ternate.

Porcula sylvania, Hodgson, the pigmy hog of the sal forests of N. India, is the Sano banel and Chota sur of the natives of India. It confines itself to the deep recesses of primeval forest. The adult males abide constantly with the herd, and are its habitual and resolute defenders.

Of the hog in Asia, there are Sus scrofa, *Linn., var.* S. Indicus, Bengalensis, Andamensis, Malayensis, Zeylanensis, Babirussa, and Papuensis. Sus leucomystax, of Japan and Formosa.

Sus scrofa, Linn.

Sus Indicus, *Jerd.*	S. vittatus, *Schlegel.*
S. cristatus, *Wagner.*	
Handi, Mikka, . . CAN.	Boorra Janwar, Sur, DUKH.
Jevadi, ... ,,	Dukur, ... MAHR.

The Indian wild hog differs considerably from the German, though not sufficiently so as to constitute a species. The head of the for and more pointed, and the plane of straight, while it is concave in th The ears of the former are small an the latter larger and not so erect. is altogether a more active-looking German has a stronger, heavier appea same differences are perceptible in th ated individuals of the two countri the wild boar of India, the Sus Indic run of cultivated lands, it eats dai when stinted for food, it will revel camel; and in Cutch, when pressed b prowls around the villages in search of r

The wild boar of India is shot and hu dogs by natives, but the British spor India hunt it with the horse and spe undoubtedly, of all the wild creatures in I jungle boar exacts from its pursuers the care. Sus Indica, the common wild boa posed to be the parent of one of the t into which pigs are arranged. The S group or breed is known as the Chin and extends into Europe, N. Africa, a stan; but in the latter country the b N.W. Provinces is not higher than though that of Bengal attains 44 inches

The Roman or Neapolitan pig, t ticated breeds of China, Cochin-China Andalusian, Hungarian, the swine of S and Turkey, and the Swiss, are all of the Sus Indica group, which, it is said by a Chinese author, can be traced back for 4900 years. The Japan masked pig is the Sus pliciceps of Gray, and has a deeply-plicated or furrowed skin. According to Dr. Kelaart, there are two species or varieti in Ceylon,—the Newera Elia boar, and the lo country S. Zeylonensis.—*Sykes' Cat. Deck. Man* p. 11; *Crawfurd, Dict.; Tennent's Ceylon*, p. 59 *Horsfield's Cat.; Forest Ranger; Darwin; Mac gillivray's Voyage.*

SUSA, the modern Shush, is some farsangs S.S.W. from the town of Dizful, on the banks of the river Dizful. It contains the tomb of the prophet Daniel, and beneath the apartment containing the tomb is a vault into which (Daniel vi 16) Daniel was cast by order of Darius. It western wall is close to the left bank of the rive Shapur or Shoner, probably the Eulæus of profan writers and the Ulai (Daniel viii. 2) of Scripture

SUSHENA, a physician in the army of Rama.

SUSI. HIND. A striped cotton fabric much used for making paijamas or loose trousers.

Sudi susi, do-kanni susi char, panj, and sat-kanni, varieties of susi, according to the number of stripes.

Sufiyana, a kind of susi.

Chaukannia, a cotton striped fabric, a broad susi. The term kannia seems intended for khane, literally houses, or checkered.

SUSIANA. Khuzistan represents the Susiana of Strabo, as well as the Cissia of Herodotus. Towards the eastern frontiers are the ruins of Rhajoun and Kurdistan in the centre, those of Agines (probably represented by Ahwaz) towards the west. That the geography of the province was well known before the time of Herodotus, may be inferred from a passage in his works, where it is said that Cissia is watered by the river Choaspes, on which is the city of Susa, and the [illegible] the great king. It is added that its waters [illegible] thought worthy of being drunk by the [illegible] the route from Bussora to the ruins of [illegible] huzistan, the ancient Susiana, is easy. *Travels.*

[illegible], the gypsies of Persia; Susmaniha [illegible]al. Many gypsies were established [illegible]tle of Wittgenstein in Sassmanhausen. [illegible]derived from them its name, meaning [illegible]f the Sussmani?

SION BRIDGES in Tibet are of two [illegible]gne saw one at Dodah, composed of a [illegible]le stretched across the river, and firmly [illegible]e rocks at either end. On this slid [illegible] seat-like framework, to which were [illegible] the ropes that pull it backwards and [illegible]. The other kind consists of a very thick [illegible]twisted birch? twigs, as a rough foot-[illegible]l, four feet above it, on either side, are [illegible]er hand-ropes by which the passenger [illegible]imself as he walks over.—*Vigne*, p. 199.

[illegible]TA, an eminent physician, supposed by [illegible]ave been Hippocrates. According to [illegible] was son of Visvamitra, a contemporary [illegible]nd was a member of a commission of [illegible]ns sent to study medicine under Dhan-[illegible]ja of Benares, who recommended Sus-[illegible]dge the Ayur Veda, and arrange it in [illegible]This was done by Susruta, and, next to [illegible]ritten by Charaka, it is the oldest medical work in the possession of the Hindus. It is in the form of dialogues, and its sections are —Sutra-st'hana, Surgery; Nidana-st'hana, Nosology; Sarira-st'hana, Anatomy; Chikitsa-st'hana, Therapia; Kalpa-st'hana, Toxocology; Uttara-st'hana, Local ailments. His book was translated into Arabic before the end of the 8th century A.D. It has been translated into Latin by Hopler, into German by Vullers, and into English.

SUSTI, a primitive household deity, a goddess of the Hindu households, largely worshipped by the households of Hindustan.

SUSU NAGA, according to the Mahawanso, a son of a chief of Assam. During the reign of his son and successor Kala Sangkha, about a century after Sakya Muni's death, the second convocation of Buddhist priests was held.

SUTAR or carpenter, one of the five Hindu artisans. The others are—Sonar or goldsmith, Lohar or blacksmith, Sungtrash or stone-mason, and the coppersmith. See Viswakarma.

SUTHEEA, in Bengal, an oculist. They are of the Hindu Kayasth race.

SUTHRA, ascetic disciples of the guru Nanak. They beg from house to house, singing the exploits of some famous Hindu chief, and striking together a couple of cylinders they carry in their hands. Their heads are covered with a turband made of black ribands. They reside with their disciples in the monastery of Nagar Sen, a famous Suthra, in the Aurangabad district of Benares. Their bodies at death are either buried or burned.—*Sherring's Hindu Tribes.*

SUTI. HIND. Ek, do, tin, and char suti, cotton fabrics.

SUTLEJ, the most easterly of the five rivers of the Panjab. It rises among the Himalayas in Chinese territory, about lat. 30° 8′ N., and long. 81° 53′ E., on the slopes of the Kailas mountain, which has peaks estimated at 22,000 feet high, and near the source also of the Brahmaputra. It is said to issue from the lake Manasarowar (Manasa-Sarovara), or from another and larger lake called Ravana-hrada or Rakas-tal, which lies close to Manasarowar on the west.

Starting at an elevation of 15,200 feet high, the Sutlej first passes across the alluvial plain of Goge, and it has scoured a passage across the plain in a channel said to be 4000 feet deep, between precipitous banks of alluvial soil. Near Shipki, the Chinese frontier outpost, the Sutlej turns sharp to the south through the Himalayas. It pierces the southern chain of these great mountains through a gorge with heights of 20,000 feet on either side. At Shipki, its elevation is said to be 10,000 feet above the level of the sea. At Rampur it has fallen to about 3000 feet, and at Bilaspur, to a little over 1000 feet. After entering British territory, for the first 200 miles it runs through a wild and almost unpeopled mountain country; receives the Li or river of Spiti near Dablang. Thenceforth the united stream runs in a south-westerly direction through Bashahir and the Simla Hill States, and, on entering the British district of Hoshiarpur, takes a sudden southward bend round the spurs of the Siwalik Hills. Debouching upon the plains near Kupar, it divides Umballa (Ambala) district from Hoshiarpur or the Jullundhur (Jalandhar) Doab from the Sirhind plateau. It next flows almost due west between Jullundhur on the north, and Umballa (Ambala), Ludhiana, and Ferozpur on the south, till it receives the Beas (Bias) at the south-western corner of Kapurthala State (lat. 31° 11′ N., and long. 75° 4′ E.). The united river thenceforward preserves an almost uniform south-westerly direction till its junction with the Indus.

It is considered to be the Hesudrus or Zaradrus of the Greeks and Romans, and the Hyphasis mentioned by Strabo. To its Sanskrit names, Sitloda, Satadru, or Sutrudra, can be retraced Hesudrus of Pliny, the Saranges of Arrian, and the Shetooder and Seteluj of the Ayin Akbari.

From its junction with the Beas to the confluence of the Chenab, it is called Gharra. It is navigable as far as Filur in all seasons for boats of 10 or 12 tons burden. Bilaspur, a town on the banks of the Sutlej, was swept away by a flood. The Upper Sutlej people are amiable and gentle, free of low cunning, having the appearance of a

mixed race between the Tartar and the common hill men. They are fair, well made, and strong, but are filthy and indigent. The women have a toga fastened round the waist. The Bhatti of Bhattiana, west of the Sutlej, is a tribe of handsome people, whose origin is obscure. The Bagri tribe, inhabiting the district of Bagar, between the S.W. borders of Hariana and the Sutlej, are said to have been Rajputs, but also supposed to be Jat. There is a predatory race of this nation settled in Malwa. The Sutlej at the commencement of the rains is an impetuous torrent, foaming along its narrow stony bed, confined within rocky banks, generally bare and precipitous. It preserves the same character from Kotgarh upwards; the valley in Bashahir being very narrow, the river is often not visible from the road, but the noise is always heard as it rushes over the massive boulders. Occasional recesses occur at the bends of the river, where much timber is stranded, and in the course of 120 miles there are several broad tranquil reaches, where banks of white sand and mud may be seen. The average fall has been computed by various observers (Gerard, Thomson, and Madden) at 50 feet per mile from Wangtu to Bilaspur, and 60 feet per mile from Kanam to Wangtu. In the plains, the Sutlej runs through a line of country 6 miles broad, and from 20 to 100 feet lower than the general surrounding level. This tract is called Khadir, as the high adjoining lands are called Bangur. The length of the Sutlej bridge is about a mile and a quarter, being of 58 spans, each of 110 feet.

SUTRA. SANSK. An aphorism, a precept, a brief rule; literally it means a thread, a line, a band; it is the Latin suere, the German band, a volume; and the works so named contain in the most concise style, doctrines in grammar, metre, law, or philosophy, and form the groundwork of the whole ritual, grammatical, metrical, and philosophical literature of the Hindus.

This body of literature of India forms a connecting link between the Vedic and the later Sanskrit. The Sutra contain a concise elliptical and technical expression of all the knowledge of theology, philosophy, and language which had been attained by the Brahmans up to the Buddhist period. It ranged from B.C. 600 to 200.

The *Kalpa Sutra* relate to ritual, and were not composed earlier than the 12th or 13th century. Having special reference to the Vedas, they are called Srauta; the others, derived from the Smriti (memory), are called Smarta.

The *Grihya Sutra* relate to the ceremonies to be performed by the married householder for his family.

The *Samaya charika Sutra*, or Dharma Sutra, regulate the affairs of everyday life, and are distinguished by Max Muller from the Grihya Sutra, which concern general duty and behaviour, the right conduct of life.

It is chiefly to the Sutra that we have to look for the originals of the later metrical books, such as Manu, Yajna-valkya, and the rest. Aphorisms or Sutras were adopted in the fourth period of the Hindu progress, about B.C. 1000, and in the Sutras the ceremonial prescriptions were reduced to a more compact form and to a more precise and scientific system.

In the Sanskrit language, so complete are they, and so concisely expressed, that the subjects they treat of must have been thoroughly examined and discussed previous to their time, and all their branches and divisions properly developed. These Sutras have been the great standards of instruction in later times, and have formed the bases both of commentaries in which their tenets are expounded, and of other treatises in which Hindu scholars have arranged their doctrines, according to their own judgment, with new illustrations, and perhaps greater breadth of plan. Their brief aphorisms and concise style were intended to assist the memory, although they necessarily leave the meaning obscure.

The Kalpa Sutra digests the teaching of the Veda and of the ancient rishis (sages) regarding the performance of sacrifices and the duties of twice-born men, Brahmans, Kshatriyas, and Vaisyas. The entire Kalpa Sutra of Apastamba is divided into thirty books or sections called Prasnas. The Dharma Sutras, or aphorisms on law, are contained in the twenty-eighth and twenty-ninth [illegible] The Sutras of Apastamba are based Yajur, or second Veda, and not la[illegible] 3d century B.C. The Sutras show ment of Hindu law direct from the V[illegible] and they form the basis of the la[illegible] Yajna-valkya, and the many other [illegible] on law whose codes are held in very [illegible] tion, inferior only to the Veda it[illegible] the Veda is classed as Sruti, or di[illegible] tion, the Sastras, or law books, ar[illegible] the Smriti, or 'Reminiscences' of t[illegible] sages.

The Sutras or aphorisms of Gautama, the Sama or third Veda, are apparentl[illegible] to Dharma Sutras or legal aphorisms i[illegible] eight chapters. Apastamba and Gautama very great authorities even with moder[illegible] on law, and their texts are frequently qu[illegible] commented on. Rules which were tr[illegible] from generation to generation by oral naturally assumed the briefest possible f[illegible] Sutra literature is very large, and alt[illegible] included in the Vedic canon, and co[illegible] what later in date, it is closely connec[illegible] both by similarity of language and sub[illegible] But as it is no part of the Sruti or R[illegible] is sacred only in an inferior degree.

A noticeable point in the Sutras of[illegible] is the full recognition of the Sudr[illegible] which no mention is found in the ol[illegible] of the Vedas. This caste is found [illegible] hymn universally considered to be one [illegible] of the latest The authority for the law and the position of th[illegible] four castes is explained as follows, in the ver[illegible] first verses of Apastamba:—1. We will declare t[illegible] acts productive of merit which form part of t[illegible] customs of daily life, as they have been settled [illegible] the agreement (of those who know the law.) The authority for these duties is the agreement [illegible] those who know the law, (and the authorities f[illegible] the latter are) the Vedas alone. 3. (There are) four castes, Brahmans, Kshatriyas, Vaisyas, and Sudras. (4.) Amongst these, each preceding (caste) is superior by birth to the one following 5. (For all these,) excepting Sudras and thos[illegible] who have committed bad actions, (are ordained) the initiation, the study of the Veda, and t[illegible] kindling of the sacred fire, and their works a[illegible] productive of rewards (in this world and t[illegible] next.) 6. To serve the other (three) castes (

ordained) for the Sudra. 7. The higher the castes (which he serves) the greater the merit.

The aphorisms of the Nyaya philosophy, of the Mimansa and Yoga, were reprinted in Sanskrit and English by Professor James Ballantyne of the Benares College. — *Mullen's Hindu Philosophy; Hunter's Imp. Gaz.; Dowson; Oriental Linguistic Studies*, p. 71; *Weber*.

SUTTEE, properly Sati, SANSK., a virtuous wife (from Sat, pure), a widow allowing herself to be burned with the corpse of her husband. This practice was abolished in British India on the 4th December 1829; but scarcely a year passes by free from its being carried out in some of the native principalities. About January 1883, for instance, a sati was committed at Utarna, in Jeypore territory, not far from the cantonment of Deoli, by the widow of Sham Singh, the thakur of the village. The principal offenders—the sons and brothers of the deceased thakur—were sentenced each to rigorous imprisonment for [illegible] years, while minor accomplices [illegible]nces of three years each. It never [illegible]throughout India, but it was very [illegible]actised in the Mahratta States, in [illegible]Rajputana, in some of the Panjab [illegible] between 1813 and 1828, in Calcutta, [illegible]ed from 300 to 600 yearly, and some [illegible]ockingly cruel.

[illegible]u, the second Sanskrit pandit in the [illegible]rt William, saw thirteen women burn with one Mooktua Rama of Oola, near [illegible]u. After the pile, which was very [illegible] been set on fire, a quantity of pitch [illegible]iously thrown into it to make it burn [illegible] another of this man's wives came, and [illegible]n burning; while she was repeating the [illegible] however, her resolution failed, and she [illegible] escape; but her son perceiving this, [illegible]r into the fire, which had been kindled [illegible]pping bank of the river, and the poor [illegible] save herself, caught hold of another [illegible]wife also of the deceased, and pulled [illegible] pile, where they both perished.

[illegible]The rite was practised in early times [illegible]racians, Getæ, and Scythians. Dio- [illegible]B.C. 44, and he describes it to have [illegible]he army of Eumenes, upwards of 300 [illegible]the Christian era (Diodorus Siculus, [illegible]. ii.). The custom is also mentioned, [illegible]s distinctly, by Strabo, on the authority [illegible]s and Onesicritus. Aristobulus men- [illegible]ctice of self-immolation among the [illegible]Taxila; it is noticed by Cicero in his [illegible]putation (sec. 27), and in A.D. 66, Plu- [illegible]florals says, 'And among the Indians, [illegible]vives as are true lovers of their hus- [illegible]and contend with one another for the [illegible]e rest sing forth for the happiness of [illegible]ving the victory is burned with her [illegible]ceased husband.' Ramusio quotes Propertius [illegible]n Sati. A few lines will show how familiar this [illegible]still enduring Indian practice was to the Romans [illegible]900 years ago,—

> 'Uxorum fusis stat pia turba comis;
> Et certamen habit lædi, quæ viva sequatur
> Conjugium; pudor est non licuisse mori.
> Ardent victrices, et flammæ pectora præbent,
> Imponuntque suis ora perusta viris.'—P. 80.

North-men.—The Danish north-men of Europe [illegible]tained the recollection of the sati in the story of Balder, one of the sons of Odin, who was slain by a branch of mistletoe, and Odin himself descended and obtained a promise from the guardians of the dead, that Balder should be restored if all created nature would weep for him. All wept but one old crone whom Loki had possessed, so Balder could not be made to live again, and his faithful Nanna, refusing to survive her beautiful lord, perished on his funeral pile.

The Scythian idea of sati was connected with a future state. When the Scythians buried a king, they strangled one of his concubines, and buried her with him, together with his cup-bearer, cook, groom, waiting-man, messenger, favourite horses (Herod. iv. 71), to serve their master in the next world. Amongst the Thracians with whom polygamy prevailed, the wife decided to be the best beloved was slain by her next-of-kin over the grave of her husband (Herod. v. 5), and buried with him.

Ancient India.—On the occasion of burning the body of Kichaka, whom Bhima had slain to avenge an insult to Draupadi, the deceased's relations wished to burn her with the body, but she was saved by Bhima. The first recorded sati in the Mahabharata, was performed by Madri, the second wife of Pandu; Kunti, the elder wife, contested the point, but the Brahmans who were present gave it in favour of Madri, who accordingly perished on her husband's funeral pile. Just before the town of Dwarka was overpowered by a storm-wave, king Vasudeva died, and four of his wives burned themselves on his funeral pile. Krishna was accidentally slain by a Bhil hunter in the forest [illegible]dha then conducted the flying multitude to Kuru-kshetra, where four of Krishna's widows burned themselves, and the rest of the widows assumed the devotee dress, and retired to the jungle. Sati was quite common, in parts at least of India, at the time of Alexander's invasion. In the Mahabharata we find that one of the wives of Pandu burned herself with his dead body. But after the great war in Kuru-kshetra, none of the numerous royal ladies burned herself. The account of the funeral rite of Dronacharya leaves some doubt as to whether his wife was burned or not. The passage is as follows:—'Behold the scholars of Dronacharya, after chanting the Sama Veda, performing his funeral rites, making his wife foremost and placing her on the right side of the pyre, are bending their steps towards the Dhagirathi.' The practice of the cremation of the widow, though not in existence when Rama lived, nor in much use when Yudishthra reigned, did not die away.

Modern India. — Self-immolation of Hindu widows with the bodies of their deceased husbands, was generally done at the sangam or confluence of rivers. The Sankalpa, or declaration of the sati, is as follows:—Having first bathed, the widow, dressed in new and clean garments, and holding some kusa grass, sips water from the palm of her hand; holding in her hands kusa and tila, she looks towards the east or north, whilst the Brahman utters the mystic word O'm. Bowing to Narayan, she next declares, 'On this month (naming the time) I (naming herself and family), that I may meet Arundhati, the wife of the Rishi Vaisistha, and reside in Swarga; that the years of my stay may be numerous as the hairs on the human body; that I may enjoy with my husband

the felicity of heaven, and sanctify my maternal and paternal progenitors, and the ancestors of my husband's family; that, lauded by the Apsarasas, I may be happy through the regions of fourteen Indra; that expiation may be made for my husband's offences, whether he have killed a Brahman, broken the ties of gratitude, or murdered his friend,—I ascend my husband's funeral pile. I call on you, ye guardians of the eight regions of the world, sun and moon, air, fire, ether, earth, and water, my own soul! Yama, day, night, and twilight, I call you to witness, I follow my husband's corpse to the funeral pile.'

After much discussion, during which Raja Ram Mohun Rai made great efforts in the cause of prevention, sati was at last legally abolished in British India by Lord William Bentinck; and though it is still occasionally performed, all who engage in it are severely punished. It is rare in Kashmir, but still current in Bali.

The chief characteristic of sutteeism is its expiating quality; for by this act of faith, the sati not only makes atonement for the sins of her husband, and secures the remission of her own, but has the joyful assurance of reunion to the object whose beatitude she procures. Menu inculcates no such doctrine: 'Let her emaciate her body, by living voluntarily on pure flowers, roots, and fruit; but let her not, when her lord is deceased, even pronounce the name of another man.' Again, he says (Menu, v. p. 160): 'A virtuous wife ascends to heaven, though she have no child, if after the decease of her lord she devotes herself to pious austerity; but a widow who, from a wish to bear children, slights her deceased husband by marrying again, brings disgrace on herself here below, and shall be excluded from the seat of her lord.'

When the subject of prohibiting satis in British India was under discussion, Brahmans, in support of the rite, gave a quotation of a verse from a chapter of the Rig Veda. This Colebrooke translated as follows: 'Om! let these women, not to be widowed, good wives, adorned with collyrium, holding clarified butter, consign themselves to the fire! Immortal, not childless, not husbandless, well adorned with gems, let them pass into the fire whose original element is water.' Professor Wilson afterwards pointed out, however, that they had falsified the text by altering the words Yonim agre into Yonim agneh. Also the words of the verse in question are addressed not to the widow, but to the other women who, besides the widow, are present at the funeral; and its correct translation is: 'May those women who are not widows, but have good husbands, draw near with oil and butter. Those who are mothers may go up first to the altar, without tears, without sorrow, but decked with fine jewels.' A second marriage in a Hindu woman of several of the races in India who are following Brahmanism, is considered an unlawful act.

Dr. Wilson says, 'We have additional and incontestible proof that the Rig Veda does not authorize the practice of the burning of the widows.' The widow of the deceased had, however, to attend with married women the funeral of her husband. She was placed with his dead body on the funeral pile, and, after the performance of certain ceremonies, she was brought down, and was thus addressed by the priest:—

'Rise up, O woman, to the world of life,
Thou sleepest beside a corpse, come down;
Thou hast been long enough a faithful spouse
To him who made thee mother to his sons.'

The married females attending had then to anoint their eyes with collyrium, when they were thus addressed:—

'The women now draw nigh with oil and butter,
Not widows they, proud of noble husbands;
First to the altar let the mother come
In fair attire, and with no grief or tears.'

There is a passage in the Taitrya Aranakna of the Yajur Veda containing the following address to the widow by the younger brother, disciple, or servant of the deceased:—'Rise up, woman, thou liest by the side of the lifeless; come to the world of the living, away from thy husband, and become the wife of him who holds thy hand, and is willing to marry thee.' This is a clear proof of the widows marrying during the Vedic period. An that the widow was brought down allowed to be burned, is also conf collecting the bones of her late h certain time. But other writers ently. Angira, one of the sage l was a contemporary of Menu, woman who burns herself after the husband gains, like Arundhati, he She purifies the sins of the murd Brahmans, the ungrateful, and th friends. For Sadhi women there i meritorious as cremation after the de husbands.' The next mention is in t Sutra, and the age of Katyana is abo century B.C.

Rajputana women of rank seem to the most willing to accompany their remains to the funeral pile. Amongst of the Hindu and Sikh religionists, a amongst the Mahratta Brahmans, were often urged for political reasons, rid of the encumbrance of lone wido the Rajput Jawan Singh of Edur di there was a forcible sati of his widow.

When Man Singh died, in the reig gir, sixty of his 1500 wives were repo burned themselves. Colonel Tod re than, ii. p. 93) that at the crem body of the ruler of Marwar, Raja on the 13th of the dark half of the in 1780, the deceased's Chauhani q Ajit had married in his non-age, of the parricide, the queen from queen from the Tuar race, the Cha her of Shekhawati, with fifty-eight all burned themselves.

In the Mahratta country, the mo the ashes of a sati has usually a h engraved on it. But at Brahmanw the monument over the ashes of B daughter has two feet engraved on it. burned herself there on hearing of her husband death after the battle of Koreygaon. Rao Lakh at his tomb at Bhoj, is represented on horseback with seven sati stones on the left, and eight the right. The tomb was erected about 177 The Kaur race of Sirguja at one time encourag satis. A grove between Partabpur and J milli is sacred to a sati, to whom once a yea fowl is sacrificed, and once every third yea black goat.

The emperor Akbar discouraged sati, and on one occasion rode nearly a hundred miles at his utmost speed, to rescue the daughter-in-law of the raja of Jodhpur, whose husband had died. He positively prohibited the burning of widows against their will. Amongst Hindus, also, sati was discouraged by relatives and friends. In addition to their own entreaties and those of the infant children, friends of the family and persons in authority used their influence to dissuade the widow, and in a family of high rank the sovereign himself would go to console the widow.

One common expedient was to keep the widow engaged in conversation while the body was quietly removed and burned. It was reckoned a bad omen for a government to have many satis.

When Sukwar Bai, widow of Raja Shao, was plotting the extinction of the power of the Peshwas, Balaji Rao, who had detected her plot, [illegible] as a sneering message 'that he hoped [illegible]t think of burning herself with her [illegible]ly,' she forthwith burned herself; [illegible]time he had promised her brother [illegible]ovided she, 'for the honour of the [illegible]ne a sati.

India.—Mr. Elphinstone says, 'The [illegible]ti is by no means universal in India. [illegible]urs to the south of the river Kistna.' Dubois also says (p. 198) that satis [illegible] the south of the Peninsula. Never[illegible]rco Polo stated the practice of Southern [illegible]as Odoric does; whilst in 1580, Gasparo [illegible]accurate and unimaginative traveller, [illegible]with seeming truth a sati which he [illegible]at Negapatam, and speaks of the custom [illegible]on. In the middle of the 17th century, [illegible]nzo, the Procurator-General of the Car[illegible]ays it was especially common in Canara, [illegible] was told that on the death of the Naik [illegible] 11,000 women had offered themselves [illegible]nes. These 11,000 satis may have been [illegible]l as the 11,000 virgins of Cologne, but [illegible]nt proves the practice there, and in [illegible]ng of the 18th century it continued to [illegible]y prevalent in that region. P. Martin, [illegible]rom Marawar (or Ramnad, opposite to [illegible]ed in 1713, mentions three cases then [illegible]ich respectively forty-five, seventeen, [illegible] women had performed sati on the [illegible]e husbands, princes of that state. [illegible]f the raja of Trichinopoly, being left [illegible]rned herself after delivery.

[illegible] the close of the 18th century, sati [illegible]t in the Bengal Presidency, and most [illegible]ngal Province. It was comparatively [illegible] Madras Presidency and Orissa; Gan[illegible]ndry, and Vizagapatam were the parts [illegible] most occurred. The custom was very [illegible] under Mahratta rule, but under the [illegible] became very rare in Bombay. About [illegible]e beginning of the 19th century, it used to occur at Poona, in ordinary and quiet periods, about twelve times on an average of as many years. Major Moor was a whole year at Poona, and knew of its occurrence only six times, but it was a tumultuous and revolutionary period, and people were of course put out of their usual and ordinary routine of thought and deed. It was generally carried out at the junction of the Moota and Moolla rivers, about a quarter of a mile from the skirt of the city, at which junction (thence called Sangam) the British Residency was situated.

The forms varied. In Bengal, the living and dead bodies were stretched on a pile, and strong ropes and bamboos were thrown across so as to prevent any attempt to rise. In Orissa, the funeral pyre was below the level of the ground, and the woman threw herself into it. In the Dekhan, the woman sat down on the pyre with her husband's head in her lap, and remained there until suffocated or crushed by the fall of a heavy roof of logs of wood, which was fixed by cords to posts at the corners of the pile. In the year 1817, 706 widows performed sati in Bengal. In 1818, 839 satis were returned as having occurred in the Bengal Provinces.

Ward relates that while at Allahabad an officer saw one morning 16 females drown themselves. Each had a large empty earthen pan slung by a cord over each shoulder. A Brahman supported each as she went over the side of the boat, and held her up till she, by turning the pan aside, had filled it, when he let her go, and she sank, a few bubbles of air rising to the surface of the water.

The widows of the weaver caste buried themselves alive.

It was common at Benares to set up, by the side of the river, stone monuments to the memory of widows who have been burned with the bodies of deceased husbands. Persons coming from bathing bow to these stones, and sprinkle water on them, repeating the words Sati, sati, *i.e.* chaste.

About the year 1860, the Dehli Gazette mentioned that in Central India a woman had been persuaded to consent to the sacrifice, and proceeded, after the usual ceremonies, to the pyre, accompanied by her friends and relatives. When she was on the top of the pile, and the flames began to ascend, her resolution gave way, and, screaming with terror, she leaped to the ground and tried to run away. The attendants tried to cut her down; she was struck with sticks, and wounded in two places with swords, but she ran down to the river's edge, where she concealed herself under some bushes. Here she was discovered, and thrown into the river (the Parwati), where she was drowned. Many of those concerned in this infamous outrage were apprehended, and tried at Goonah, in the neighbourhood of which station the occurrence took place. A nearly similar crime was perpetrated in 1858, in the Farrakhabad district, without a single one of the criminals being convicted or punished.

A writer in the Madras Times, in 1862, remarked that on the occasion of the death of the maharani of Udaipur, a sati took place in which the life of a slave girl was wantonly destroyed. Letters from Central India after that date conveyed the intelligence that another case of a somewhat similar description had since taken place at the cremation of the remains of the thakur of Rewa in Sirohi. The persons implicated were placed in confinement, and were to be punished agreeably to the penalties ordered to be inflicted by the Government for such offences.

Sikhs.—The practice of sati forms no part of the institutions of the Sikhs, and was rare amongst them. The Adi Grant'h says, 'They are not satis who perish in the flames, O Nanuk! Satis are those who live of a broken heart.' But again,

'The loving wife perishes with the body of her husband. But were her thoughts bent upon God, her sorrows would be alleviated.'

An exception occurred in 1805 in the town of Buriah. When the Sikh raja Suchet Singh died, there were 300 women in his palace, all of whom were sacrificed with the deceased's remains. Also on the demise of Ranjit Singh, the four ranis—Koondun, daughter of Raja Sumsar Chund; Hinderi, daughter of Mian Puddum Singh, of Noorpur; Rajkunwur, daughter of Sirdar Jey Singh, of Chynpur; and Baant Ali—determined to burn, in spite of the entreaties and remonstrances of Khuruk Singh and his ministers, who guaranteed their rank and property. The corpse having been washed with Ganges water, and placed on a bier of sandal-wood, decorated with gold flowers, was carried, the day after his death, to the place of cremation, before the gates of the palace Hazaribagh, followed by the four ranis in their richest dresses, loaded with jewels of immense value, walking in a measured step, attended by Brahmans and Sodees (Sikh priests), singing the holy hymns of Nanuk, in the same form, and with the same ceremonies, which were beheld in these very parts (on the banks of the Ravi) by the army of Alexander the Great more than 2000 years before, and which are described by the Greek and Roman writers with a minute fidelity which would suit a modern sati. The funeral pile was made of sandal-wood, and when the procession reached it, an affecting scene took place. Rani Koondun, the principal widow, took the hand of Dhean Singh, and, placing it on the breast of the corpse, made him swear never to betray or desert Khuruk Singh, or his son Nou Nehal Singh, or forget the interests of the Khalsa; and Khuruk Singh, in like manner, swore not to betray or desert Dhean Singh. Besides the fatal curse of a sati, the torments incurred by the slaughter of a thousand cows were imprecated on the head of him who violated his oath. Rani Koondun then mounted the pyre, sat down beside the body of her late husband, which was in a sitting posture, and placed his head in her lap. The other ranis, two of them only sixteen years of age, and of extraordinary beauty, with five, some say seven, Kashmir slave girls (one of them the lovely Lotus, who had attracted the admiration of the mission in 1838), followed the example, seating themselves around the corpse, with every token of satisfaction in their countenance. At the hour fixed by the Brahmans, in the presence of all the troops at the capital and an immense crowd of spectators, including several British officers, the pile was lighted, one account states by Khuruk Singh, another by the rani Koondun, and without a shriek or groan being heard, the living and the dead were reduced to ashes. It is said the Raja Dhean Singh made four several attempts to jump upon the burning mass, but was withheld by the people about him. A witness of this appalling spectacle relates that a small cloud appeared in the sky over the pile, and that he saw (perhaps thought he saw) a few drops fall upon the smouldering embers, as if the very elements wept at the closing scene of this dismal tragedy. The ashes were conveyed in a palanquin of gold, in grand procession, accompanied by Khuruk Singh (in a plain white muslin dress), Dhean Singh, and Kushal Singh, to the Ganges, and committed to that holy river.

Archipelago.—Bali and Lombok in the Archipelago largely profess Brahmanism. Sati still continues to prevail in Bali to an extent that India never knew, and the slaves of a great man are also consumed on his funeral pile. The widows are often despatched by a kris. In Lombok, wives may suffer themselves to be burned or krissed after the death of their husbands. The former is the more rare. The wives of the rajas, however, must suffer themselves to be burned. When a raja dies, some women are always burned, even should they be but slaves. The wives of the priests never kill themselves. An eye-witness thus relates how a gusti, who died at Ampanan, having left three wives, one of them resolved to let herself be krissed, against the will of all on both sides of her family. The woman was still young and beautiful; she had no children. They told me that a woma[illegible] who under such circumstances suffered [illegible] be killed had indeed loved her h[illegible] intended to accompany him on his [illegible] to the gods, and she hoped to be hi[illegible] the other world. The day after the [illegible] gusti, his wife took many baths; sh[illegible] in the richest manner; she passed [illegible] relatives and friends, drinking, chewi[illegible] praying. About the middle of the [illegible] the house they had erected two sc[illegible] platforms of bamboo of the length of [illegible] three feet above the ground. Under [illegible] had dug a small pit to receive the wat[illegible] blood that should flow. In a small h[illegible] side, and opposite these frameworks, [illegible] others entirely similar. This house was [illegible] ately behind the bali-bali. At four o'clo[illegible] afternoon men brought out the body of t[illegible] wrapped in fine linen, and placed it on t[illegible] the two central platforms. A priest o[illegible] removed the cloth from the body, wh[illegible] persons hastened to cover the private p[illegible] dead with their hands. They threw n[illegible] over the corpse, washed it, combed t[illegible] covered the whole body with cha[illegible] Kananga flowers. They then broug[illegible] net. The priest took a silver cup fille[illegible] water (called chor), on which he stre[illegible] He first sprinked the deceased with[illegible] and then poured it through the net [illegible] which he blessed, praying, singing, [illegible] various mystical and symbolical m[illegible] afterwards powdered the body wi[illegible] coloured rice and chopped flowers, a[illegible] on dry mats. Women brought out [illegible] the gusti on their crossed arms. She [illegible] with a piece of white linen only. H[illegible] crowned with flowers of the Chr[illegible] Indicum. She was quiet, and betray[illegible] fear nor regret. She placed herself [illegible] before the body of her husband, raised he[illegible] on high, and made a prayer in silence. Wom[illegible] approached her and presented to her small bouquets of kembang spatu and other flowers. She took them one by one and placed them between the fingers of her hands raised above he[illegible] head. On this the women took them away an[illegible] dried them. On receiving and giving back eac[illegible] bouquet, the wife of the gusti turned a little t[illegible] the right, so that when she had received the who[illegible] she had turned quite round. She prayed anew [illegible]

silence, went to the corpse of her husband, kissed it on the head, the breast, below the navel, the knees, the feet, and returned to her place. They took off her rings. She crossed her arms on her breast. Two women took her by the arms. Her brother (this time a brother by adoption) placed himself before her, and asked her with a soft voice if she was determined to die, and when she gave a sign of assent with her head, he asked her forgiveness for being obliged to kill her. At once he seized his kris, and stabbed her on the left side of the breast, but not very deeply, so that she remained standing. He then threw his kris down and ran off. A man of consideration approached her, and buried his kris to the hilt in the breast of the unfortunate woman, who sank down at once without a cry. The women placed her on a mat, and sought, by rolling and pressure, to cause the blood to flow as quickly as possible. The victim being not yet dead, she was stabbed again with a [illegible]en the shoulders. They then laid her [illegible]d platform near her husband. The [illegible]nies that had taken place for him [illegible]or the wife. When all was ended, [illegible]vere covered with resin and cosmetic [illegible]ped in white linen, and placed in the [illegible]ouse on the platforms. There they [illegible]til the time arrived for their being [illegible]her.

[illegible]ys a near relation who gives the first [illegible]n the kris, but never father or son. [illegible] dreadful spectacles occur; such was [illegible]ch Mr. K. was present. The woman [illegible]ed eight kris stabs, and was yet quite [illegible]. At last she screamed out, impelled by [illegible]ful pain, 'Cruel wretches, are you not [illegible]ve me a stab that will kill me!' A gusti[illegible]d behind her on this pierced her through [illegible]gh with his kris.

[illegible]tive spectators, whom, he adds, I had [illegible]e, saw in this slaughter which took [illegible]re our eyes, nothing shocking. They [illegible]nd talked as if it was nothing. The [illegible]d given the three last stabs wiped his [illegible]stored it to its place in as cold-blooded [illegible]s a butcher would have done after [illegible] an animal.

[illegible] wives of the more considerable per[illegible]e land allow themselves to be burned. [illegible]a very high platform of bamboo, the [illegible]ds after many ceremonies, and when [illegible] its greatest heat, she springs into the [illegible] flames. Mr. K. thinks that they do [illegible]ich, because during the leap they are [illegible]t all events the fire, strengthened by [illegible]ns, is so fierce that death must [illegible]e.

[illegible]a, in Brahmanism, is the perform[illegible] by a woman alone, whose husband [illegible]as died in a distant country. A sandal, or [illegible]y article of his clothes, may then represent him.

Arundhati, the wife of the Rishi Vaisistha, a resident of Swarga, is the spirit whom the devoted sati woman invokes, before mounting the pile.

China.—The Scythic practice is still followed by [illegible]aces of Tartar origin. The emperor Chun-Tche [illegible]lied at midnight (A.D. 1662?), and at dawn of day [illegible]ll the Bonzes and their adherents were chased [illegible]om the palace. Towards noon the deceased was [illegible]aced in his coffin, and wept for by an immense multitude who had witnessed the ceremony. As soon as the ceremony of taking the oath of allegiance to young Kiang-hi was concluded, that of the funeral of Chun-Tche was commenced in a style of magnificence surpassing anything of the kind that had hitherto been witnessed. To the solemn and sumptuous pomp of the Chinese rites, were added the barbarous customs of the Tartars. Tragic scenes took place, in which many of the attendants of the late emperor put themselves to death, that they might proceed to the other world, and continue their accustomed services to their master. It is stated in the annals of China, that the empress-mother, perceiving a young prince, who had been the intimate friend and favourite of Chun-Tche, expressed to him, with strong emotion, her grief and astonishment at finding him alive. 'Is it possible,' said she, 'that you are still alive? My son loved you, is doubtless now waiting for you; hasten then to join him, and prove to him that your affection was sincere and generous! Run and bid adieu to your parents, and then have the courage to die! Your friend, my son, is stretching out his arms towards you.' According to the historian, these words, uttered in a tone at once affectionate and severe, caused great distress to the young man. He loved Chun-Tche, but he loved life also, and could not think of death without a terrible shudder. He was surrounded by his afflicted family, who were urging him to escape by flight from so frightful a sacrifice, when the empress-mother sent to him a present of a box ornamented with jewels, and containing a bowstring for him to strangle himself. The unfortunate young man still hesitated, for he was at the happiest time of life, and could not resolve to die of his own accord, as the barbarous prejudices of his nation required; but the two officers who had brought him the fatal present had orders from the empress-mother to help him out of this perplexity, and give a little assistance to his courage, should he be unable to put himself to death, and they helped him accordingly. The coffin of the deceased emperor was transported to the burial-place of the new dynasty, at twenty-four leagues north of Pekin, and never probably was there such a procession as that which accompanied the remains of Chun-Tche to Manchuria. The immense multitude made the whole country resound with the voice of weeping and lamentation, for this prince, of whom in his latter days the people had seemed exceedingly tired, was now clamorously, and perhaps sincerely, regretted. 'For my own part,' wrote Father Schall to his friends in Europe, 'I owe an especial mourning to the memory of the emperor. For the seventeen years of his reign he never ceased to bestow on me many marks of kindness and regard; at my request he did much for the welfare of his empire, and would doubtless have done much more if a premature death had not thus carried off, at the age of twenty-four, this certainly intelligent and highly-gifted young man.'

A correspondent supplied All the Year Round with the following narrative of a tragedy enacted before his own eyes in the neighbourhood of Fu-chu-fu:—'The first notification I had,' says he, 'of what was about to take place, was the parading of a handsome wedding chair about the suburb of the provincial capital in which our foreign settlement is situated. The chair was accompanied by

all the pomps and gaieties of a wedding,—music, gay streamers, and so forth. There was, however, one thing most unusual in this procession. The occupant of the chair was exposed to public gaze, instead of being, as in weddings is invariably the case, closely screened. On making inquiry among our Chinese servants as to what this extraordinary departure from established customs might portend, I was informed that the lady was no bride, but a disconsolate widow, recently bereaved, who, finding herself unprovided for and unprotected, and having, moreover, neither father nor mother, son nor daughter, father-in-law nor mother-in-law, was determined on following her husband to the unknown world, where she might serve and wait upon him as became his dutiful and loving wife. Having accordingly made known her intention to her friends, and having fixed the day for her departure, she was now taking leave of all she knew, and parading the streets as a pattern to her sex. The object of her death being to rejoin her husband, the ceremony was a sort of wedding. She was arrayed and adorned as a bride, and seated in a wedding chair. On the morning of the 16th January, I proceeded, accompanied by two friends, to a spot some four miles distant from Nantae, the seat of the foreign settlement and southern suburb of Fu-chu-fu. We found ourselves in a stream of people, chiefly women and girls, the greater part of whom were small-footed, and were hobbling along, leaning one against another for support, or assisting their tottering footsteps by means of the shoulders of dutiful sons or brothers. We arrived only just in time to see the chair of the victim carried on the ground, and herself ascend the scaffold which had been prepared for her. The chair was the bridal chair in which she had been carried about the streets, and the scaffold consisted of two stages, one raised a few feet from the ground, and the other a few feet higher. The whole was covered with a dark cloth canopy, supported by a framework of bamboos, within which was set a gallows of one very thick cross-piece of bamboo, fastened at either end to a strong upright pole. From this bamboo, under the canopy, and exactly in the middle of the scaffold, hung the fatal rope, covered with a red silk napkin; beneath it was set a chair to enable the devotee to reach the noose. On the lower platform was a table of choice meats and vegetables, at which she was to take her last meal in the land of the living. The table was surrounded by the woman's friends, dressed in holiday costumes, and wearing the red cap of Chinese officials. In former times it was the custom for two district magistrates to be in attendance on all these occasions, but since the higher authorities were hoaxed some years ago by a lady whose courage failed her at the last moment, they have refused to be present at such exhibitions, and now despatch an inferior officer to superintend the arrangements. The chief actress appeared at first to be far less excited than any one in the vast concourse assembled. She was dressed in red bridal robes, richly embroidered with coloured silk, and her head was adorned with a handsome gilt coronet. Her decidedly plain face betrayed not the slightest emotion, and she sat down at the table with as much apparent goodwill as if it had been her bridal rather than her funeral feast. After the lapse of about half an hour, the poor woman, having apparently satisfied her appetite, rose from her seat, and still standing on the lower platform, addressed the surrounding crowd in a set speech, thanking them for their attendance, and explaining why she acted as she did. When she had finished speaking, she took from a bowl on the table several handfuls of uncooked rice, which she scattered among the crowd, and eager was the scramble to get a few grains as her virtuous blessing. This done, she fondled her baby nephew, and bade an affectionate farewell to her brother, who stood by her on the scaffold; then, stepping upon the upper stage of the platform, she bowed gracefully to the surrounding multitude, and addressed to them a few last words. She was helped to mount the high chair placed under the rope, but the rope proving to be still beyond her reach, her brother stepped forward and held her up in his arms, while she with her own hands passed the fatal noose over her head and adjusted the cruel slip-knot to the [illegible] her neck. The red silk napkin was [illegible] over her face, and a handkerchief fas[illegible] right hand. At a signal given by [illegible] brother stepped back and left her [illegible] mid-air. She then, shaking her [illegible] before her breast, 'chin-chinned' th[illegible] own weight causing her to turn roun[illegible] so that persons on all sides received [illegible] salutations. The spectators had, up[illegible] moment, been laughing and chatte[illegible] assembled at a village fair, but now[illegible] perfect stillness, as every ear was st[illegible] every eye intent. In two or three m[illegible] action of the hands, at first decided an[illegible] grew weaker and weaker, and finall[illegible] altogether; then followed a convulsiv[illegible] of the tiny feet (not above three inches i[illegible] and all was over. The body was all[illegible] remain suspended for about a quarter of [illegible] when it was cut down and placed in a[illegible] covered palanquin which was in wa[illegible] bridal chair having been removed. [illegible] which had been the instrument of deat[illegible] cut into small pieces, and distributed [illegible] friends on the scaffold, all struggling [illegible] obtain a portion. The chair and the [illegible] carried to a small temple about a hu[illegible] from the spot, followed by a terrific ru[illegible] anxious to obtain another glimpse of [illegible] clay.—*History of the Panjab*, i. p. 17[illegible] *Huc's Christianity*, ii. p. 401; C[illegible] *Sikhs*, p. 364; *Elphinstone's India*, pp.[illegible] *Polo*, iii. p. 20; *Viaggio di Gasparo* [illegible] *P. Vincenzo*, p. 322; *Lettres Edifiant*[illegible] 1819, vii. pp. 73-75; *Yule, Cathay*, i.[illegible] *brooke in As. Res. on the Duties o*[illegible] *Wife*; *Vigné*, p. 87; *Dr. Vaughan*, p.[illegible] iv. p. 71, v. p. 5; *Coleman's Myth. Hind*[illegible] *nerat's Voyages*, p. 43; *Ward's Hindoos*, ii. p. 1[illegible] iii. p. 25; *Wilson's Hindu Theatre*; *Tod's Raja*[illegible] *than*, i. pp. 633-35.

SUTTOO, HIND., or Champa of the Bhot in Little Tibet, is finely-ground flour or roasted barley, eaten uncooked or made into a porridge.

SUTUK, a Hindu ceremonial after child-birth and after death.

SU-TUNG-PO, a celebrated poet of China. Several wayside springs are dedicated to him, an[illegible] called Se-yen-tseuen, the spring where the po[illegible] washed his inkstone.

SUTWASA, a rite observed amongst Muhammadans when a woman has attained the seventh month of her pregnancy.—*Herk.*

SUVARNA, in Hindu geography, is said to be the same with the river Sone, but also one of the islands called Lanka. Suvarna Bhumi, of the ancient writers, is the modern Thatun on the Sitang river. Suvarna-dwipa was Ireland, also called Surya-dwipa, and Suvarna-tatsaacas, a tribe living on the borders of Ireland.—*Fergusson; As. Res.*

SWAD. ARAB. A letter of the Arabic, Urdu, and Persian alphabets, which is used by princes as a sign-mark or Baiz; a part of the word Sahih, correct.

SWAHA. SANSK. Offering, presentment of oblations.

SWAHA, in Hindu mythology, is usually understood to be the goddess of fire, the consort or sakti of Agni. She was daughter of Kasyapa, [illegible] resembles the younger Vesta of the Romans [illegible] of fire, of whom the Romans had no [illegible] temples to represent her. Similarly [illegible] no image.

[illegible]OW, a bird of the family Hirundinidæ, [illegible]Hirundininæ. In India are—

[illegible]rustica, *L.*, Europe, India.
[illegible]cola, *Jerdon*, Neilgherries, Bangalore.
[illegible]ra, *Stephens*, all India, Kashmir.
[illegible]ica, *Linn.*, all India, Kashmir.
[illegible]ola, *Jerdon*, Central India.
[illegible]erythra, *Layard*, Ceylon.
[illegible]leri, *Hume.*
[illegible]ceps, *Hume.*

[illegible]urian or red-rumped swallow, Hirundo [illegible]is plentifully distributed over the lower [illegible]n summer, but migrates to the plains of [illegible]ring the cold months.

[illegible]wire-tailed swallow, the Hirundo filifera, [illegible]iful in the Dekhan during the summer [illegible]. It is on wing soon after daybreak, and [illegible]observed skimming over the ground all [illegible] hunting its winged prey. In the calm [illegible]htful evenings peculiar to Poona, they [illegible]n in hundreds, perched on stones and [illegible]ss upon the plains and the river-banks, [illegible]s night is closing in they rise and seek [illegible] the tallest spires and mosques. It is [illegible]t the males have their delicate tail [illegible] perfect, and often they are entirely [illegible]*Adams; Jerdon.* See Birds, p. 374.

[illegible]OW NESTS. The edible swallow nests [illegible]built by five species, four of which [illegible]he Archipelago. The common edible [illegible]st is that of the Collocalia esculenta, [illegible]Hirundo esculenta, *Linn.*; another, [illegible] white patch at the base of the tail-[illegible]fuciphaga, *C. Bon.*, is of a uniform [illegible]r. C. nidifica, *Latham*, is the Indian [illegible]est swiftlet. Mr. Blyth, however, says C. [illegible]uciphaga (Hirundo fuciphaga, *Thunberg*), linchi [illegible]or lintye of the Javanese, identical upon comparison with Javanese specimens, would appear [illegible]o be the sole producer of the numerous nests [illegible]gathered on the rocky coasts of the Bay of Bengal. A white belly is characteristic of C. fuciphaga; and this particular species occurs abundantly on [illegible]parts of the coast of the Malayan Peninsula, in the Nicobar Islands, and the Mergui Archipelago, [illegible]nd so high as on certain rocky islets off the [illegible]southern portion of the coast of Arakan, where [illegible]he nests are annually gathered and exported to China. From all this range of coast, Mr. Blyth says he had seen no other species than C. fuciphaga.

C. fuciphaga is constantly seen inland in the Tenasserim Provinces. The Karen in the valley of the Tenasserim, in the latitude of Tavoy, are well acquainted with the bird, and they say it crosses the mountains to and from the interior every year. The Karen name of the bird is the white swallow, from its white belly.—*Mason.*

SWAMDHEKMA, loyalty or fidelity to him whose salt the Rajputs eat, their immediate lord, even against their king.—*Rajasthan*, ii. p. 25.

SWAMI. TAM., TEL. God, Lord, applied to any of the gods, also to priests, and to the true God. Swamula varu, TEL., literally the lords, a title for a guru or confessor, meaning his holiness. Swami or Sami, like the Latin dominus, the Italian signor, and English lord, is applied in the Tamil and Telugu countries alike to the Supreme Being, the Almighty God, to idols of every kind, and to individuals; it is also the titular designation for the head of any religious order of Hindus, likewise a respectful form of address to Brahmans, to Europeans and Muhammadans of rank, and in this last sense is the equivalent of master or Mr., and thus often used as a form of assent, or to acknowledge an order; many of the Tamil and Telugu Hindus have Swami as part of their names, as Rama Swami, Ranga Swami.

SWAMI-BHOGAM. TAM. The rent due to a landlord or proprietor. In the Tamil country it means the share of the produce or the rent which is paid to the mirasdar or hereditary proprietor by the tenant-cultivator holding the land in farm for a fixed period. In Malabar and Karnata it is the fee or acknowledgment paid by the tenant or mortgagee to the jaumkar or hereditary proprietor, and is often only a pepper-corn rent. It also signifies a religious grant or contribution for an idol.

SWAMI NARAYAN, an earnest religious Hindu reformer in Gujerat, who condemned caste and believed in one god, Brahm, in the form of Krishna, the same as the sun, Surya. He visited Bishop Heber on the 26th March 1826, with a cavalcade of 200 horse well armed, and a large number on foot. He had 50,000 disciples in Gujerat. He preached Krishna as the sole deity, inculcated purity of life and abstinence from violence. In 1871, his followers in Bombay numbered 1242.—*Heber*, iii. pp. 39-42.

SWAN. A large golden figure of the sacred bird is in front of the throne of the king of Burma, and is called in Burmese Hentha, a word of Sanskrit origin. The Hentha is regarded as the king of birds. It is perhaps a mythicized swan. The only swan that visits S.E. Asia is Cygnus musicus, the hooper swan, which is said to appear occasionally in Nepal. It is a bird of the northern regions. C. Bewickii is also a bird of Europe. C. buccinator, or trumpeter swan, and C. Americana are of North America; and C. anatoides and C. Nigricollis are of South America. C. olor is the mute swan, of which C. immutabilis is the wild race. The black swan of Australia is C. atratus. —*Jerdon; Blyth; Yule.*

SWARGA or Swarga locum, according to Hindu mythology, the paradise of Indra—

'Great Surya smiles with lustre gay,
And flings through azure skies his ray;

The golden mountain's glittering brow
Is decked with many a sparkling gem,
Which shines, by Surya's brightness, now,
As if a halo circled them;
And on the mount, beneath his beam,
The king of Swarga's garden smiles,
In which, by many a gurgling stream,
The god his time in pleasure whiles.
Here Vayu through the charming wood
For ever creeps in gentlest mood:
Now o'er the blowing grass he goes,
Now stirs the fragrance of the rose.
Here many a flower of lovely hue,
Famed in the loves of former time,
Blooms glittering with the diamond dew,
And sweetening the heavenly clime.
Young roses, through the passing breeze,
To taste their sweets invite the bees.
Here fountains round the heavenly bowers
Perpetual fall, and glittering showers
Of diamonds, pearls, and stars descend,
And sweet celestial music lend
Unto the ears of mortals, blessed,
For pious deeds, with heavenly rest.
The garden's edge is compassed round
With trees with lasting verdure crowned,
And in the garden's centre stands
A palace built by heavenly hands,
With sapphires decked, the golden walls
Of Satakruta's courtly halls,
Reflecting all their beauteous light,
And glistening round all fair and bright.
The snow-white pavements made have been
Of chrysolites of brightest sheen,
Where sweetest flowers of lovely hue
Are sparkling bright with drops of dew;
The outer wall is smooth all o'er
With rubies glittering more and more,
And through the gardens trees appear
Like morning's light in winter's sky,
E'er the resplendent Surya rears
His glorious face of light on high,
As if in floods of ruby light
The court is bathed and shines so bright.
But lo! a throng afar appears,
Like vanished joys of former years,
So indistinct, that scarce the eye
Its faint progression can descry,
As when at morning's dubious light
A star or two appears in sight;
And now beheld, and now no more
They glimmer in the growing shine;
So like a mass of dim light o'er
The garden move the gods divine;
And midst them those who greater are
Shine like so many stars afar;
Now more and more advance they nigh
With breast erect and statures high,
With steps majestically slow,
With looks cast on the ground below;
Before them Indra, dignified
With royal mien and royal pride,
Proceeds.'

The Apsaras, in Hindu mythology, are nymphs of Swarga, celestial dancers, celebrated for their beauty. Amongst them is Rembha, the popular Venus of the Hindus, and some others are described to be of inconceivable loveliness. They answer to the Pari of the ancient Persians, and the damsels called in the Koran, Hur-ul-ayun, the antelope-eyed Huri. These Hindu nymphs were produced at the churning of the ocean, as related in the Ramayana. Sir William Jones thus describes them in Swarga:

'Now, while each ardent Cinnara persuades
The soft-eyed Apsaras to break the dance,
And leads her loth, yet with love-beaming glance,
To banks of marjoram and champac shades,
Celestial genii tow'rd their king advance,
So call'd by men, in heav'n Gandharvas named.'

According to Kshatriya belief, warriors slain in battle are transported to Indra's heaven by the Apsarasa, nymphs of Swarga. Thus in Menu, vii. 89, it is said, 'These rulers of the earth who, desirous of defending each other, exert their utmost strength in the battle, without ever averting their faces, ascend after death directly to heaven.' And in Book ii. 19 of the Nala, Indra says, 'Why are no warriors slain now-a-days, that I see none arriving in heaven to honour as my guests?' Swarga-rohana, SANSK., death; a Hindu funeral ceremony; ascending to heaven. Swarga Vilasam, or celestial pavilion, the throne-room of the rulers at Madura.—*Coleman; Sir William Jones' Hymn to Indra; Tr. of Hind.* i. p. 302; *Williams' Nala*, p. 140.

SWAROCHISHA, one of the fourteen patriarchs who preside over the fourteen Manwantaras of the calpa.

SWARTZ, an eminent Christian missionary and linguist, for whom a monument has been erected in St. Mary's Church, Madras, inscribed 'Sacred to the memory of the Reverend [illegible] Christian Swartz, whose life was [illegible] effort to imitate the example of his [illegible] employed as a Protestant missionar[illegible] Government of Denmark, and in th[illegible] racter by the Society in England fo[illegible] gation of Christian Knowledge. H[illegible] period of fifty years, went about [illegible] manifesting in respect to himself the [illegible] abstraction from temporal views, bu[illegible] every opportunity of promoting both t[illegible] and eternal welfare of others; in hi[illegible] appeared not with a gloomy aspect or [illegible] adieu, but with a graceful form and plac[illegible] Among the many fruits of his indefatigabl[illegible] was the erection of the church at Tanj[illegible] savings from a small salary were for m[illegible] devoted to the pious work, and the rema[illegible] the expense supplied by individuals at hi[illegible] ation. The Christian seminaries at [illegible] puram and in the Tinnevelly Provi[illegible] established by him. Beloved and hon[illegible] Europeans, he was, if possible, held in s[illegible] reverence by the natives of this countr[illegible] degree and in every section, and their [illegible] confidence in his integrity and truth [illegible] occasions was rendered highly benefi[illegible] public service. The poor and the inj[illegible] up to him as an unfailing friend an[illegible] The great and powerful concurred [illegible] him the highest homage ever paid in [illegible] the globe to Europeans. Hyder Ali, [illegible] of a bloody and vindictive war with t[illegible] wrote to his officers to permit the vene[illegible] Swartz to pass unmolested, to show [illegible] and kindness, for he is a holy man, a[illegible] wrong to any Government. Tulj[illegible] Tanjore, when on his death-bed, desi[illegible] to his protecting care his adopted son [illegible] with administration of all affairs of his country. On a spot of ground granted to him by the sam[illegible] prince, two miles east of Tanjore, he built a hous[illegible] for his residence, and made it an orphan asylum[illegible] here the last 20 years of his life were spent in th[illegible] education and religious instruction of children, particularly those of indigent parents, whom he gratuitously maintained and instructed; and here, on the 13th of February 1798, surrounded by hi[illegible] infant flock, and in the presence of several of hi[illegible] disconsolate brethren, entreating them to continu[illegible] to make religion the first object of their efforts

and imploring with his last breath for the divine blessing to attend them, he closed his truly Christian career in his 72d year.

SWASTI. SANSK. A compound of Su, well, and Asti, it is; meaning It is well, or, as Wilson expresses it, So be it; and implying complete resignation under all circumstances. The Swasti of Sanskrit is the Suti of Pali, and the mystic cross, or Swastika ✠, is only a monogrammatic symbol formed by the combination of the two syllables sutti = suti. It is the Sutya of Gujerat. The Greeks adopted the Indian symbol of Swastika, as the pottery from the Kamiras and the prototype of Crete show. It is said to be the filfat of the Buddhists, often found on Buddhist images, which Buddhists themselves regard as the emblem of the seal of Buddha's heart. It is conjectured that this symbol must have been brought to China, Japan, and Mongolia by Buddhist priests, and its origin is therefore to be looked for in India. It here on the most ancient Buddhist coins, n noticed on the walls of all the rock- of Western India. Even the Ramayana mestic utensils as marked with the The Swastika appears in ancient Scandinavian mythology under the r's hammer, as the sceptre of Thor, hunder. It has also been discovered oins of Indo-Germanic nations. From concluded that the Swastika was the mbol and chief magic charm of the s before they separated. To the present mmer of Thor is used among the Ger- antry and in Ireland as a magical sign thunder. Moreover, as in the middle used to be rung to drive away thunder, stika of the east used to be engraved on ells, and to the present day many bells nd bear the symbol.

. Thomas is of opinion that the mystic ing the counterpart of the ancient Swas- inated in the idea of solar motion, the chief luminary being considered as the e of a wheel, within which the Swas- four regular spokes. The hymns of ak of the sun as 'travelling by an downward path,' and at evening horses,' exactly in the same style r Phæton may be supposed to have he configuration not only of the four-pointed cross, but also of the or three-footed revolving device, so found on the coins of Asia Minor, icily. The Swastika is a symbol of sects.

KA, a Tibetan sect, who received their heir peculiar symbol, the Swastika or s, which was typical of their belief in They are the Tao-sse of the Chinese; nd the founder of the doctrine is said to have ourished between B.C. 604 and 523. The Swas- ka sect were rationalists, who held that con- ntment or peace of mind were the only objects worthy of attainment in this life, and the principles of the Swastika were received by the bulk of the people with very great favour. They assumed the name of Tirthakara (see Fo-kwe-ki, pp. 22, 23, nd Cosma's Tibetan Grammar, pp. 181, 192, he old name of Tirthakar is still preserved among he Mongol as Ter), or pure-doers; but by the Buddhists of Tibet they are said to have indecent in their dress, and grossly atheistical in their principles. Their Tibetan name, Musteg or Finitimists, is significant of their doctrine of finite existence; but they are more generally known as the Pon or Pon-po. This sect prevailed throughout Tibet until the seventh century, but is now confined to the farthest parts of the most eastern province of Tibet. The name of Pon is evidently only the Sanskrit Punya, pure,—a synonym of Tirthakara. Between the Swastika, who promised nothing after this life, and the Brahmans, who offered an almost endless series of mortal existences, people of strong minds and deep thoughts must have been sadly perplexed. See Tau.

SWAT consists of a long valley, running downwards, generally in a south-westerly direction, but turning half round from east to west as it nears the British frontier, from which it is separated by a lofty range. It is difficult of access to a force moving from British territory. The Lundye or Swat river, the Suatos of the Greek geographers, SANSKRIT Suvastu, a river in Peshawur district, Panjab, rises beyond the British border, on the eastern slopes of the mountains which divide Panjakora from Swat territory. It receives the drainage of the entire Swat valley; enters Peshawur district north of Michni, and finally joins the Kābul river at Nisatha. Swat, Boneir, and the country to the east were occupied by that part of the Yusufzai who were the direct descendants of Yusuf; and the most prominent of their sections are the Abu Khel, the Shamozai, the Nikki Khel, the Sibuzai, and the Marazai. The country towards the north, including the Jalash valley, in 1878 was under the chief of Der; the south-western part was under the Khans of Aladund, and the south-eastern or Baizai was nominally under the Khans of Thana, a large town near Sydu.

The lands along the river are low and swampy, and rice is the principal crop. As soldiers, the Swati rank below several of the most martial tribes; the damp climate has enervated them, and in physique they cannot compare with their brethren the Buner hillmen.

The Torwal tribe are highlanders, inhabiting the upper part of the Swat valley. They have about 9000 adult males, and they speak a language which Raverty calls Kohistani. Some understand Pushtu. The Swati and the neighbouring tribes, Bunerwal, Hyazai, Malizai, Yusufzai, Mada Khel, Husnzai, for about 56 years, up to 1879, were under the influence of Abdul Ghafur, the Akhoond, who avoided quarrelling with the British when they became neighbours by their annexation of the Panjab in 1850. He was born 1799 or 1800, and died about 1879.—*MacGregor*, iii. p. 209; *Raverty*. See Yusufzai.

SWATCH. The No-Ground of the Hoogly and Indus rivers are two deep depressions in the sea bottom. That of the Hoogly, between Point Palmyras and Chittagong, is 18 miles from land, in lat. 21° to 21° 22′ N., and is about 9 miles broad, with a depth of 50 to 150 fathoms. That of the Indus is 35 miles W. of the Seer mouth. It is 3 to 5 miles broad, and about 50 fathoms deep. No-Ground also in Persian Gulf.

SWAYAM-BHUVA, the Hindu Noah. His wife was Satarupa.

SWAYAMVARA. SANSK. The public selection of a husband by a princess or lady of rank.

One of the favourite incidents in the ancient heroic poems of the Hindus is the rite called Swayamvara, or the choice of a husband by a princess from an assembly of suitors met from all parts to take their chance in the selection. The heroes, at least in some instances, submit themselves in silent rivalry to inspection as she walks along their line to select from the throng the favoured suitor by presenting him with a garland, or a cup of water, or some such token of regard. Arrian represents the lady as acting a merely passive part, but the poems and the very name Swayamvara (from Swayam, herself, and Vara, choosing) show that she had an active share in the transaction. In the Institutes of Menu it is said (ix. 90), 'Three years let a damsel wait, though she be marriageable; but after that time let her choose for herself (vindeta) a bridegroom of equal rank; if, not being given in marriage, she choose her bridegroom (adhigachhed yadi swayam), neither she nor the youth chosen commit any offence.' The scholiast explains it of the so-called Swayamvara, 'adhikaguna-varatable samanajatigunam varam swayam vrinita.' The candidates for the hand of the lady were invited to her father's house, and, after previous festivities for some days, were collected in a hall, round which the damsel passed and selected her future lord, by throwing a garland round his neck; the marriage rite was then celebrated as usual. The custom is the subject of much pleasing poetic description in the Mahabharata, the Naishadha, and other works. A translation of the Swayamvara of Draupadi from the former is published in the Calcutta Quarterly Magazine for September 1825. She was won by Arjuna. Damayanti chose Nala; Tarvati chose Chandra Sekara, and the princess of Kanouj threw the garland over an image of Prithi-raj. In the Hero and the Nymph by Kalidasa (Hind. Th. i. p. 226), Pailava describes a scene in which Urvasi played Lakshmi; Menaka was Varuni. The latter says—

'Lakshmi, the mighty powers that rule the spheres
Are all assembled; at the head appears
The blooming Kesava. Confess, to whom
Inclines your heart?'

Damayanti was the tried and exemplary wife of Nala. She prayed for her union with him, having inquired after and seen him in her apartments. Her becoming Swayamvara again was simply to make Nala, from whom she had been separated, know where she was, that he might come there and be reunited to her. Of the Kshatriya women, some married according to the Brahma mode, and some became Swayamvara. Aja married Indhumati, who was Swayamvara. His son Dasaratha had the daughter of Kosala offered to him, and he married her; but his second wife, Kaikeyi, whom he won, was a Swayamvara. Janaka, king of Mithila, made his daughter Sita Swayamvara. She prayed that she should be the wife of Rama, who bent the huge bow, and was the successful competitor. The character of Sita as a model wife and a holy woman is held high. When she met the venerable wife of Atri, and was highly complimented, she said that, although she was devoted to Rama, and she tried her utmost to follow him, she doubted whether her soul mirrored the purity of his. When she solicited permission to accompany her husband into banishment, she said—

'A wife must share her husband's fate:
My duty is to follow thee
Wherever thou goest. Apart from thee,
I would not dwell in heaven itself.
Thou art my king, my guide,
My only refuge, my divinity.'

After the death of Ravana, when she appeared before Rama, and when he cast reflections on her chastity, she dashed away her tears, brought on by the interview, and, rising from the dust at his feet, addressed Lakshmana as follows:—'Son of Sumitra! in thine eyes I see pity and trust of me. Build me a funeral pyre. Brother, since I am tainted in Rama's sight, 'tis time I should die.' When Draupadi became a Swayamvara, it was proclaimed that whoever would bend an enormous bow, and by it shoot five arrows simultaneously through a revolving ring into a target beyond, would win her. When she was brought to the Sabha, Dhristadumna informed her of the names of those who had been assembled. After the failure of several princes, Karna rose, w[illegible] padi publicly said, 'I will not marry a [illegible] son.' Arjuna rose, tried, succeeded, [illegible] bride. When she was taken to Ku[illegible] said to her sons, 'What you h[illegible] should be your common property.' [illegible] ates from a mother must be done. T[illegible] of the marriage of one woman to fi[illegible] discussed at the Draupada raja's pa[illegible] Kunti was present, and took a part [illegible] cussion. Vyas supported Kunti, and [illegible] the proposed marriage. It appeared t[illegible] the Vedic times, the daughter of a [illegible] married to Prachata and his nine broth[illegible] another woman of the Gautama line was [illegible] of a hundred rishis. But these were ex[illegible] they are not alluded to in the Rig Veda, [illegible] quoted to legalize the marriage of Drau[illegible] the five Pandava.

Kunti was brought up by Kunti Bhoj[illegible] at her father's, she took a delight in ent[illegible] guests. She became a Swayamvara, a[illegible] received her garland. When Dra[illegible] married to her sons, she addressed he[illegible] —'Daughter! be thou full of esteem[illegible] thy husbands, as Indrani was to Ind[illegible] Bibhasara, Rohini to Chandra, Dama[illegible] Bhadra to Baiswanara, Arundhati [illegible] and Lakshmi to Narayan. Be thou [illegible] of hereos. Employ thyself with thy [illegible] religious service, and thy prosperity [illegible] limited. O daughter, employ thy tim[illegible] after the guests, visitors, the virtuo[illegible] and the elders. By thee the rajas of [illegible] cities of Kura Jangala, etc., will b[illegible] Kunti's next address to Draupadi w[illegible] was about to proceed with her husban[illegible] by the game at dice, to pass twelve yea[illegible] and one year in disguise. Draupadi is descr[illegible] as an educated lady, and, according to her ow[illegible] account, she used to receive instruction from [illegible] Brahman teacher while on the lap of her fathe[illegible] The Bana Purva records her two conversations,— one with Yudishthra, on forgiveness and the providence of God, in which she shows great powers of observation; and the other with Satyabhama, wife of Krishna, who came to her while she was living in the forest with her husbands. The subject was, on the best way of making th[illegible] husband attached to the wife. Draupadi sai[illegible] that she conducted herself humbly, serenely, an[illegible]

devotedly to her husbands; she daily cleaned the house, utensils, cooked and offered meals at the appointed time. While at Indraprastha, she took care of Kunti, saw numerous Brahmans and maid-servants fed and clothed; she also looked after the servants, cowherds, and shepherds. She took care of the treasury, and gave orders on all matters connected therewith. She performed all her duties with every regard to truth, but unmindful of her personal comfort. She added, The faithful wife cannot attain happiness unless she practises self-denial. Do what I have told you, and before strangers remain quiet, but true to your convictions, avoiding excitement and thoughtlessness, and making those your friends who are virtuous and devoted to their husbands. When Jayodrata seized and carried her away, he was pursued by the Pandava; she had then the generosity to advise him to lay down his arms and implore forgiveness. — *Hindu Theatre; Calcutta* No. 109, pp. 39, 40; *Calcutta Quarterly* September 1825.

RS. In Northern India the Muham-bers are called bhangi, lal-begi, khak-hor, and mehtar, meaning sweeper, and prince. In the south of India, oti is usually a sweeper.

POTATO, the Batatas edulis, has a nutritious root, of which there are red and white. The tubers are long, boiled or roasted, very wholesome. own precisely in the same manner as a ter the hot season, and are fit to be in six months. The sweet potato of rry are the edible tubers of Dioscorea —*Riddell.*

A KETU, a sage mentioned in the rata, who denounced the practice of women consorting with other men.—

MBARA, or white-robed, a Jaina sect. in sect is the Digambara.

TA-PATRA. SANSK. The white of the insignia of royalty of the race whilst ruling at Kalian, in the

NIA CHLOROXYLON. *Roxb.*

Chloroxylon Swietenia, *D. C.*

. .	ENG.	Mal-burute, . .	SINGH.
. .	HIND.	Kodowah porsh, .	TAM.
ch, .	SINGH.	Billuga, Billu karra,	TEL.

et wood is well known for its glossy s. The tree grows in the Peninsula Gokak, on sandstone hills, and on the Hills, also in Ceylon, and is recognised o kinds there,—the ordinary satin- is used for oil-presses, waggon ck carts, bridges, cog-wheels, build-itures; and the flowered satin-lustred the same wood, which is used for e-frames, furniture, backs of hair-brushes, abinet-work, and next to calamander is the most aluable of the Ceylon woods. It is hard, weighs 55 or 57 lbs. to the cubic foot, and is supposed to last about 80 years. It occurs in the Northern Circars. Very fine satin-wood grew at Kutapatti in the Tengricotta taluk of Salem, but Dr. Cleghorn supposes that a good deal of the oldest and best was destroyed by the railway contractors. It is used in the Madras Presidency for the naves of gun-carriage wheels, and is the best suited of all the Madras woods for fuses. In beauty and lustre the flowered samples rival the bird's-eye maple of America. In England the best variety of the wood is the West Indian, imported from St. Domingo in square logs and planks from 9 to 20 inches wide; the next in quality is the East Indian, shipped from Singapore and Bombay in round logs from 9 to 30 inches in diameter; and the most inferior is from New Providence, in sticks from 3½ to 10 inches square. The wood is close, not so hard as boxwood, but omewhat like it in colour, or rather more orange; some pieces are very beautifully mottled and curled. It is now principally used for brushes, and somewhat for turning; the finest kinds are cut into veneers, which are then expensive. The Nassau wood is generally used for brushes. The wood has an agreeable scent, and is sometimes called yellow sanders. The price in the Madras Presidency is nearly the same as that of teak and blackwood. —*Roxb.; Tredgold; Dr. Cleghorn's Cons. Rep.* p. 15, *for* 1860; *M.E.J.R.; L.E.J.R.*

SWIFT, a name applied to species of Acanthylis, Cypselus, Collocalia, and Dendrochelidon. Cypselus affinis builds in societies among ruined palaces and domes. Its nest is made of clay, intermingled with feathers and grass. In haunts and habits it much resembles the European black swift. See Birds, p. 374.

SWINE, the hog family. The Jews and Egyptians were alike in refusing to eat the flesh of swine, except that the Egyptians, who reared those unclean animals to sacrifice to Isis and Osiris, indulged themselves in eating pork once a month, on the day of the full moon. The Jews and the Muhammadans throughout nearly all the world still abstain from this kind of flesh. See Sus.

SWINHOE, ROBERT, ob. 1877, H.M. British Consul, China, author of Catalogue of the Mammals and Birds of S. China, Formosa, and Islands, in Pr. Zo. So., 1870 and 1871.

SWORD.

Sayf, ...	ARAB.	Spada, ...	IT.
Epe, ...	FR.	Espada, ...	SP.
Talwar, Nimcha, .	HIND.	Katti, ...	TAM.
Dha Khanda, . .	,,	Kilij, ...	TURK.

Swords of E. and S. Asia are of various shapes and names.

In the *Panjab*, a metal alloy known as sakela is used for the manufacture of swords, etc., consisting of cast-iron, asbat and kheri iron, and foulad or steel, welded together. Occasionally, in Jammu, a small quantity of silver and sometimes tin is beaten into and welded with the finest sword blades for the sake of texture and polish.

In *Isfahan*, sword-cuttlers formerly enjoyed great celebrity, and numbers of swords are still manufactured there. The best blades are all made of Indian steel, imported into Isfahan in the form of small round cakes, which cost about two tomans each. Old Persian swords fetch very high prices all over the east; for they cannot now-a-days fabricate blades equal to those of former ages. When the blade has been hammered out of the koor or cake of Indian steel, it is put in the furnace, and kept there all night, subjected to the action of a low fire. In the morning it is taken out, smoothed and filed into shape, and then heated red-hot, and immersed for a few moments in a trough filled with castor-oil. It is next

polished, sharpened, and the hilt and scabbard fitted to it; and the last thing done is to bring out the jowhar or damask pattern. For this purpose the blade is perfectly cleansed from oil or grease, and a yellow kind of stone is ground to powder, mixed with hot water in a cup, which must be of china or glass, not metal, and the solution laid on over the blade with a piece of cotton two or three times. This brings out the black jowhar perfectly. The scabbards of Persian swords are all made of thin laminæ of wood joined together and covered with black leather, with a sort of pattern stamped on the outside.

The *Bikanir* people work well in iron, and have shops at the capital and all the large towns for the manufacture of sword-blades, matchlocks, daggers, iron lances, etc. The sword-handles, which often are inlaid with variegated steel or burnished, are in high request, and exported to various parts of India.

In *Cutch*, an inch bar of fine English or Swedish steel is forged into plates 7 inches long, 1 broad, and one-sixth thick. Similar bars of fine spot iron are prepared in the same manner. These are smeared with a paste of borax dissolved in water, and laid in piles of twelve—nine of steel to three of iron, or three to one alternately. Each pile is wrapped round with rag thickly plastered with mud made of a loamy earth; then heated, welded, and drawn out to a bar one inch and one-eighth broad and one-third of an inch thick; this is bent zigzag three or four times, is again welded and drawn out to half an inch thick, and during the heat borax is frequently dropped on the metal while in the fire. Two of these bars are next welded into one, and when about twelve or fourteen inches long it is bent into the form of a loop or staple. In the middle of this a piece of fine-grained file is inserted of the same width and nearly as thick. All is then welded together, and the blade is formed. To temper the blade, an earthen pot twelve inches wide and six deep is notched on the edges (the notches being opposite each other) with a file about a quarter of an inch deep, and is then filled nearly up to the notches with water. Oil is then poured on the surface. The blade being heated equally to a light red, is removed from the fire, and the point, entered into a notch on one edge, is passed to the opposite one, keeping the edge from a quarter to half an inch in the oil. It is drawn backwards and forwards rather slowly, till the hissing ceases and the rest of the blade above the fluid has become black. A jug of water without oil is then poured along the blade from heel to point. In order to take out the warp produced by tempering, the blade, when nearly cold, is passed over the fire three or four times, then, being brought to the anvil, it is set straight by striking it regularly but moderately with a hammer; by this means a Damascus curved blade may be brought nearly straight.

Cutting swords in Asia are made with a hilt so small as to render it impossible for a European hand to use them in the manner of cutting which is common with Europeans. In cutting, an oriental does not straighten his arm at the elbow. The handle is purposely made small and confined, in order that the swordsman may not be forced to straighten his arm, but draw the cut as he delivers it. Mr. Vigne, when at Teheran, had seen a sheep laid in two at one stroke; and Suliman Mirza, one of the numerous sons of the late Futteh Ali Shah, king of Persia, had been known to cut a donkey in half at one sweep of his sword. Thirty-eight of the swords of the Asiatic races were described by Mr. Egerton in 1880 in a Handbook of Indian Arms. The worship of the sword (asi) may divide with that of the horse (aswa) the honour of giving a name to the continent of Asia. It prevailed amongst the Scythic Getæ, and is described exactly by Herodotus. To Dacia and Thrace it was carried by Getic colonies from the Jaxartes, and fostered by these lovers of liberty when their hordes overran Europe. The worship of the sword in the Acropolis of Athens by the Getic Atila, with all the accompaniments of pomp and place, forms an admirable episode in the history of the decline and fall of Rome; and had Gibbon witnessed the worship of the double-edged sword (khanda) by the prince of Mewar and all his chivalry, he even have embellished his animated the adoration of the scimitar, th Mars. The devotion of the Rajput to his arms as to his horse. He s steel, and prostrates himself before buckler, his lance, his sword, or his sword is an object of veneration or w the Govind Sikhs, as it was amongs the Scythian ancestors of the Jats, the Sikhs are descended. Tir-Singh, th sword of Angantyr, means Tir, water, a lion, *i.e.* in water or spirit like a li *Rajasthan*, ii. p. 204; *Royle's Arts, etc.* p. 460; *Rohde, MSS.; History of the* p. 105; *Egerton.*

SYAMA. Hind. Oplismenus frum used in Bengal during the rains as fodde

SYAMANTAKA, in Hindu mythology of great brilliancy, given by Surya, t Satrajita, a source of good, of pros happiness to the virtuous wearer, but wicked one.

SYCEE SILVER, silver in the for of various weights. The purest qualit 99 pure silver.—*Simmonds' Dict.*

SYHADRI, a range of mountains down from the S.W. end of the Ara Western Ghats of India. The name i ever, applied by geographers to the en the Western Ghats, called by the nativ its N. part, and Sukheit in its S. p coast. Length, about 800 miles; lat. 21° 15′ N., long. 73° 45′ and they terminate almost precipitously, N. side of the gap of Palghatcherry height, 4000 feet. About lat. 21° N Mahabaleshwar, lat. 18° N., long. 73° feet; Purundhar, 4472 feet; Singhu Hurrichundurghur, 3894 feet; about 1000 feet, towards Coorg; Bonasson feet; Tandianmole, 5781 feet; Papagiri, 568 feet. Seaward face, though abrupt, is not pre cipitous, but consists of a series of terraces o steps. Chasms or breaks in the range give access to the plateaux, and are denominated ghats or passes, a name which has become generally applied to the range itself. Scenery delightful and grand, displaying stupendous scarps, fearful chasms, numerous waterfalls, dense forests, and perennial verdure.

SYKES, COLONEL WILLIAM H., Bombay army, was Statistical Reporter for the Dekhan from 1821 to 1834; from 1840, one of the Directors of the East India Company; a distinguished zoologist, meteorologist, geologist, antiquary, and statist. He has written so much on each of so many subjects, that his papers are classed below.

Meteorology.—Mean Temperature of India at Various Elevations, Rep. Brit. Assn., 1834, iii. p. 567. On the Measurement of Heights by the Thermometer, ibid., 1835, iii. p. 25; Lond. Geo. Trans.; Bom. Geo. Trans., 1839; Jackson's What to Observe, etc. On the Remarkable Difference betwixt the Fall of Rain at Mahabaleswar and that at Bombay and at Poona, ibid., 1839, vi. p. 16. On the Meteorology of the Province of Coorg, in the Western Ghats, ibid., 1842, xi. p. 22. On the Fall of Rain on the Coast of Travancore and Table-land of Uttri Mulli, ibid., 1846. Fall of Rain on the Table-land of Uttri- ncore, 1846, ibid., 1848, p. 39. On Storm at Bombay, 6th April 1847, ian Hail-storms, ibid., 1850, p. 43. spheric Tides in the Dekhan, Phil. On the Meteorological Observations l. Trans., 1850.

Geographical Range of certain Birds various parts of the World, chiefly to Brit. Ass., 1835, iii. p. 69. Fishes of , Trans. Lond. Zool. Soc., 1838. f the Mammalia of the Dekhan, Zool. 1, republished, Bl. As. Trans., 1832, i. he Dekhan, Zool. Trans., 1832, repub- . As. Trans., 1834, iii. Quails and of India, Lond. i. 4to.

s.—Wages of Labourers in the Dekhan, Ass., 1835, iii. p. 118. Special Report atistics of the Dekhan, its Extent and Circumstances; Geology, Ghats, Escarp- limate, Botany, Zoology, Antiquities, , Education, Irrigation, Mountains, khan), Rep. Brit. Ass., 1837, vi. On of Calcutta, ibid., 1844, xiii. p. 88. istics of Hospitals for the Insane in , p. 89. Statistics of Civil Justice Four Years, from 1841 to 1844, . 94. Of Charitable Dispensaries in, Statistics of the Agra Government ovinces, ibid., 1847. Statistics of in Bengal to which Government is a 1848, p. 116. Contributions to the Sugar produced in India, ibid., 1849, istics of Civil and Criminal Justice ngal Government for the Years 1844, ep. Brit. Ass., 1836, v. Statistics the Educational Institutions of India, 1858, o. On the Fruits of the Dekhan—Twenty-one inds of Ordinary Wild Fruits, Importance of ommunication for the Introduction of Plants of dia (Rudiments of Indian Exhibition of 1853, mbay Economic Museum, Sir A. Johnstone , in Lond. As. Trans.; Dr. Buist on, Bom. Geo. Trans., 1848). On the Dutch Possessions of the East Indies, Rep. Brit. Ass., 848, p. 112. Prices of Cerealia and other dibles in England and India compared, Rep. rit. Ass., 1847. Mortality in the Jails of the wenty-four Parganas, Calcutta, Rep. Stat. urvey of India, 1841. Catalogue of Chinese uddhist Works, Lond. As. Trans. On the Land Tenures of the Dekhan, ibid., 1834, ii. pp. 205-233; 1836, iii. pp. 350-376. On the State of India before the Muhammadan Invasion, founded on the Travels of Fa Hian, ibid., 1836, vi. p. 248. On the Proprietary Right of the Soil vested in the Subject, not the Sovereign, in India, ibid., 1836, vi. p. 246. Same subject as Land Tenures of the Dekhan. Mortality and Chief Diseases of Troops under the Madras Government in 1851 compared with that in 1842, 1846, and 1849, Jl. of Lond. Stat. Soc., 1851. On Expenditure of the Government of India on Public Works, ibid., 1850.

Geology of a Portion of the Dekhan, Lond. Geol. Trans. iv. Second Series, 4to. On a Fossil Fish from the Table-land of the Dekhan, Lond. Geol. Trans., 1851, vii.

In 1832, a Catalogue of Birds, collected by Colonel Sykes in the Bombay Presidency, was published in the Proceedings of the Zoological Society of London. In this were enumerated 226 species, of which above 40 were described for the first time. This catalogue was undoubtedly the most valuable enumeration of the birds of India published, and contains descriptions, with many highly interesting observations on the habits, food, and structure of many of the species. Of those enumerated by Colonel Sykes, there were about 9 or 10 which Dr. Jerdon, when writing in 1839, had not observed, most of which are probably peculiar to the more northern portion of the range of Ghats and neighbouring table-land. He wrote also Notes on the Religious, Moral, and Political State of Ancient India, London, 1845; Statistics of the Educational Institutions of the East India Company; on the Increase of Wealth and Expenditure in the various Classes of Society in the United Kingdom, London 1837.—*Buist's Cat.; H. et T.*

SYLHET, in lat. 24° 50′ 22″ N., long. 91° 54′ 40″ E., a town in Assam, on the banks of the Surma, with a population of 16,846. It gives its name to a revenue district of 5440 square miles, in which is a population of 1,719,539. The territory of the raja of Jaintia was confiscated in 1835, in consequence of his complicity in the forcible seizure of certain British subjects, who were barbarously sacrificed at the shrine of Kali. In the south of the district, eight low ranges of hills run out into the plain, being spurs of the Tiperah mountains. The highest is about 1500 feet above sea-level. The frontier hill tribes are represented by 5715 Manipuris, 3108 Tiperahs, 2755 Khassyas, 2505 Kulis or Looshais, and 1188 Hajangs. Among the Hindus are the Kaibartta, 134,523, and the Chendal, 117,457; Kayasthas or clerks, 90,042; Sunris, 29,095. The majority of the Hindus belong to the Vaishnava sect. These are perhaps to be regarded as the professed adherents of the Kisari-bhajan sect, identical with the Kartabhajas of Bengal. There are several frequented places of Hindu pilgrimage in the district, including two temples in the territory of Jaintia, where human sacrifices used to be offered up to the beginning of the 19th century.—*Imp. Gaz.*

SYMPHYTUM ASPERRIMUM, the Caucasian prickly comfrey, was introduced into Britain in 1790. It is a useful forage plant.

SYMPLOCOS (from *συμπλοκη*, a knitting together), a genus of plants belonging to the natural order Styraceæ. Wight, in Icones, gives S.

foliosa, Gardneriana, microphylla, monantha, nervosa, obtusa, pendula, pulchra, racemosa. Thunberg gives as plants of Japan, S. Japonica, prunifolia, myrtacea, lancifolia, leptostachys, theophrastæfolia. In Burma there are three undetermined species. One named Kain-tha-phogee, BURM., is a tree of Tavoy, where its timber is used in boat-building. A few of the people of Lampteng, in Sikkim, find employment in drying the leaves of a shrub, one of the genus Symplocos, for the Tibet market, which are used as a yellow dye. The leaves of S. cratægioides are said to have astringent properties. S. paniculata, the Lodh of Hindustan, grows in the Sutlej valley between Rampur and Sungnam at an elevation of 7000 to 9000 feet, and is used in dyeing. S. pulcha, on the Neilgherries, has hairy leaves and snow-white flowers. S. ramosissima, *Wallich*, of the Himalaya up to 7500 feet. The yellow silkworm feeds on its leaves.—*Hooker's Him. Jour.* ii. p. 41.

SYMPLOCOS GARDNERIANA, *W. Ic.*, is a large and very beautiful tree when in flower, and decidedly the finest of the numerous species of the genus. It grows on the Animallays at 6000 feet elevation, and also in different parts of the Travancore and Tinnevelly mountains and elevations as low as 4500 feet. Dr. Wight found it on the Neilgherries; the leaves turn yellow in drying, and they yield a dye.—*Beddome.*

SYMPLOCOS RACEMOSA. *Roxb.*

Lodh, . .	BENG., HIND.	Lodduga, ...	TEL.
Hoora, ...	MAHR.	Erra lodduga, . .	,,
Savura, Lodhra,	SANSK.		

This small tree, from 10 to 12 feet high, and with a trunk about 20 inches in circumference, is a native of Nepal and Kamaon, of Bardwan and Midnapur in Bengal; grows also in the Kotah jungles, also in the Bombay Presidency, in jungles of the highest ghats. Wood small, white or yellowish, hard and durable, suitable for turnery. It is strong and compact, and might be used for cabinet as well as for other purposes. The bark of the root is sold at four seers the rupee, and is largely used for dyeing red. It is also used in medicine, being considered heating and promotive of the secretions. It is used also in the mesalihs for animals. The bark furnishes one of the red powders, known as 'abir,' scattered by Hindus in the festival of the holi.—*Thomson; Roxb.; Voigt; Gen. Med. Top.*

SYN, a respectful appellation of a fakir, also called shah and sultan.

SYNAGOGUE is the name given to the religious buildings of the Jews. Speaking of Jewish customs, Jesus says they love to pray standing in the synagogues, and in the corners of the streets. Both Hindus and Muhammadans offer their devotions in the most public places, such as at the landing-places of rivers, in the public streets, and on the roofs of boats, without the least effort at privacy.

SYNDESMIS TAVOYANA. *Wallich.*

Ka-tha khyæ, . .	BURM.	Tavoy red-wood, .	ENG.

A very large tree of British Burma, and in great abundance in the islands on the coast and near Moulmein. The wood makes handsome furniture, and is used for building, boxes, etc. It is occasionally beautifully variegated, and well adapted for furniture and ornamental purposes. When the wood is steeped in ferruginous mud, it turns jet-black and looks like ebony. The large cylindrical knobs, one or two inches in diameter, so often noticed in the ears of Karen women at Tavoy, are made of this wood after the colour has been changed. It is a valuable dye-wood both for black and red, but more especially for orange. The colours imparted to silk with different mordants are as follow:—

Muriate of tin—Three shades of orange, varying with the temperature of the bath and the time of immersion.

Acetate of alumina — Two shades of flame colour.

Acetate of iron—Two shades of drab.

Ditto, with a weak decoction of galls—A fine black, two shades.

Mixed with manjit, a variety of red and pinks are obtained, but not perhaps equal in intensity to those of the manjit alone.

Mr. Mason imagines that the Mergui red-wood is identical with the Tavoy red-wood, S. Tavoyana.—*Mason.*

SYNGNATHIDÆ, a family of order Lophobranchii. This order shown:—

ORDER v. Lophobranchi

Fam. 1. Solenostomidæ.

3 species of Solenostoma.

Fam. 2. Syngnathidæ, Pipe Fi

First Group. Syngnathina.

2 Siphonostoma, 3 Ichthyocampus, 1 Leptoichthys, 2 Stigmatophora, 1 Protocan gnathus, 1 Nannocampus, 23 Doryichthys, 9 Neroplus.

Second Group. Hippocampina, Sea-H 1 Gastrotokeus, 3 Phyllopteryx, 25 Hipp Solenognathus, 2 Acentronura.

Third Group. Pegasidæ, Winged Ho

According to some authors, the pipe sea-horses, and the winged sea-horses a to distinct families, viz.—

Syngnathidæ, Pipe Fishes.—Body slender, linear, or angulated; snout g longed, cylindrical; mouth termin Ventral fins absent; caudal fin some.

Hippocampidæ, Sea-Horses.—Hea compressed; snout narrow, tubular; minal. Pectorals small; dorsal si fin wanting.

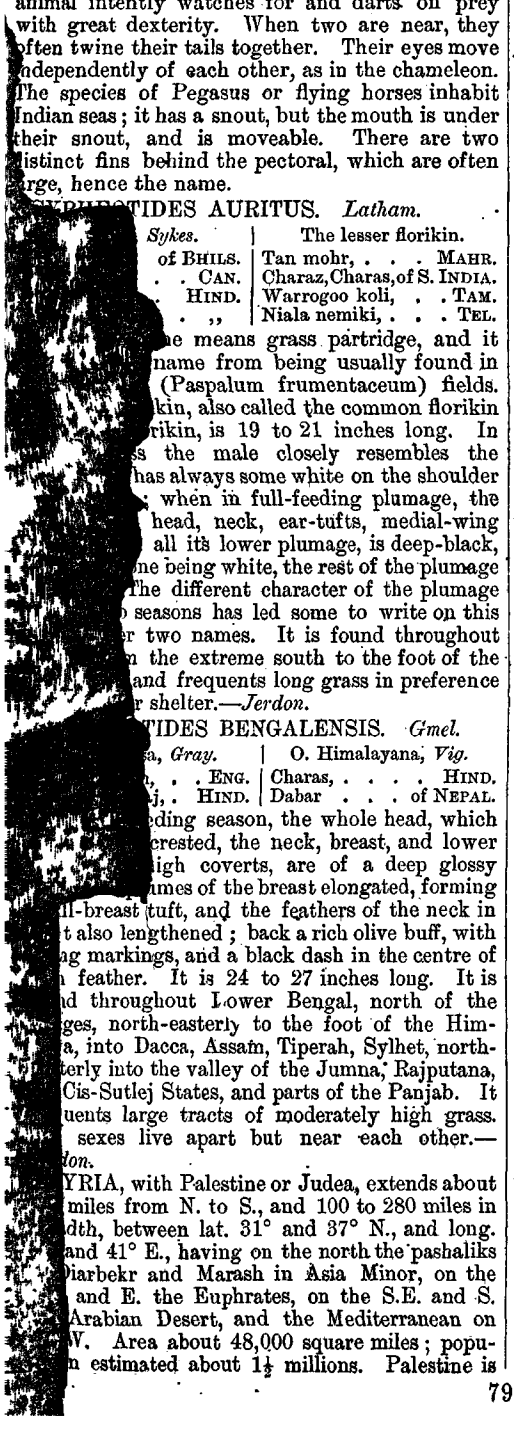
Pegasidæ, Winged Sea-Horses.— depressed; snout suddenly contrac somewhat protractile; mouth termi Pectorals generally large; caudal They all agree in having the e partially ossified; exo-skeleton g tufted (hence the group is named L in the opercular aperture being small, and t swimming-bladder without an air-duct.

Syngnathus genus has the body elongate slender, covered with a series of indurated plat arranged in parallel lines. Head long; bo jaws produced, united, tubular. No vent fins.

Hippocampus has its jaws united and tubular, the mouth placed at the end. The body com pressed, short, and deep. The whole length o the body and tail divided by longitudinal an transverse ridges, with tubercular points at th angles of intersection; both sexes have pectora and dorsal fins; the females only have an ana fin; neither has ventral or caudal fins. Hipp

campus brevirostris, the sea-horse, or short-nosed hippocampus, habits are very singular.

In certain of the species of Syngnathus or pipe fishes, the males are furnished with an elongated pouch under the tail, and in S. acus the roe is transferred from the belly of the female to the pouch of the male. The Hippocampi or sea-horses while swimming maintain an erect position, but grasp with the tail whatever weeds or other objects meet it in the water, and, when fixed, the animal intently watches for and darts on prey with great dexterity. When two are near, they often twine their tails together. Their eyes move independently of each other, as in the chameleon. The species of Pegasus or flying horses inhabit Indian seas; it has a snout, but the mouth is under their snout, and is moveable. There are two distinct fins behind the pectoral, which are often large, hence the name.



...TIDES AURITUS. *Latham.*

Sykes.		The lesser florikin.	
of	BHILS.	Tan mohr, . . .	MAHR.
. .	CAN.	Charaz, Charas,	of S. INDIA.
	HIND.	Warrogoo koli, . .	TAM.
.	,,	Niala nemiki, . . .	TEL.

...e means grass partridge, and it ...name from being usually found in ... (Paspalum frumentaceum) fields. ...kin, also called the common florikin ...rikin, is 19 to 21 inches long. In ...s the male closely resembles the ...has always some white on the shoulder ... when in full-feeding plumage, the ... head, neck, ear-tufts, medial-wing ... all its lower plumage, is deep-black, ...ne being white, the rest of the plumage ...The different character of the plumage ...seasons has led some to write on this ...r two names. It is found throughout ...n the extreme south to the foot of the ...and frequents long grass in preference ...r shelter.—*Jerdon.*

...TIDES BENGALENSIS. *Gmel.*

...a, *Gray.*		O. Himalayana, *Vig.*	
..., . .	ENG.	Charas, ...	HIND.
...j, .	HIND.	Dabar . . .	of NEPAL.

...ding season, the whole head, which ...crested, the neck, breast, and lower ...igh coverts, are of a deep glossy ...mes of the breast elongated, forming ...ll-breast tuft, and the feathers of the neck in ...t also lengthened; back a rich olive buff, with ...ng markings, and a black dash in the centre of ... feather. It is 24 to 27 inches long. It is ...d throughout Lower Bengal, north of the ...ges, north-easterly to the foot of the Him... into Dacca, Assam, Tiperah, Sylhet, north... into the valley of the Jumna, Rajputana, Cis-Sutlej States, and parts of the Panjab. It ...uents large tracts of moderately high grass. ... sexes live apart but near each other.—*...don.*

...YRIA, with Palestine or Judea, extends about ... miles from N. to S., and 100 to 280 miles in ...dth, between lat. 31° and 37° N., and long. ...and 41° E., having on the north the pashaliks ...Diarbekr and Marash in Asia Minor, on the ... and E. the Euphrates, on the S.E. and S. Arabian Desert, and the Mediterranean on ...W. Area about 48,000 square miles; popu... estimated about 1½ millions. Palestine is usually termed the Holy Land. The principal rivers are Euphrates, Jordan, and Orontes. Syria is a Greek abbreviation of Assyria. Syria, or Aram, lying between the Mediterranean and the Euphrates, is separated into two plains by a double range of hills which divide the country from north to south. The smaller plain is next to the Mediterranean, and is fertile; the larger consists of sand and rocks, and stretches to the Euphrates. Libanus and Anti-Libanus, its principal mountains, are on the west well cultivated by means of terraced cultivation, but are barren and rugged on the east. In the south of Syria there is a great intermingling of nations and races and religions. In the western coast of the Peninsula of India is a small body of Syrian Christians. Its most powerful Bedouin tribe is the Anazeh; they are true nomades; part of them are in Nejd. They possess an ancient grant, in a copper-plate, of privileges bestowed on them. Syro-Arabian languages appear to have been spoken from the very earliest times by the various nations who inhabited that part of Asia lying to the eastward of the Tigris.

SYRINGA, a genus of plants of the order Oleaceæ. Syringa Chinensis, *Willde.*, the Chinese lilac, is a native of China cultivated in Europe. Syringa villosa has villous leaves, and is found in China on mountains about Pekin.

Syringa emodi, *Wall.*

Chunu, . . .	BEAS.	Rang-chul, . .	KANAWAR.
Ban-phunt, . .	CHENAB.	Kaimar, . . .	RAVI.
Ban-dakhur, . .	,,	Banar, . . .	
Gnari, ...	,,	Shatri, Dudla,	
Shafar, . . .	KANAWAR.	Lolti, Rang ch...	

Elliptical-oblong leaves, glaucous ... tenuated at the base, and acuminated a... with purple flowers. A native of Ka... Panjab Himalaya at 7000 to 11,000 fee... Indus, and collected by Bellew at 9000... the Safed Koh. The wood is white an... grained, and carves well. The leaves are ... by goats.

Syringa Persica, *L. Var. β.* S. laciniata, *Vahl.*

Persian lilac, . . .	ENG.	Hiasmin, . . .	KANGRA.

Leaves small, lanceolate; flowers purple. A native of Persia, and cultivated in some of the gardens on the Kashmir lake; seems to be a variety of S. laciniata, a small shrub from four to six feet high. It is one of the most ornamental of low deciduous shrubs, and on that account is very commonly cultivated. When planted in pots and forced, it may be made to flower at Christmas; but by this process the fragrance of the flowers is lost. Of this species also three varieties are found in English nurseries, the white, the cut-leaved, and the sage-leaved Persian lilacs.—*Stewart; Eng. Cyc.; Voigt.*

SYRNIUM INDRANEE, Devil Bird. *Sykes.* Mr. Blyth had some doubts about this bird. There would appear to be three or four distinguishable races, the Ceylon bird approximating most nearly to that of the Malayan Peninsula. The horror of the owl's nocturnal scream was as prevalent in the west as in the east. Ovid introduces it in his Fasti, L. vi. I. 139; and Tibullus in his Elegies, L. i. E. 5. But Pliny, I. xi. c. 93, doubts as to what bird produced the sound; and the details of Ovid's description do not apply to an owl.—*Tennent, Ceylon.*

SYUD, properly Sayyid, with the Mir, Sharif,

Shaikh, Beg, and Khan, are terms or titles assumed by Muhammadans as their birthright. Syud means lord, and is taken by all descendants of Ali and Fatima, but also by the children of the other wives of Ali. Ali had nine wives, by whom he had 14 sons and 18 daughters; Ali and Fatima's descendants from Hasan and Hūsain being styled Hassani or Syud Hassani, and Hūssaini or Syud Hūssaini, and those from the other wives Alavi or Syud Alavi. The Syud are also styled Mir or prince, their women are Saidani, their race Sādāt, and the offspring of a Syud and other Muhammadan woman Sharif or noble. As a rule, Indian Syuds are quiet, humble-minded men, not distinguished by other qualities from the Shaikhs; they are of Sunni and also of Shiah persuasion, and are met with serving as soldiers or in civil avocations, or following some religious duties. Amongst the women of the Syuds of Madras most can read the Arabic Koran and the Hindustani books of Belief and Devotion, but they cannot write. In all Madras, there were (in 1872) more than 1000 of this tribe of women, some of them also able to read Hindustani story books and could write a little, while a few even knew the Persian Gulistan, Bostan, Anwar-i-Sohaili, Abul Fazl, and other usual books in Persian, and can even write the Persian grammatically, but there are not more than 10 or 15 such women in all Madras. Also about 400 or 500 of them are good needlewomen and embroiderers. The Syud race of Barh in Northern India furnished many persons of note to the courts of D[illegible] from the reign of Akbar to [illegible] Ferokhsir. They are still numerous in [illegible]ar. In Kurachee and the Hyderabad [illegible] Syuds are landowners and ex[illegible]ltivators, and say they came from Persia about 700 years ago. Kaghan [illegible] narrow glen, stretching upwards till [illegible] reaches Chelas; the latter outpost of [illegible] Gulab Singh's kingdom is a barren de[illegible]ncy of Hazara. It is inhabited by pastoral and aboriginal races, and was given by former rulers in fiefdom to a family of Syuds, who were confirmed by the British. These Syuds exercised internal jurisdiction, and sent certain members of the family in attendance on the Deputy-Commissioner of Hazara, virtually as hostages for good behaviour. The Syuds were summoned to answer numerous complaints preferred by the people of Kaghan; they came, but afterwards fled, and assumed an attitude of resistance, and intrigued with the Sitana fanatics and with the Hasanzai, then hostile to the British. The small principality of Banaganapilly, in the Ceded Districts, is ruled by Syuds.

Several Syuds have been distinguished theologians, viz. Syud Abd-ul-Kadar, styled Pir-i-Dastagir; Syud Ahmad, styled Kabir, the founder of the Rafai community of fakirs; Syud Jalal-ud-Din, Bokhari. Syud Zain-ul-Abidin, a venerated saint.—*Wilson's Gloss.*

SYUD AHMAD KHAN, author of the Jam-i-Jam. It comprises tables of the princes of the house of Timur, also the Syud and Afghan emperors of India, ending with Muhammad Bahadur Shah, then ruling at Dehli.

SYUD JAMAL, author of the Tar-Khan-Nama or Arghun-Nama, A.D. 1654–55, giving a history of these two families. He quoted largely from Mir Masum's Tarikh-i-Sind.

SYUD MA'SUM ALI SHAH was named by his disciples Ma'bud, 'the adored one,' a title only applied by orthodox Muhammadans to God himself. He was the great Sufi teacher of his time, the 12th century of the Christian era. The first appearance of Ma'sum Ali Ma'bud as a public teacher occurred in Isfahan (A.H. 1196–99), but in consequence of the denunciation of the Ulema, he and his disciples had their ears cropped and were expelled from the city.

SYUD SHAH, ZOOHOOR, distinguished by his wisdom, piety, and austerity of life. He built, of earth, a small monastery at Allahabad, which still remains. He was celebrated for his miracles; by his prayers the most frightful chronic complaints were immediately removed, of which an instance is given in respect to the case of the Governor of Allahabad, Nawab Qomdat-ul-Mulk Amir Khan. Zoohoor boasted of having lived 300 years.

SYUD SULTAN ALI, ul Husaini[illegible] us Safavi, a native of Ardabil in Aza[illegible] travelled to Lucknow, the capital of [illegible] Shuja-ud-Dowla was reigning. In [illegible] undertook a history of India, fro[illegible] Timur to the death of the empe[illegible] Shah, and he brought it down to A[illegible]

SZE. CHIN. A Buddhist mo[illegible] *Edkins.*

SZE-CHUEN, a large province o[illegible] China, with Tibet on its west. It is trav[illegible] Yang-tze-kiang and its affluents; chief t[illegible] tu. The provinces of Yunnan, Kwei-c[illegible] nan are on its south. Gold is collected i[illegible] of the rivers in Yunnan and Sze-chuen from the upper branch of the Yang called Kinsha-kiang or Golden-sanded l[illegible] largest amount is said by Sir John Davi[illegible] from Li-kiang-fu near that river, and fro[illegible] chang-fu on the borders of Burma. It i[illegible] into personal ornaments and knobs f[illegible] caps, and beaten into leaf for gilding, used as a coin, nor is much found in[illegible] as bullion. Silver also is brought fr[illegible] near the borders of Cochin-China, an[illegible] in that region must be both extensiv[illegible] worked to afford such large quanti[illegible] been exported. Tavernier tells us [illegible] gold from China, which the Chine[illegible] for the silver which is brought them[illegible] for price, they love silver better than g[illegible] because they have no silver mines. Yet it[illegible] the coarsest metal of all the Asiatic gold. *Williams' Middle Kingdom*, p. 144; *Tavernier Travels*, 156.

SZE-MA TSIEN, the father of Chinese histo[illegible]

SZU or Azes Scythians. Ili is a valley [illegible] town in Central Asia, from which Lassen s[illegible] poses the Szu Tartars were expelled by the Y[illegible] tchi or White Huns, B.C. 150. The Szu Tartars supposes to be Sacæ, and the Yue-tchi to be Tochari. After occupying Tahia or Sogdiana a time, they are stated by the Chinese to h[illegible] been driven thence, also, by the Yengar, s[illegible] years afterwards, and to have established th[illegible] selves in Kipen, in which name Lassen recogn[illegible] the Kophen valley in the Kohistan. The g[illegible] Kirghiz horde is adjacent to Ili and Tarbag[illegible] It is under the dominion of China, and exchan[illegible] large quantities of cattle on the frontier for [illegible] goods.

T

T. The alphabets of the Arabic, Pèrsian, Urdu, Sanskrit, Hindi, Mahrati, Gujerati, Bengali, Uriya, Telugu, Karnatica, Tamil, and Malealam, all contain letters with the sound of the English letter t; and the Arabic, Persian, and Urdu each have two letters with the power of the English letters th. This letter of the English alphabet has, in English, but one sound, as in tan, ten, tin, tone, tun, tyne; but in combination with the English letter h, it assumes two compound sounds, a softer one, as in than, thus, then; and a harder sound, as in thicken, thief, thong, thrall, thumb, and thwart. Th, with the sound of the English letter as in thief, and of the Greek letter theta, occurs in Telugu, Uriya, and Karnatica, but this sound is not frequent in the eastern tongues, though a t with ted h occurs in most of them, in which nd of an aspirate, pronounced after ould be written t'h, and pronounced

many examples of the Chaldæan of the sh or s into t, and the be adduced:—Hebrew, Shekel, to s Tekel in Chaldee; Heb., Sheber, ald., Teber; Heb., Seraphim,— him, the Babylonian counterfeit of Cherubim or Seraphim; Arab., Sup- rpent,—Chald., Tuphon or Typhon. e s frequently passed into t. Thus Bunsen, 'Tet, who is also called Set,' other similar examples. The Turanian so alter the s to t, and thus sir-band band becomes turband, and sarposh, vering, becomes in Egypt tarbosh, as have no letter p.

KHANA, the gymnasium of India, ost every town. The Sindi are very ling, but the Malla or wrestlers of erally speaking, African blacks. In ng it is not necessary, as in India, adversary on his back.—*Burt. Scinde.*

'-i-AKBARI, by Nizam-ud-Din history of the Muhammadan kings 37th year of Akbar's reign; it is a k of great merit.

R. HIND. A mineral medicinal t to be confounded with tabashir, the bamboo, from which it is quite *ell*, p. 99.

cording to Muhammadans, the man e first sword, the Tubal-Cain of the rew Scriptures.

ABANIDÆ, a family of insects. Among its ies is the zimb of Abyssinia, the very sound ose dreaded hum sends the herds from their s, and makes them run wildly about, till p with fatigue, fright, and hunger. In thern portion of the same continent, and te as formidable, is the dreaded tsetse, like the mb, one of the Tabanidæ, though a different pecies. This insect, which is scarcely larger han the house-fly, reigns over certain districts, tacking the domestic animals. Its bite is rtain death to the ox, horse, and dog, yet, range to say, it produces no serious incon- nience to the human body, nor apparently to the wild game of the country, the buffalo, giraffe, antelope, and zebra, which roam by millions over the same plains.—*Gosse's Natural History*, p. 110.

TABAQ. HIND. A tray. Mewa-ka-tabaq, or fruit-tray. P'hool-ka-tabaq, flower or fairy tray.

TABARI, the Livy of the Arabians, the very parent of their history; but, as far as Ouseley could find by inquiry, given over for lost in Arabic. His name was Abu Jafar Muhammad.—*Ouseley's Travels*, i. 35. See Tarikh-i-Tabari.

TABAR-i-ALAM, a Muhammadan saint in whose name they perform urus.

TABASHIR. ARAB.

Banslochun, Bansk, BENG.	Tabaschir, . . . GER.
Wa-tai-ga-kyouk, BURM.	Dunlochan, . . HIND.
Chuh-hwang, . . CHIN.	Tivakshera, . . SANSK.
T'ien-chuh-hwang, ,,	Oonamaku, Unalie, SINGH.
Chu-kau, . . . ,,	Munjil uppu, . . TAM.
Tabachir, . FR., TURK.	Veduru uppu, . . TEL.

A siliceous concretion found in the joints of the female bamboo. It is partly soluble in water, bluish white, concrete, adhesive to the tongue. It is composed of silica, 90·5; potash, 1·1; peroxide of iron, 6·9; alumina, 0·4 per cent. The Persians deem it tonic and aphrodisiac, the Arabs suppose it to be astringent; but from its composition we are warranted in supposing it to be entirely inert. It resists acids, is indestructible by fire, and forms, on being fused with alkalies, a sort of glass. It is much esteemed by the Hindus, P[illegible] and Arabs as a powerful tonic, and is [illegible] to have great efficacy in internal [illegible]bes all the volatile and [illegible] an opacity. If the oils [illegible]e of copper, anchusa [illegible] [illegible]c acid, or malic [illegible] tab[illegible]spectively the colo[illegible]s of the eme[illegible]soberyl, pink topaz, and Brazil- ian [illegible]V. Lange has ascertained that the si[illegible]sap of plants exists exclusively as a hy[illegible] of silicic acid in very dilute solution. A simi[illegible] substance has been found in jungle grass. In Ajmir it is used as an aphrodisiac, and in general debility. One massa is the dose, and it is sold at two tolas for one rupee.—*Jameson, Ed. Jour.*, 1820, ii. p. 97; *Smith, M.C.C.; Faulkner; O'Sh.; Mason, Gen. Med. Top.; Thomson's Rec. of Gen. Sc.* viii. p. 132.

TABAT MAKUS, the chapter of the Koran read backwards.

TABAYLA DOLCE, syn. of Euphorbia balsamifera; its sap resembles fresh milk.

TABERNÆMONTANA, a genus of plants belonging to the natural order Apocynaceæ, found in the W. Indies, S. America, Australia, India, and tropical Asia. The flowers of many species are very sweet-scented, and the double-flowered variety of T. coronaria is very ornamental, and is one of the most common species in Indian gardens. The deep-red pulp surrounding the seeds of this species appears capable of yielding a beautiful colour. The cream-like sap of T. utilis, the milk-tree or Hya of Demerara, is said to be very nourishing. Other species are employed medicinally. The sap of T. persicariæfolia is considered a poison in Mauritius.

Tabernæmontana coronaria, *R. Br.*

T. divaricata, *R. Br.*	N. divaricatum, *Linn.*
Nerium coronarium, *Ait.*	
Wax flower plant, ENG.	Ghandi tagarapu, . TEL.
Farkitaggar, . . HIND.	Nandi vardhana chettu, ,,
Nandier vatam, MALEAL.	

This ornamental shrub is cultivated in flower gardens; the flowers are fragrant during the night. Dark shining leaves, flowers generally double, colour pure white, resembling wax, having a faint, pleasant smell. The foliage beautifully contrasts with its large blue-white double flowers, which are often called wax flowers. The wax flower of Bengal is a trailing creeper, Hoya carnosa. Farkitaggar is the single variety, and barratagar the double-flowered. It is propagated by cuttings.

Tabernæmontana crispa, *Roxb.*
T. alternifolia, *Linn.* | Kurutupala, . MALEAL.

This shrub grows on the coasts of Peninsular India, and is employed in medicine.

Tabernæmontana dichotoma, *Roxb.*
Cerbera manghas, *Linn.* | Manghas lactescens, *Burm.*
Forbidden fruit, . ENG. | Diwi-kaduru-gass, SINGH.

This is a native of Ceylon, very common in the warmer parts of the island. Kaduru signifies forbidden, and Diwi, tigers. It thrives in a low situation, with a light mixed soil.

Tabernæmontana persicariæfolia, *Roxb.* A straight, middling-sized tree; the tree is sacred, and the scented wood is used in incense.

Tabernæmontana recurva, *Roxb.*, Tau-sa-lap, BURM., is a low shrub, indigenous about Moulmein, remarkable for its recurved peduncles and fragrant flowers.—*Roxb.; Genl. Med. Top.* p. 186; *Mason; W. Ic.; Thw.; Voigt; Gamble; Beddome; Book of Trees; Riddell.*

TABIB. PERS. A physician.

TABIK TUAN, the [illegible] meaning I salute [illegible]

[illegible]TIA. HIND. Mu[illegible]us mendicants, followers of Shah [illegible]ress in black, wear a chain roun[illegible] and carry a small drum. They son[illegible]about monkeys and bears for show.

TABLA. ARAB. A kettle-drum. [illegible]ese are in pairs, and one is called Agaura, a [illegible]uple of drums, played upon at the same time, one with each hand. Tabal, large drum, used in the field of battle.

TABLE BAY, lat. 33° 54′ S., and long. 18° 25′ E., leading to Cape Town at the Cape of Good Hope, is overlooked by Table Mountain.

TABLUNG, a rude pagan tribe in the hills of Assam, on the eastern frontier of the Mikir and Cachar.

TABOO or Tabu, in the islands of the Pacific, a ceremony to render articles and days sacred and protected. In some places patches of leaves are tied round the trees 6 or 7 feet from the ground, to indicate that it is private property. Taboo of the Polynesian Islands is known in the Archipelago as Pomali, and in Madagascar as Kiady, which is there a tuft of grass on the summit of an erect pole. Of the 'tabu days' in the South Sea Islands, Ellis the missionary says:—'Except those whose attendance is required at the temples, no individual is to be seen out of doors.' Again, 'If any one made a noise on a tabu day, he must die.'—*Montgomery*, i. p. 82; *Peschel.*

TABOR, a mountain of Syria, in Palestine, about midway between Nazareth and Tiberias. It is almost insulated, and overtops all the neighbouring summits. The Christians consider Tabor a holy place, in honour of the transfiguration; but the Latins and Greeks are at variance as to the exact spot. In ascending the hill, on the right hand, looking into the plain of Esdraelon, stands a little village, called Deborah by the natives, in which, say the legends, Jael slew Sisera. The view from Mount Tabor is magnificent, and comprises places of the greatest interest; the hills of Gilboa and Samaria, mounts Hermon and Carmel, the plains of Galilee and Esdraelon, the Jordan and the Kishon, the Sea of Galilee and the Mediterranean, are all discernible. On the anniversary of the transfiguration, mass is performed at, and a great procession led to, the altars set up where the three tabernacles were made. They are in a vault underground.—*Skinner's Journey*, i. p. 130.

TAB RIVER is only partly in Khuzistan, near Beibahem, there of considerable size; it preserves a western course as far as Indian, a town of about 4000 inhabitants; up to which, when ascended by Lieut. Whitelock, of the Indian navy, in it was found to be navigable for boats [illegible]. From hence the river inclines more [illegible] and has a tortuous course through a [illegible] to the Persian Gulf; an extensive [illegible] have their dwellings on its banks, [illegible] northward of the city of Shuster [illegible] ation of the river Karum, is the f[illegible] called Shadarwan, with the brid[illegible] and several deep and fine kanat.

TABREEZ or Tauris, in lat. 38° [illegible] long. 47° 17′ 46″ E., is 4500 feet ab[illegible] It stands in a beautiful plain, and i[illegible] of a forest of orchards covering an[illegible] country which has been estimated [illegible] in circuit. It is the chief town of [illegible] province of Azerbijan, has narrow st[illegible] houses of a single storey. Its present [illegible] has been estimated at 30,000. It sta[illegible] ever, on the outskirts of the Persian e[illegible] has been terribly exposed to the atta[illegible] frontier tribes. In addition to this, [illegible] have repeatedly shattered it. Wa[illegible] Turkish is the language spoken. [illegible] of Harun-ur-Rashid, greatly beaut[illegible] A.D. 858, and again in 1041, it was [illegible] earthquakes. In 1392 Timur took a[illegible] and since then it has repeatedly ch[illegible] between the Turkoman, Turks, [illegible] Russians. In Ptolemy's Geograp[illegible] written Gabris, a mistake of the g[illegible] tau. The European geographer I[illegible] poses it to be identical with Ga[illegible] the capital of Atropatene, a part[illegible] called from Atropates, who, after[illegible] Alexander, made himself independ[illegible] grandson of Chengiz Khan, made i[illegible] ca[illegible] of Persia.—*MacGr.* iv. p. 579; *Porter's Tr.* [illegible] 220; *Mignan's Tr.* p. 333; *Ouseley's Tr.* p. [illegible]

TABUT, also Tazia, in India the represent[illegible] of a tomb at the Maharram festival; a [illegible] the shape of a mausoleum, intended to r[illegible] the one at Karballa, erected over the ren[illegible] Husain. It consists of a bamboo framework, interstices being filled up with a nicely clippe[illegible] network of paper, often pasted on mica. Bu[illegible] every variety of materials is employed, from th[illegible] purest silver to ivory, ebony, sandal-wood, ceda[illegible] down to bamboo, also wax and bangles. With[illegible] it are placed alams or flags to represent tho[illegible] of Hasan and Husain.—*Herklots.*

TACAMAHACA, a resin obtained in America, Bourbon, and the E. Indies. That of Bourbon and India is produced from Calophyllum calaba; portions of this resin are obtained from Elaphrium tomentosum, Canarium commune, Fagara octandra, and likewise it is supposed from Populus balsamifera. It is imported from America in large oblong masses wrapped in flag leaves. It is of a light-brown colour, very brittle, and easily melted. When pure it has an aromatic smell, between that of lavender and musk; and dissolves completely in alcohol, water having no action on it. Calophyllum calaba is a native of Travancore. It is yellow, translucent, adhesive, of acrid taste, and pleasant aromatic smell.—*Thomson's Chemistry; Faulkner; O'Sh.*

TACCACEÆ, a natural order of perennial s, with large tuberous roots. Several species in the E. Indies and the Archipelago, T. , integrifolia, lævis, montana, Raffiesiana, a, and Brownei.

A PINNATIFIDA. *Linn.* Salep Tacca.

Tacca pinnatifolia, *Gœrtn.*

of	BANDA.	Surana, . . .	SANSK.
	BURM.	Kara-chune, . .	TAG.
	MALAY.	Kara karnay, . .	TAM.
	MALEAL.	Kunda, Chunda, .	TEL.

iccas, Otaheite, and other Society make of the meal of the root a latinous cake, like that made of ssesses a considerable degree of nd requires frequent washing in cold ous to its being dressed. Dr. Harris duced it into Calcutta. In Travan- his root grows to a very large size, eaten by the natives, who mix a rtion of some agreeable acid with it natural pungency.—*Roxb.* ii. p. 172; *lie.*

ETES AQUILA, the Attagen aquilus, ate bird, also called the sea-hawk, war bird, and the boatswain, has and cannot swim or dive. It is between the predaceous sea and land nakes other fishing birds abandon It is of great endurance, takes great to great heights in the air. It h all tropical seas, and hovers over aters. It has been seen 400 leagues l yet is said to return to land every xpanded pinions measure 14 feet nd.—*Bennett.*

of the Philippines, a gigantic ell is used as a font in churches. . A broad silver ring worn on n.

. HIND., SIND. Preparations of bhang, ds, and other similar articles, drunk the hot weather, and believed to be cooling.

DMOR or Palmyra, a ruined city, known Bedouins as Sulaymania. It is three days' from the Euphrates. It attained to great dour from its position, being for centuries a depot for the merchandise brought from the East ndies and up the Persian Gulf, and which was rwarded from Tadmor into Phœnicia and Asia Minor. Solomon took this town under his protection, erected some fortifications for its defence, nd gave it a garrison of his soldiers. During he reign of Mark Antony, its inhabitants were ted for their riches and their commerce with the east. Pliny notices it as a fertile oasis in the desert. It is 337 miles distant from Seleucia on the Tigris, 203 from the sea, and 176 from Damascus. The city attained to its greatest grandeur under the rule of Odenatus and Zenobia, but it was besieged and taken by the emperor Aurelian, and Zenobia was led captive to Rome, where she formed part of the display in his triumph.

Zenobia, widow of Odenatus, had been permittted by Gallienus to participate in the title of Augustus, and had extended her sway over the greater part of Asia Minor, Syria, and Egypt. The army of Aurelian encountered the forces of Zenobia on the banks of the Orontes, not far from Antioch, and drove the Palmyrenes from their position. They retreated to Edessa, where they were a second time defeated in a bloody battle, and compelled to fall back on Palmyra, followed by Aurelian, who invested the city. Zenobia was taken prisoner in attempting to escape into Persia, and, after a long defence, Palmyra fell. Aurelian then set out on his return to Italy, and had reached Byzantium when tidings overtook him that the Palmyrenes had revolted, murdered the governor and Roman garrison, and proclaimed a relation of Zenobia Augustus. He immediately turned back to Palmyra, which he entered unopposed, massacred the whole population, and razed the city to the ground, leaving orders, however, to restore the temple of the sun, which had been pillaged by the soldiers. While yet in Mesopotamia, it became known that Egypt had risen in rebellion, and Aurelian hastened to Alexandria, put the usurper Firmus to death, then returned to Rome. The temple of the sun at Tadmor is on a grander scale than that at Balbec.

TADPATRI, a town in the Bellary district of the Madras Presidency, built about the 15th century. It contains a pagoda dedicated to Rama, and another to Chinturaya, both of them elaborately decorated with sculptures representing the legendary histories of Rama, Krishna, and others.

TAEL, a coin of China, value about forty pence; 100 or 110 go to a dollar. Also a weight = 1⅓ ounce. The tsau-ping ranges from 94 tael 4 mace to 106 tael 4 mace.

TÆNIS BLECHNOIDES, the tapeworm fern of Tenasserim, so called from the resemblance of the line of sori to a tapeworm.—*Mason.*

TAE-PING, native Chinese, as distinguished from the Tartar ruling race.

TAE-TAN. CHIN. The altar of burnt-offering.

TAFL. When Arabs wish to cool the skin after a journey, they wash with a kind of clay called tafl, or with a thin paste of henna, and then anoint the body with oil or butter.—*Burton's Mecca*, i. p. 255.

TAFSIR. ARAB. Ilm-ut-Tafsir, or the exposition of the Koran. Several Tafsir are known all over the modern world. The smaller one is called Jalalani, or the two Jalal, *i.e.* the joint work of Jalal-us-Siyuti and Jalal-ul-Mahalli, and fills two stout volumes octavo. The larger is the exposition of Al Baizawi, which is supposed to contain the whole subject. Some few divines read Al Khazin.—*Burton's Mecca*, i. p. 156.

TAGAL, dry rice cultivation, equivalent to the Malay muah.

TAGALA, a language of Luzon island.

TAGARA is mentioned in the Periplus as a very great city about ten days' journey to the east of Baroach, producing ordinary linen. Its site is now unknown, but it became the capital of a line of kings of the Rajput family of Silar, with whom the ruler of Kalian, near Bombay, in the 11th century, and of Parnala, near Kolhapur, in the 12th, were proud to boast of their connection.—*Elphin.* p. 223.

TAGETES ERECTA. Genda, HIND. The marigold. Its handsome yellow flower is used by the Hindus in making garlands to decorate their idols, and it may be seen on the gates of churches and houses of Europeans at Christmas and New Year's day. Tagetes lucida, the African marigold, is common in all Indian gardens, and readily grown from seed.

TAGETES PATULA. *Linn.*

Genda, ... BENG. | Gul-jafari, HIND., PERS.
French marigold, ENG. | Banti chettu, . . . TEL.

This marigold is grown in most of the gardens of India, and the flower is worn by Hindu women in their hair.—*Gen. Med. Top.; Thomson's Records of Gen. Science*, ix. p. 303; *Riddell.*

TAGHALAQ, a dynasty that ruled in India from A.D. 1321 to 1412. Juna Khan, who took the title of Muhammad Taghalaq, ruled from A.D. 1325 (A.H. 725) to A.D. 20th March 1351 (A.H. 752). His father, Ghaias-ud-Din Taghalaq, was killed by the fall of a wooden pavilion which Juna Khan had erected. Juna Khan was the most eloquent and accomplished prince of his age. He was regular in his devotions, and conformed [illegible]te life to all the moral precepts of his religion. In war he was distinguished for his gallantry and personal activity. He established hospitals and almshouses on a liberal scale, and distributed gifts and pensions to his friends and to men of learning with a profusion never before equalled. But his whole life was passed in the pursuit of visionary schemes, and with a total disregard of the sufferings of his subjects.

He bought off an army of Moghuls, under Timurshin Khan, by an immense contribution; he completed the reduction of the Dekhan; he resolved to conquer Persia, but his immense army dissolved for want of pay, and carried pillage and ruin to every quarter. He assembled 100,000 men to conquer China, but when they had crossed through the Himalaya, they were met by a great army of Chinese, and scarcely a man returned. He tried to introduce paper money with copper tokens, but it failed. More than once he moved out his army over a great tract, as if for a hunt, and ordered it to close in to the centre, and all within were slaughtered like wild beasts. His nephew Muhammad, governing in Malwa, rebelled, but was pursued into the Dekhan, taken, and flayed alive. Malik Bahram, his father's friend, rebelled in the Panjab, but was defeated and slain. Bengal and the Coromandel coast revolted, and were never again subdued. His army was attacked by a pestilence at Warangal. The Hindu kingdoms of Karnata and Telingana were re-established, A.D. 1344 (A.H. 744), and the governor of Sambal, he of Beder, also a Moghul chief, and others in the Dekhan and Gujerat, rebelled. He at length died at Tatta, on the Indus, A.D. 20th March 1351 (A.H. 21 Maharram 752). His tomb stands by itself, surrounded by an artificial lake. Thrice during his reign he changed his capital from Dehli to Deogiri, to which he gave the name of Dowlatabad, and compelled the people to remove. Ibn Batuta visited his court A.D. 1341. At the close of the 14th century, during the minority of Mahmud, the last Taghalaq king, Gujerat, Malwa, and Juanpur proclaimed their independence, the last kingdom being the Ganges country from Bengal to the centre of Oudh. After the invasion of Timur (A.D. 1398), other provinces threw off the yoke, and the territory of Dehli was reduced to a few miles near the capital. New Dehli is still known to the people as Taghalaqabad.—*Elphinstone's India*, pp. 350-414; *Tr. of a Hindu*, ii. p. 214.

TAGHALLA. PERS. A difficult game on horseback. When at full gallop, a small stick [illegible] thrown in advance on the ground in such manner that after several rebounds it rises [illegible] off side of the horse, and is recaught.

TAGHAR. PERS., TURK. A large [illegible] which horsemen carry a pair, slung over [illegible] to contain provender. According to T[illegible] it contains about 4 pou[illegible] —*Meninski; Yule, Cathay*, i. p. 58.

TA-GOUNG, the ancient capit[illegible] messe empire.

TAGOW, a valley in the Kohis[illegible] now held by the Safi, an Afghan t[illegible] tains many ancient remains, and n[illegible] have been found in them. See Kol[illegible]

TAHBAND. HIND. A loongee, a[illegible] dress; a cloth worn on the loins; lit[illegible] It is in the form of a sheet tied rou[illegible] and covering the legs.

TAHFAT-ul-MAJAHIDIN, writte[illegible] Zain-ul-Abidin, gives an account of [illegible] ings of the Portuguese against the M[illegible] from A.D. 1498 to 1583.

TAHIR, the principal supporter of [illegible] of Harun-ur-Rashid, in his claims t[illegible] against his brother Amin. The Tal[illegible] known as the Tahiridi; they ruled [illegible] from A.H. 205 (A.D. 820-821) to A.[illegible] 862-863). Abdallah, A.D. 830, had K[illegible] tan, Herat, and Kābul under his swa[illegible] mained in Khorasan virtually indep[illegible] they were deposed by the Sofarides.

TAHITI, the Otaheite of Captain [illegible] largest of the six Georgian island[illegible] islands in the Pacific, it is second [illegible] of the Sandwich group. Twenty-fo[illegible] the bread-fruit tree grow in the[illegible] Tahili is one of the insignia borne b[illegible]

TAH-KHANA. HIND., PERS. [illegible] under ground or not exposed to the s[illegible]

TAHLIL. ARAB. Repetition of t[illegible] madan creed. See Takbir.

TAHLIL, a shrill noise made by the wom[illegible] Arabia. It is a combined motion of the t[illegible] throat, and hand vibrated rapidly over the [illegible] When an Arab or a Kurd hears the ta[illegible] almost loses his senses through excitement. [illegible] like a very quick repetition of the word el (or le[illegible] lel, lel, lel). Between Kazerun and Bushahr, th[illegible] women, chiefly of Arab descent, use it to welcon[illegible] a stranger as an expression of joy; they use [illegible] also during the mournful ceremony of a funer[illegible] —*Ouseley's Tr.* i. 310; *Layard, Nineveh*, i. 120.

TAHSIL. HIND. A revenue subdivision of [illegible] district presided over by a tahsildar, whose prim[illegible]

duty is to collect revenue, etc., but who, in the Panjab, is vested with civil and magisterial powers; also the office or building in which the business of a tahsildar is transacted. Tahsildar, a sub-collector or officer in charge of a tahsil.

TAI. TAM. The 10th Tamil month (January —February).

TAI, a highly-esteemed fish of Japanese seas.

TAI, a powerful and ancient Bedouin tribe near Mosul. They came from Yemen to the Tigris. They are rich in live stock, and sell their wool at Mosul. Hatim, an Arab shaikh of this tribe, is famed for his generosity. He lived before Mahomed, but his son Adi accepted Mahomed, and became one of the Companions. It is related of Hatim that the Greek emperor sent a person to ask Hatim for a famous horse. Unaware of the object of the visit, Hatim, to do his guest honour, had slaughtered that very horse.

the Ahom language of the Tai family, the erors of the valley of Assam. It is now by a few priests.—*Cust.* See Siam.

ARAB., PERS. A nation, a tribe. tribe of the Afghans was called which corresponds with that of division of primitive tribe division qa,' a tribe; and the sub- of or branches. Taifah, a troop company.—*Bunsen; Chesney; Lath.*

Kābul, etc., unripe apricots dried; Panjab khishta.

NG, emperor of China, is said to have ree thousand women from the imperial t. He was only 23 years of age when ed the empire. He was proclaimed A.D. 627, and was remarkable for his toleration, and his numerous rela- reigners. The reception he gave to gracious. In A.D. 629, he had sub- he Tartar kings, who with common erred on him the title of Celestial He died A.D. 649, at the age of 45, reigned 22 years.—*Ch. Anc.* p. 286, *hay*, i. p. 1; *Huc's Christianity.*

emperor of China (B.C. 1634). In his sadors accompanied by interpreters, g to 76 distinct kingdoms, are re- e arrived from remote regions at the

NG, the great male star of the

wn, a circular head-dress in Central

Iranian race met with in largest he khanate of Bokhara, and in but many have settled in the towns Khiva, Chinese Tartary, and Afghan- jak is a term of doubtful origin, rather applied to the settled race in the countries over by the Turk, Uzbak, Hazara, Afghan, Brahui, where the Turki, Pushtu, Brahui, Baluchi languages are spoken, but whose acular language is Persian. The terms Tajak nd Parsivan are indeed used indifferently both n Afghanistan and Turkestan to the race whose ernacular language is Persian.

Tajak is applied by the Uzbak and Armenians to e Iranian population in Khiva, Bokhara, Kho- san and Badakhshan. In Persia proper, the jak is so termed in contradistinction to the iyat, and throughout Persia the term is applied to a cultivator, to distinguish him from an inhabitant of towns. On the Oxus, a Tajak is used as opposed to an Uzbak; in Afghanistan, as opposed to an Afghan or Hazara. The term for this race in Bokhara is Sart; in Afghanistan, Dehgan; in Baluchistan, Dehwar. On the Kābul river, they are called Kābuli. In Seistan, the mass of the population is Tajak, and many of them dwell in reed huts on the great lake, and live by fishing and fowling. The Tajak of Badakhshan possessed that country before the inroads of the Uzbak and Turk. They are purer Iranian than other Tajak. They are a wild race, living in the little mountain glens, in villages surrounded by gardens. The Tajak of Badakhshan are not so handsome as the men of Chitral, their dress is like that of the Uzbak.

The Tajak of Bokhara have occupied the country from unknown times, and were forcibly converted to Muhammadanism before the close of the 1st century of the Hijira. In Bokhara they are a cowardly, avaricious, untruthful, faithless race; tall, fair men, with black eyes and hair. Khanikoff attributes to the Tajaks the greatest purity of race. Rawlinson allows this distinction to the Vakhani, the wild mountaineers of Badakhshan. In Central Asia itself, the Galtcha are regarded as the oldest Iranians of the land.

The term is from Taj, a crown, the fire- orshipper's head-dress; but the Tajak does not o style himself, and regards the term as deroga- tor Tajak is given to agriculture and y. The Ta pursuits and polish, trade, but fond of literary erance in Bokhara and it is owing to their prepond posi that that city has been raised to t of the headquarters of Central Asiatic civilisation, for there, from pre-Islamic times, they have continued their previous exertions in mental culture, and, notwithstanding the oppression which they have sustained from a foreign power, have civilised their conquerors. Most of the celebrities in the field of religious knowledge and belles-lettres have been Tajak; and at the present day the most conspicuous of the Mullah and Ishan are Tajak, and the chief men of the Bokhara and Khiva court are Tajak. Vambery considers the Tajak and Sart identical, but he recognises that in their physiognomic peculiarities the Sart differs greatly from the Tajak, being more slender, with a longer face and a higher forehead; but these changes he attributes to frequent intermarriages between Sart men and Persian slaves. In Central Asia, the warrior, the shepherd, the priest and the layman, youth and old age, equally affect poetry and reciting of tales. The literature of the Muhammadans or settled nations, brought from the south, is filled with exotic metaphor and illustration. In Khiva, Bokhara, and Khokand, the Mullah and Ishan have written much on religious subjects, but their mystical allusions are beyond the reach of the people. The Uzbak, the Turkoman, and Kirghiz esteem music as their highest pleasure, and often break out in song, singing soft minor airs. The Uzbak poetry on religious subjects is exotic, derived from Persian or Arabic sources. The Tartar compositions are tales, and relate to heroic deeds, similar to the romances of Europe.—*Vambery's Bokhara*, pp. 8, 338; *Elphinstone's Caubul; Ferrier's Journey.*

TAJ MAHAL, a mausoleum erected at Agra by the emperor Shah Jahan over the remains of his

wife, Arjamand Banu Begum, Mumtaz Mahal, who died A.D. 1629. It is admitted to be the most beautiful piece of Muhammadan architecture in the world. It is on the bank of the river Jumna, and was begun on her demise, but was not completed until 1648. The materials are red sandstone from Futtehpur Sikri, and white marble from Jeypore. The internal decorations consist of inlaid work of precious stones, agate, and jasper, with which every spandrel or other salient point in the architecture is richly fretted, while brown and violet marbles are freely employed in wreaths, scrolls, and lintels, to relieve the monotony of the white walls. Brother Manrique, who was at Agra at the time, says that the plans and estimates for it were supplied by a Venetian named Verroneo.

In the four chambers, answering to the sides of the building, are inserted in the wall plates of white marble, 6 feet high, upon which flowers, in their natural colours, are wrought in a mosaic of precious stones, the stems being worked in with negro-antico. So elaborate is the workmanship, that to form one flower nearly a hundred different gems have sometimes been used; and so exquisite is the finish, that the eye might almost be deceived.

The mausoleum stands on a raised marble platform, at each of whose corners rises a tall and slender minaret of graceful proportions and exquisite beauty. Beyond the platform stretch two wings, one of which is itself a mosque of great architectural merit. The mausoleum is in the centre of the entire structure; it occupies a square of 186 feet, with the angles deeply truncated so as to form an equal octagon. A great dome swells upwards to nearly two-thirds of a sphere, and tapers at its extremity into a pointed spire crowned by a crescent. Beneath it an enclosure of marble trellis-work surrounds the tombs of the empress and of her husband the emperor. Each corner of the mausoleum is covered by a similar but much smaller dome, erected on a pediment pierced with graceful Saracenic arches. Light is admitted into the interior through a double screen of pierced marble, which tempers the glare of an Indian sky, while its whiteness prevents the mellow effect from degenerating into gloom. In colour and design, the interior of the mausoleum may rank first for purely decorative workmanship.—*Imp. Gaz.*; *Taylor's Visit*, p. 133; *Schonberg's Tr.* i. p. 183; *Bishop Heber.*

TAK. Colonel Tod supposes the Tak to be the same as the Takshak, Nagbansa, or Serpent race, who act a conspicuous part in the legendary annals of ancient India. It is certain that the Tak preceded the Muhammadan kings of Gujerat before that province was absorbed into the empire of Akbar. The Tak of Gujerat are said by Tod to have adopted Muhammadanism when Wajih-ul-Mulk was converted, and became the founder of the Muhammadan dynasty of Gujerat. From this time the name almost disappeared, but there are Tak amongst the Bhangi, who, though of spurious descent, have evidently preserved the name. There are also Tank Rajputs in the Central Doab and Lower Rohilkhand, whose privileges of intermarriage show them to be of high lineage; and there is a tribe of nearly similar name existing near Jamu, not far from their ancient capital Taksha-sila or Taxila. Tonk Thoda and its lands on the Bunas from remote times had been occupied, perhaps founded, by the Tak race, and hence bore the name of Taksilla-nagar, familiarly Takitpur and Thoda. From the ruins of the Thoda temples, remnants of Takshak architecture, the amateur might speedily fill a portfolio. This tract abounds with romantic scenery at Rajmahal on the Bunas, Gokurn, and many others. Herbert calls Chitore the abode of Taxiles, the ally of Alexander. The Tak were all of the race of Pooru, so that Porus is a generic, not a proper name. Taksilla-nagar has been a large city. The emperor Baber has given the position of the city of Taxiles, west of the Indus.—*Elliot's India*, p. 504; *Tod's Rajasthan*, i. pp. 105, 673, ii. p. 449.

TAKANAGA, about half-way between Mombassa and Melindi. The surrounding country described as magnificent corn land, while inhabitants are stated to be industrious harmless.

TAKAN-KAR, in the Dekhan and migratory tribe who make and renew mills. See Patari.

TAKAVI. ARAB. Advances bad seasons.

TAKBIR. ARAB. Repetition madan creed, or of the invocation

TAKHT. HIND., PERS. A nishin, the reigning sovereign.

TAKHT-i-BAHI, in the country zai, an early seat of the Aryans, and by the natives, is an isolated, barre great height, about 8 miles west of Mardan in Yusufzai. It forms irreg sides of a square, with the open side north-west. The inner slopes of covered with the still standing sh buildings, constructed of hewn ston them have at least been of two store ings for the beams of the upper f windows remaining to attest the fact

TAKHT-i-JAMSHID, the throne are the ruins of Persepolis. See N toom.

TAKHT-i-RAWAN. PERS. A fixed on two strong poles like thos chair. The frame is covered general and has a door, sometimes of lattice- side; it is carried by two mules, on poles before, the other behind. The kind of cradle, swung one on each s —*Ouseley's Tr.* i. p. 251; *Rich's Kur*

TAKHT-i-SULAIMAN, a bare rugged stone on a plain at the edg of Ush in Khokand.

TAKHT-i-SULAIMAN, a mounta 4′ 8″ N., and long. 74° 53′ E. in Ka looking Srinuggur, standing 1000 f the plain. It commands a noble view valley and its surrounding ridges of snow-t peaks. On its crest, 6950 feet above the stands the most ancient building in Kas the temple of Jyeshteswara, which, accordin tradition, has existed since B.C. 220, and to have been built by Jasoka, son of Asoka. It is now called Sankarachara.—*Cole. Ill. Anc. Build. Kash mir*; *Imp. Gaz.*

TAKHT-i-SULAIMAN, a peak of the Sulaima mountains between the Panjab and Afghanistan has two summits, respectively 11,317 and 11,07 feet. Two parallel ridges, distant about 4 mil

from each other, are joined by a plateau of about one mile in breadth, which runs from the northern peak of the western range to the southern peak of the eastern range. The southern peak, on which is 'Solomon's throne,' is very steep and almost inaccessible, while the northern, which is higher, is well wooded. The view obtained is magnificent.

TAKHT-i-TAOS, the famous peacock throne of the emperors of Dehli, was so called from its having the figures of two peacocks with their tails spread. They were so naturally executed in sapphires, rubies, emeralds, pearls, and other precious stones of appropriate colours, as to represent life, and strike every beholder with the most dazzling splendour. The throne itself was 6 feet long by 4 feet broad; it stood on six massive feet, which, with the body, were of solid gold, inlaid with rubies, emeralds, and diamonds. It was surmounted by a canopy of gold supported by twelve pillars, all richly emblazoned with costly gems, and a fringe of pearls ornamented the borders of the canopy.—*Tr. of Hind.* ii. p. 297.

TAKI, an ancient kingdom which at one time embraced the whole of the plains of the Northern Panjab from the Indus to the Beas, and from the foot of the mountains to the junction of the five rivers below Multan. Taki, the Tse-kia of Hiwen Thsang, was the capital, and was within a few miles of Sakala, another ancient capital mentioned in the Mahabharata, the Sangala of Arrian. The Sakala people (the Adraistæ or Arashtra) were the Madra, Audumbara, Kshudraka, Malla, Jarttika, and Bahika, according to the Mahabharata, which says the Bahika were the same as the Takka, from which last is the name of their old capital of Taxila or Takkasila, as known to the Greeks. The Takka race still exist in considerable numbers in the Panjab Hills, and the alphabetical characters, under the designation of Takri or Takni, are used by all the Hindus of Cashmir and the northern mountains, from the Indus Subathu to Kābul and Bamian. Arrian mentions Sangala or Sakala on the Ravi, and the Adraistæ, from the Sanskrit Arashtra, are undoubtedly.

The province of Taki contained several of the celebrated places of ancient India, some famous in the wars of Alexander, some famous in history, and others known only in the legend traditions of the people. The names of the Doabs were invented by Akbar, by combining the names of the including rivers. Thus Chaj is an abbreviation of Chenab and Jhelum, Rechna of Ravi and Chenab, and Bari of Beas and Ravi.

Sind-Sagur Doab, .	1. Jobnathnagar, or Bhira. 2. Bukephala, or Dilawar.
Chaj Doab, . . .	3. Nikæa, or Mong. 4. Gujerat.
Rechna Doab, . .	5. Salala, or Sangala. 6. Taki, or Asarur. 7. Narsingha, or Ransi. 8. Ammakatis, Ambakapi.
Bari Doab, . . .	9. Lohawar, or Lahor. 10. Kusawar, or Kasur. 11.

In the 7th century, the kingdom of Taki was divided into three provinces, namely, Taki in the north and west, Shorkot in the east, and Multan in the south. The province of Taki comprised the plains of the Panjab lying between the Indus and the Beas, to the north of the Multan district, or the whole of the Chaj Doab, together with the upper portion of the Doabs of Sind-Sagur, Rechna, and Bari. The province of Shorkot comprised the middle portions of these Doabs, and the province of Multan, their lower portions.—*H. Elliot; Cunningham's India*, p. 152.

TAK-i-KESRA, or Arch of Chosroes; the modern Tak-i-Kesra marks the site of the ancient Ctesiphon. The Arabic Tak signifies a vault or arch, and that palace of the Persian Khusru (Chosroes and his descendants) near Baghdad is still called Tak-i-Kesra, the principal chamber being arched or vaulted. To its right are fragments of walls and broken masses of brickwork; to the left, and therefore to the south of the arch, are the remains of vast structures, which are encumbered with heaps of earth. The natives assert that the ruins are of the age of Nimrud, of whom in Scripture it is said, 'And the beginning of his kingdom was Babel and Erech and Accad and Calneh in the land of Shinar.' The Babylonian empire was subverted by Cyrus, who took the capital by turning the course of the Euphrates, and marching his troops along the bed of the river into the centre of the city. After the building of Seleucia and Ctesiphon, Babylon became gradually deserted; and we learn from St. Jerome that the space within the walls was converted by the Parthian kings into a royal hunting park. The town of Hilleh is said by the people of the country to be built on the site of Babel; and some gigantic ruins still to be seen in its vicinity are believed to be the remains of that ancient metropolis. Since the days of Alexander we find four capitals at least built out of her ruins.—Seleucia by the Greeks, Ctesiphon by the Persians, Al Modain by the Persians, and Kuta by the khalifs—with towns, villages, and caravansaries without number. Ctesiphon's ruins are to be seen on the eastern shore of the Tigris, 18 miles south of Baghdad, and immediately opposite to it the ramparts and fosse of the Grecian city of Seleucia, which afterwards, becoming identified with the former under the name of Coche, they assumed, when thus united, the epithet of Al Modain, or the cities. Ctesiphon was most admirably situated on a sort of peninsula formed by a sudden flexure of the Tigris, which must have embraced the greatest part of the town. Its foundation, however, can hardly be ascribed to any particular person, as it would seem to have increased gradually during a succession of many years from a camp to a city. Pacoras, supposed to be Orodes, king of the Parthians, and contemporary with Anthony, is thought to be the first who surrounded it with walls, and made it the capital of the Parthian empire. It was sacked, together with Seleucia, by the generals of Marcus Aurelius, A.D. 165, and afterwards by the emperor Severus. It became the favourite winter residence of the powerful successors of Artaxerxes, from whom it was taken by Said, the general of the khalif Omar, A.D. 637. The sack of Ctesiphon was followed by its gradual decay, and little now remains but that part of the palace of Chosroes called Tak-i-Kesra, the Arch of Chosroes, a melancholy emblem of the glory of its master. It is seen from afar on the plain, and presents a front of 300 feet in length by 160 in depth, having in its centre a vaulted hall, 106 feet in height to the top of the arch, the span of which is 85 feet. The Ali Capi at Isfahan and the gates of the palace of Dehli sink into insig-

nificance beside the Tak-i-Kesra. The city walls, which appear to have been of very great thickness, may also be traced to a considerable distance on both banks of the river. The names of Seleucia and Ctesiphon are very frequently confounded by the early Christians writers; but the cities stood on opposite sides of the river Tigris, and were built at different periods.—*Mignan's Tr.* pp. 58-73; *Layard, Nineveh*, i. p. 242; *Kinneir's Memoir*, pp. 253, 273; *Porter's Tr.; J. B. Fraser's Tr.* p. 3.

TAKIN is the Budorcas taxicolor of Blyth. It is a large, massive animal, denominated Takin by the Mishmi, and Kin by the Khamti. It is one of the group of bovine antelopes. Its nearest affinity is probably to the gnu; but it has various points of stronger connection with musk oxen, and in a natural system its place would probably be assigned between those two types. The Takin tenants the easternmost part of the Himalaya, adjacent to Yunnan, Sze-chuen, and Kham, more especially in the upper or alpine region, but found also in the central region, though never in the lower region, and it probably extends its range from the Himalaya proper to the proximate mountains of China and Tibet. It is described as of high courage and great ferocity, so that it cannot be taken alive, and is killed by the natives with much trouble and some risk. It is said to be very gregarious, though old males are sometimes found solitary. The Takin is much larger than the Caprine antelope (Thar) of the Himalaya.—*Beng. As. Soc. Jour.*, 1850.

TAKIYAH, a place [illegible]e darveshes have rooms and perform the[illegible]s. Takia-Nishin is a darves[illegible]fakir, literally one who sits in a fakir's standing-place.—*Burton's Mecca*, i. p. 124.

TAKKA, a Turanian race, the earliest recorded inhabitants of the Rawal Pindi district, about Deri Shahan or Shah Deri village, in lat. 33° 17′ N., and long. 72° 49′ 15″ E. The Takka originally held all the Sind-Sagur Doab, and from their name General Cunningham derives that of Taxila or Takkasila, which Arrian describes as a large and wealthy city, the most populous between the Indus and the Hydaspes (or Jhelum). The city stood a few miles to the north of the Margala pass, where several mounds still mark the sites of its principal buildings. Alexander rested his army at this point for three days, and was royally entertained by the reigning sovereign. The Chinese Buddhist pilgrim Fa Hian visited Taxila, as a place of peculiar sanctity, about the year 400 A.D. Again, in 630 and 643, his countryman and co-religionist, Hiwen Thsang, also made it a halting-place of his pilgrimage, but found the seat of government removed to Kashmir. The ruins of Taxila consist of six separate portions. The mound of Bir, close to the modern rock-seated village of Deri Shahan, abounds in fragments of brick and pottery, and offers a rich mine of coins and gems for the antiquary. Hatial, a fortified spur of the Margala range, probably formed the ancient citadel; it is enclosed by a ruined wall, and crowned by a large bastion or tower. Sir-Kap presents the appearance of a supplementary fortress, united with the citadel by a wall of circumvallation. Kacha-Kot possibly gave shelter to the elephants and cattle during a siege. Babar-Khana contains the remains of a stupa, which General Cunningham identifies with that of Asoka, mentioned by Hiwen Thsang. Besides all these massive works, a wide expanse, covered by monasteries or other religious building, stretches on every side from the central city to a considerable distance.—*Cunningham; Imp. Gaz.; Dowson.*

TAKKEYAH. ARAB. Amongst Shiah Muhammadans, the outward observance of a faith with which the observer differs. This is a practice with Shiah and Khojah Muhammadans for concealing their religious views; the systematic concealment of everything which concerns their faith, history, customs, etc., the disclosure of which might be attended with unpleasant consequences. — *Burton's Scinde*, p. 412; *Mecca*, i. 124.

TAK-PO or Tak-poni, the country of the Tak. It is marked as Towang or Raj Towang in the ordinary maps, and lies in a line between Lhassa and Jorhat in Assam; enclosed within the great bend of the Brahmaputra, and overlies the N.E. part of Butan. Ken-pong is the province of Kong-bo to the E. of Tak-po.

TAKSHA, son of Bharata, and nephew of Rama Chandra, ruler of Gandhara, who resided at and probably founded Takshasila in the Panjab, the Taxila of Ptolemy.—*Dowson.*

TAKSHAK, according to Tod, are the Turshka race, one of the most extensive and earliest of the races of Higher Asia. They were Scythians; and from the time of the great war of the Mahabharata, when we find them already in the north-west, they extended their conquest in Ind[illegible]; and as they had a serpent for their nationa[illegible] emblem, they were known as the Takshak or Se[illegible]nt race. Their chief invasion of India, under t[illegible] leader Sehesnag, occurred about 600 B.C. The[illegible]nded their conquests to the Magadha empire, o[illegible] the throne of which was held by the Serpent dynasty for ten generations, and a[illegible] of them, the Nagbansi chieftains of [illegible] Sirguja, have (Tr. R. A. Soc. ii. p. 563) th[illegible] of their serpent ancestor engraved on th[illegible] in proof of their lineage, while the [illegible] district of Nagpur are called after their [illegible] Vayu and Matsya Purana books call the [illegible] Kshatra-Bandhee, which may designate [illegible] (Vishnu Pur. p. 467), an inferior c[illegible] Kshatriya. The great invasion abov[illegible] was, according to Colonel Tod's suppos[illegible] contemporaneous with the appearanc[illegible] Buddha, Parisnath, whose symbol is th[illegible] race he accompanied, and hence he is called Suha[illegible] Phun, 'the thousand-hooded.' It is supposed that the Brahmans made converts of some powerful branches of these new sectaries, and that it is to them the term Agnicula (fire race) is applied, as signifying their spiritual regeneration by the element of fire. If so, the Takshak must be the progenitors of the most distinguished tribes of Rajputs, yet no vestiges are now to be found of the original name Tak, or Takshak, though it is recorded amongst the thirty-six royal races. Elphinstone opposes the doctrine of a Scythian admixture with the Rajputs, but there is much in Indian history which could not well be explained without the admission of an incorporation of some northern family; and even he is disposed to concede the point with regard to the Jat. Takshak is still one of the Grama Devata, or village gods, of the Bhagulpur district. It was a converted Tak Rajput who established the independent dynasty

of Gujerat. One Takshak race entered Hindustan, led by Sehesnag, from Sehesnag-desa, who ascended the Pandu throne. The dynasty lasted 360 years, and terminated with Bykyat. Another Takshak dynasty of ten princes commenced with Chandragupta Mauri, but lasted only about 137 years. Chandragupta, the supposed opponent of Alexander, was a Mauri, and in the sacred genealogies is declared of the race of Takshak. The ancient inscriptions of the Pramara, of which the Mauri is a principal branch, declare it of the race of Tusta and Takshak, as does that now given from the seat of their power, Chitore. The term Nag, Tak, or Takshak are regarded by Colonel Tod as synonymous. Sehesnag-desa he considers to be synonymous with the abode of the ancient Scythic Tachari of Strabo, the Tak-i-uk of the Chinese, the Tajak of the present day of Turkestan.—*Elphinstone's India; Tod, Rajasthan*, i. p. 35; *Jo. As. S.* vi. p. 677.

TAKSILES. According to the Greeks, the chief who joined with Alexander on his approach to the Indus. Colonel Tod (i. p. 105) thinks the name is Tak-Es, the lord of Tak. The Tak were one of the republican races whom Justin styles banditti (Justin, xv. 4)—'Contractis latronibus Indos ad novitatem regni solicitavit.' But the Arattas, who were the dominant people of the Eastern Panjab, are never mentioned in the Mahabharata without being styled robbers (Lassen, Pentapota Indica)—'*Aratti* profecto latrones,' and 'Bahici latrones.' The Sanskrit name is Arashtra, the 'kingless,' which is preserved in the Adraistæ of Arrian, who places them on the Ravi. They were the republican defenders of Sangala or Sakala, a fact which points to their Sanskrit name of Arashtra, or 'kingless.' But though their power was then confined to the Eastern Panjab, the people themselves had once spread over the whole country—'Ubi fluvii illi quini . . . *ibi sedes* sunt Arattorum' (Lassen, Pentapot Indica, from the Mahabharata). They were known by the several names of Bahika, Jarttika, and Takka, of which the last would appear to have been their true appellation, for their old capital of Taxila or Takkasila was known to the Greeks of Alexander, and the people themselves still exist in considerable numbers in the Panjab Hills. The ancient extent of their power is proved by the present prevalence of their alphabetical character, which, under the name of Takri or Takni, is now used by all the Hindus of Kashmir and the northern mountains, from Simla and Subathu to Kābul and Bamian. On these grounds, Major Cunningham identifies the banditti of Justin with the Takka or original inhabitants of the Panjab, and assigns to them the honour of delivering their native land from the thraldom of a foreign yoke. This event occurred most probably about B.C. 316, or shortly after the march of Eudemos to the assistance of Eumenes. See Tak; Takshak.

TAK-ul-BOSTAN is 1½ parasang from the town of Kermanshah. There are here magnificent basreliefs, splendid works of art, executed by command of Bahram IV., the Varanes IV. of Roman history, who lived at the commencement of the fifth century, and who, as it is said, was the founder of Kermanshah.—*Ferrier, Journ.* p. 27.

TAL. HIND. Cymbals used by devotees, and frequently an accompaniment to the taifas or bands of dancing girls of India.

TAL. BHOT. A lake.

TALADDU, Tamil poems, describing the infancy of the gods. They are sung to the gods, when, at annual festivals, they are swung in cradles; mothers also repeat them to their children. Several of them are indelicate, others are mere jingles. One of them, known as Chanchadu to all English mothers in Madras for its endearing epithets,—Chanchadu, baby, Chanchadu, maru paravay Chanchadu; Koil para pavay Chanchadu, mara paravay Chanchadu. Swing, baby, swing! swan-dove, swing! house-pigeon, swing! peacock, cuckoo, swing! cassia flower, swing! standing-lamp, swing! temple-dove, swing! swan-parrot, swing! The ordinary Taladdu are nursery rhymes.

TALAING or Mon is the name of the natives of Pegu. The Burmese call them Talaing. The Siamese appellation is Ming-mon. Part of this population dwell in the delta of the Irawadi, Mon being the name used by themselves for the native populations of Pegu, Martaban, Moulmein, and Amherst; and the same names Mon or Talaing are given to the vernacular language of Pegu. The alphabet, like that of the T'hay and Burmese, is of Indian origin, being essentially that of the Pali form of speech, and, like all alphabets of this kind, it embodies a Buddhist literature. The Mon language is quite unintelligible to a Burmese or Siamese. Ta-laing Maha-radza-weng, chronicles of the kings of Pegu.—*Latham's Eth.*

TALAK. ARAB. A divorce. Talak-i-byn, the husband's once saying to his wife, 'I have divorced you.' Talak-e-rujaee, the above repeated twice. Talak-e-mootuluqqa, ditto thrice. The last mentioned is irrevocable, and for reunion there must be remarriage. The husband can recall the other two.

TALAKADU, a town in Mysore, on the left bank of the Cauvery, which runs past it. On one bank of the river stand a number of Saiva temples which have been almost wholly overwhelmed by sand. On the other bank, however, is one, the legend concerning which is thus told by Dr. Buchanan:—'A mendicant came one day to Talakadu, intent on making an offering to Mahadeva or Iswara. The temples dedicated to that idol were, however, so numerous that he was much at a loss how to procure an offering for each, so as to avoid giving offence to any idol that might be omitted. With his whole means, which were very slender, the holy man purchased a bag of peas, and offered one at each temple, but all his peas were expended, and one idol still remained to which no offering had been made. Of course it was highly offended at the preference given to the others by a person of his holiness; and to avoid their insolent boasting, it transported itself across the river, where it now stands at Malingy, while its former companions are buried in sand.' Another legend is, that the last rani of Talkad imprecated a curse upon the city 'that it should become sand,' and threw herself into the Cauvery. At the present day, the buildings of the old city are completely buried beneath hills of sand, stretching nearly a mile in length. These sandhills advance at the rate of about 10 feet a year, and are said to cover about thirty temples, of which the topmost pagodas of two still project above the surface. The temple of Kirti Narayana is occasionally opened, with great labour, suffi-

ciently to allow of access for certain ceremonies. —*Imp. Gaz.*

TALA - KAVERY, source of the Cauvery river, in the Brahmagiri range of the Western Ghats in the Coorg province, lat. 12° 23′ 10″ N., long. 75° 34′ 10″ E. A Hindu temple here is annually frequented by many pilgrims. The chief bathing festival is in Tala-masa (October—November), when, according to local legend, the goddess Ganga herself resorts underground to the all-purifying stream. On this occasion every Coorg family sends a representative, and the total attendance is estimated at 15,000. The temple is endowed by Government with £232 a year.—*Imp. Gaz.*

TALAPOIN. This order of Buddhist ascetics or monks is known in China, Japan, Ceylon, Siam, and Tibet under different names, conveying nearly the same meaning, and expressing either the nature or the object of their profession. Talapoin is from the Pali, Talapat meaning the leaf of a palm tree, but applied by the Siamese to designate the large fan made of palm leaves, set in a slender wooden frame, which the Talapoin carry with them when they go abroad. In Burma these monks are called Phoungye, which means Great Exemplar or Great Glory. The Buddhists in Ceylon, Burma, Siam, Tibet, etc., show great respect to the monks, who, in British and Independent Burma in their monasteries, are the chief educators of the Buddhist population. They are known to the Europeans in China and Japan as the Bonze, which is a corruption of Busso, a Japanese word signifying a devout man, and they are the Lama of Tibet. In Burma, the fraternity is composed, 1st, of young men who have put on the Talapoinic dress, without being considered professed members thereof, or having hitherto passed through a certain ordeal somewhat resembling an ordination; they are called Shin. 2d. Of those who, having lived for a while in the community in a probationary state, are admitted professed members with the ceremonies usually observed on such occasions, whereby the title and character of Talapoin are solemnly conferred; they are denominated Pazin. 3d. Of the heads of each house or community, who have the power to control all inmates of the house. 4th. Of a provincial, whose jurisdiction extends over all the communities spread over the towns and villages of one province or district. 5th. Of a superior general, residing in the capital or its suburbs, called Haia Daw or Great Master, having the general management and direction of all the affairs of the order throughout the empire. In the kingdom of Burma, the keystone of the Talapoinic fabric is the Superlatively Great Master residing in the capital or its suburbs. His jurisdiction extends over all the fraternity within the realm of his Burmese Majesty. In Tibet, the order is found existing in greatest numbers under the fostering care of the Great Lama, or high priest, who combines in his own person the regal as well as the sacerdotal dignity and power. In the city of Lhassa, a pontifical court, an elective sacerdotal chief, and a college of superior Lamas, impart to the order dignity, decency, respectability, and stability, which ensure its continued existence, and more or less extend its influence over its members living in distant countries, ruled by a foreign sovereign. Like the Christian monk, the Talapoin bids a farewell to the world, wears a particular dress, leads a life of community, abstracts himself from all that gives strength to his passions, by embracing a state of voluntary poverty and absolute renunciation of all sensual gratifications. He aims at obtaining, by a strict observance of the law's most sublime precepts, an uncommon degreee of sanctity and perfection. All his time is regulated by the rules of his profession, and devoted to repeating certain formulas of prayers, reading the sacred scriptures, begging alms for his support, etc. These features of exterior resemblance common to institutions of creeds so opposite to each other, have induced several writers to pronounce that Catholicism has borrowed from Buddhism many ceremonies, institutions, and disciplinary regulations. Abbé Remusat, in his memoir entitled Chronological Researches into the Lamaic Hierarchy of Tibet, refuted this. Thus there exists in Japan, China, Cochin - China, amongst the Burmese, Siamese, Singhalese, and Tibetans, a religious order with a distinct and well-marked hierarchy, constitution, and regulations, providing for the admission of members, their occupations, duties, obligations, and their mode of life, forming as it were a compact, solid, and perfect body, that has subsisted almost without change during twenty-five centuries, and survived the destruction of kingdoms, the fall of royal dynasties, and all the confusion and agitation produced by political commotions and revolutions. A Buddhist on becoming a member of this holy society, proposes to keep the law of Buddha in a more perfect manner than his other co-religionists. He intends to observe not only its general ordinances obligatory on every individual, but also its prescriptions of a higher excellency, leading to an uncommon sanctity and perfection, which can be the lot of but a comparatively small number of fervent and resolute persons. He aims at weakening within himself all the evil propensities that give origin and strength to the principle of demerits. By the practice and observance of the highest and sublimest precepts and counsels of the law, he establishes, confirms, and consolidates in his own soul the principle of merits which is to work upon him during the various existences he has as yet to go through, and gradually lead him to that perfection which will qualify him for, and entitle him to, the state of Neiban, the object of the ardent desire and earnest pursuit of every true and genuine disciple of Buddha. The life of the last Buddha, Gautama, his doctrines as well as his example, he purposes to copy with scrupulous fidelity, and to follow with unremitting ardour. Such is the great model that he proposes to himself for imitation. Gautama withdrew from the world, renounced its seducing pleasures and dazzling vanities, curbed his passions under the yoke of restraint, and strove to practise the highest virtues, particularly self-denial, in order to arrive at a state of complete indifference for all that is within or without self, which is, as it were, the threshold of Neiban.—*Jo. Ind. Arch.*, 1850; *The Burman and his Notions.*

TALARI. KARN., TEL. The village bailiff, executioner, and watchman; the office was hereditary.

TALAR-i-TIMUR, the reception hall of Timur, in Samarcand, contains the Kok-tash or coronation stone.—*C. As.* See Samarcand.

TALAUMA HODGSONI. *Hook.* A magnolia

growing on Tonglo, in Sikkim, at an elevation of several thousand feet, also in Nepal and Khassya. It is a large evergreen tree, with very dense foliage, and deep shining leaves 12 to 18 inches long; most of its flowers drop unexpanded from the tree, and diffuse a very aromatic fragrance; they are nearly as large as the fist, the outer leaves purple, the inner pure white. Its wood is grey, very soft and even-grained. T. mutabilis is a shrub of Tenasserim, and T. Rabaniana, *Hooker*, is a large tree of the Khassya Hills and Burma, and its wood is sometimes used for furniture and planking.—*Hook. H. J.* i. p. 163.

TALAWA. SINGH. Open park-like meadows in the lowland forests of Ceylon, varying in extent from one to one thousand acres.

TALC.

Kobub-ul-arz, . . ARAB.	Minirum, . . . SINGH.
Yun-mu, ... CHIN.	Appracum, . TAM., TEL.
Abruk, Abraka, . HIND.	Tulk, ... TURK.

This mineral is a hydrous silicate of magnesia; it occurs crystallized and massive. Massive talc reduced to powder is the boot powder of shoemakers. Talcose slate resembles mica slate. Talcose rocks are the gold rocks of the world, and contain the topaz of Brazil, euclase, and other minerals.—*Eng. Cyc.; Tomlin.*

TALCHER, a small Native State in Orissa, with an area of 399 square miles. Coal was discovered here in 1850 by Mr. Turnbull, an officer of the Madras commissariat, and iron and lime also occur near the Brahmany river; gold like ore is washed for. The coal has been reported not likely to be profitably worked at present. The Hindu population consists of Chasa, Gaur, and Brahmans. The aborigines are Saora, Gond, Taala, and Pana. See Geology.

TALDANDA, a canal in Orissa, 52 miles in length, connecting the town of Cuttack with the main branch of the Mahanadi river. It is intended both for navigation and irrigation.

TALEGALLA LATHAMI, the brush-turkey of the family of the Megapodes (Megapodidæ). These birds construct a mound of earth, leaves, grass, sand, or other materials capable of generating and retaining heat, in which the eggs are buried by the birds, and carefully watched until the young birds are matured, and issue forth from this eccaleobion of nature, stout, strong, and so fully feathered as to be capable of flight on the second or third day of their existence. On the young bird chipping out of the egg, it remains in the mound for at least twelve hours without making any effort to emerge from it, being at that time almost as deeply covered up by the male as the rest of the eggs. On the second day it comes out, with each of its wing-feathers well developed in a sheath, which soon bursts, but apparently without inclination to use them, its powerful feet giving it ample means of locomotion at once. On the third day the nestling is capable of strong flight.

TALENT OF BABYLON corresponded with a Babylonian cubic foot of water at the mean temperature of that country. A talent was divided into 60 minæ, a mina into 60 shekels. Half a silver shekel was a drachma, and this was the ancestor of the British shilling.

TAL-GHAT. HIND. A geographical term in the Peninsula for the low-lying level ground below the ghats of the eastern and western sides.

TAL-GHAT, in lat. 19° 40′ N., long. 73° 33′ E., in the Dekhan, a principal pass on the road from Bombay to Nasik. Top of the ghat is 1912 feet above the sea, and the top of the hill near the ghat is 3241 feet.

TALI, a name in the Eastern Archipelago for the treble fanam formerly coined at Madras, the 24th part of the Spanish dollar.

TALI, in Peninsular India, a piece of gold tied by the bridegroom round his bride's neck at the time of marriage. It remains till she becomes a widow, and is then removed by the husband's relations. The tali are not all of the same form. In some castes it is a small round plate of gold, without stamp or figure on it; in others it is a tiger's tooth; others are hammered by the goldsmith without any precise form. Many castes have them flat and oval, of two small pieces which separate, and with hieroglyphics representing the god Puliyar or the lingam.—*Sonnerat's Voyage*, p. 92. See Mangala Sutra.

TALIB. PERS. An inquirer or wisher, a pupil, a seeker, from Talb. Talib-ul-Ilm, a learner, a pupil.

TALIF-i-SHARIF, a Persian work on medicine, translated by Dr. Playfair.

TA-LI-FU, a lake in China, 7090 feet above the sea.

TALIKAN, a city of Tukharistan between Balkh and Merv, three days' journey from the latter. There is another town of the same name east of Kunduz. The Talikan of Tukharistan is the one most frequently mentioned, and it is generally coupled with Harîah, a city of Guzjan, west of the Oxus, three days' journey from Talikan, three from Shaburkan, and six from Balkh. Yule, however, says there were, in fact, three places so called, that in Badakhshan, that in Khorasan, and a third in Dailam, the hill country adjoining Kazbin.—*Yule, Cathay*, i. p. 253; *Elphinstone's Caubul*, ii. 221, 240.

TALIKOT, a town in the Kaladgi district of the Bombay Presidency, 60 miles N.E. of Kaladgi town, in lat. 16° 28′ 10″ N., long. 76° 21′ 10″ E. A battle was fought here on the 25th January 1565, in which the Hindu empire of Vijayanagar was overthrown by a confederacy of the Muhammadan kings of the Dekhan, the Adal Shahi of Bijapur, the Kutub Shahi of Beder, and the Nizam Shahi of Ahmadnaggur. The Hindu power in Southern India was completely broken by the battle; but within a hundred years a great Hindu revival commenced, which, under the form of the Mahratta Confederacy, was destined to break up the Moghul empire in India.—*Imp. Gaz.*

TALI-NANAS. MALAY. Cordage material obtained from the leaf of the pine-apple plant. Tali Pinding, a waistbelt worn by the natives of the Archipelago. They are manufactured by the Arafura of New Guinea or Seram, who manufacture various textile fabrics from native fibres, as a band or cincture for fastening the sarong of women. Tali Rama, MALAY., China grass. Talitaras, a fibre of Singapore, made into sewing twine.

TALIPOT or Fan Palm, Corypha umbraculifera, belongs to a genus of plants of the order Cocoaceæ, and is met with in Ceylon, Malabar, Java, and the Moluccas. Its large leaves (fronds) are used for thatching, basket-making, and other handy work. The leaves are also used for native books, like the palmyra leaves, and are written on with

an iron style, and for making the huge fans with the petioles attached. It has a stem of 50 to 70 feet high, with large fan-shaped plaited leaves composed of some 40 to 50 segments. The Corypha umbraculifera is known in Tamil as the Coddapanna, and in Hindustani as tali or tadi tree, tali-pat meaning leaf of the tali. The seeds or nuts are made into ornaments, and sometimes, when well polished and coloured red, pass for coral. The trunk furnishes a species of pith which is pounded into flour and baked into cakes, and eaten with much relish by some natives.—*Seeman; Shortt.*

TALISMAN. Talsam, ARAB. Talismans or the doctrine of signatures took their origin from a belief that medicinal substances bore upon their external surfaces signs of the properties or virtues they possessed. It is a term from the Arabic Talsam, and is applied to mystical characters, and also to seals, images, etc., upon which such characters are engraved or inscribed. These characters are astrological, or of some other mystical kind. The purposes for which Talsams are contrived are various,—the preserving from enchantment, or from a particular accident, or from a variety of evils; another protects a treasure over which it is deposited.

TALKH. ARAB. Bitter; also of tobacco, etc., pungent, strong. Badam-i-talkh, Amygdalus amara. Kust talkh or Kut talkh, HIND., Auckl landia costus.

TALLI-TANDRI. TEL. P[illegible] mother; a respectful ap[illegible] Parents, father and [illegible] appellation for a superior.

TALLOW.

Shahum, . . .	ARAB.	Pih, ...	PERS.
Suif, ...	FR.	Sebo, . . .	PORT., SP.
Talg, ...	GER.	Salo, Toplenoe, .	RUS.
Charbi, . .	GUJ., HIND.	Govapa, ...	SANSK.
Sevo, ...	IT.	Hurruk tail, . .	SINGH.
Lamak chair, .	MALAY.	Maattu kolupu, .	TAM.
Lamak, . . .	,,	Passalum kowu, .	TEL.

The fat of horned cattle and sheep. The tallow-gourd, Benincasa cerifera. Tallow tree, Dryandra cordata. Tallow tree of China is the Stillingia sebifera, the Excœcaria sebifera, Sapium sebiferum, Croton sebiferum of some authors. Its seeds are covered with a waxy substance, used in China for making candles. It has been introduced into the Doons of the N.W. Provinces and Kohistan Panjab. Stillingia sebifera is cultivated extensively in China, chiefly for the sake of the white sebaceous matter (vegetable tallow) enveloping the seeds. The tallow is separated by steaming the seeds in tubs with convex open wicker bottoms, placed over caldrons of boiling water. With trifling exceptions, the candles used by the Chinese in their religious ceremonies are made, by dipping, of the tallow of the Stillingia. The vegetable tallow of Borneo is said to be extracted from the nut of various species of Dipterocarpus, and melted in a gourd shell.

TALMUD, a historical and religious book of the Jews. In its two divisions of Halacha and Haggadah, it sums up the intellectual, social, and religious life of the Jews during a period of nearly a thousand years.

TALPA MICROURA. *Hodgson.*

T. cryptura, *Blyth.*		Short-tailed mole,	ENG.
Biyu kantyem, .	BHOT.	Pariam, . . .	LEPCH.

The mole of Nepal and Darjeeling is $4\frac{3}{4}$ to 5 inches long, with a tail 3-16ths or less. The Talpidæ family belong to the order Insectivora. The species of restricted Talpa amount to five in number, viz. T. Europæa, *L.*, of Europe generally; T. cœca, *Savi*, of Italy and Greece; T. moogura, *Temminck*, of Japan; and T. microura, *Hodgson*, of Nepal, Sikkim, Bhutan, and the mountains of Assam. The fifth is T. leucura, of Cherrapunji, N. of Sylhet. It differs little from T. microura, except that the tail is considerably more developed, though much less so than in T. Europæa; and the tail is clad and tufted with white hairs, whence the name T. leucura. This animal also would seem hardly to attain the size of T. microura.

Talpa microura fur is a deep slaty blue, with canescent gloss.—*Journ. Ben. As. Soc.*, 1850; *Jerdon, Mammals; Blyth.*

TALPUR, a dynastic title of the last amirs of Sind, descendants from Mir Bahram Khan, chief of the Baluch tribe of Talpur, who succeeded Abdul Nabi of the Kalora dynasty in 1788. Their greatness arose of Futteh Ali Khan. The Talpur were an inferior hill clan of Baluch. Even when they became rulers of Sind, Muhammad Khan, the ruler of Kalat, was ready to go to war with amir Gholam Ali, Talpur, because the latter had the audacity to propose to a female of his family. The Talpur dynasty of Sind were replaced by the British in 1845. Talpur means date-tree town.

TALUK or Talukah. HIND. In India, a revenue district, more correctly written Taluqah. It has as its immediate superintendent a revenue officer styled a talukdar.

Talukdar, in Upper India, a large landholder possessing generally villages of which he is the sole owner, and other villages in which there are subordinate holders, and of which he is only the superior proprietor. In the Lower Provinces, the zamindar is the superior proprietor, and the talukdars are subordinate proprietors.

Talukdari, a form of land settlement adopted in Oudh, so framed as to secure village occupants from extortion, and exacting certain duties and responsibilities from the talukdars, who were confirmed in possession of everything they held at the time of the annexation in February 1856. In 1859 they received sunnuds or title-deeds.

TALUT and Jalut, Saul and Goliath. See Alliteration.

TALWAR. HIND. A sword. A wooden scythe used for cutting down plants for barilla burning. The ordinary curved sword has a slight curve and has a side guard.

TALWAR, a tribe in Mysore, who in the times of the Polygars contributed annually a ram and a pot of ghi.—*W.*

TAMAKU. HIND. Tobacco, Nicotiana.

Tamaku Kashmiri, Rhododendron campanulatum.
Ban tamaku, Verbascum thapsus.
Chilassi tamaku, Nicotiana rustica.
Gidar tamaku, Heliotropium Europæum, Verbascum thapsus.
Kakkar tamaku, Kalkatti tamaku, Kandahari tamaku, Nicotiana rustica.

TAMANGGUNG, at a Malay court the minister of war and police.

TAMARICACEÆ, the tamarisk tribe of plants in the E. Indies, comprise the genera Tamarix, Trichaurus, and Myricaria. Tamarix dioica, *Roxb.*, and T. Indica, grow in India even in saline soil, and are good for protecting banks. Roxburgh describes the Tamarix Indica, identical with T. gallica, and T. dioica (jhou). T. furas occurs in the drier

parts of the Doab, and in the neighbourhood of Dehli, where it is called Asul or Atul as in Arabia. The other species are also found in the Peninsula. Tamarices are bitter and astringent. In Denmark they are used instead of hops for making beer, and in some parts of Europe as a tonic remedy. Galls are formed on the T. furas, and are called Sumrut-al-asul, also Chotee mue. Those on the jhou are named Sumrut-ul-turfa, or Buree mue. T. gallica of Mount Sinai is at certain seasons covered with a kind of sugary exudation, said by Ehrenberg to be produced by the puncture of the Coccus maniparus. It is called Arabian manna, or Gazanjabin; it is unknown in the bazars of Bengal, and is not produced in India.—*Roxb.; Royle*, pp. 213, 214; *Voigt; O'Sh.* p. 332.

TAMARIND.

Tamar-ul-Hind, . ARAB.	Tamarindus, . . LAT.
Ma-gye, ... BURM.	Neghka, . . . MALAY.
Cay-me, . . COCH.-CHIN.	Tamr-i-Hind, . . PERS.
Tamarins, ... FR.	Amlika, Tintili, . SANSK.
Tamarinden, . . GER.	Mahasiambala, . . SINGH.
Amli, . . . GUJ., HIND.	Pulie, ... TAM.
Tamarindo, . . . IT., SP.	Chinta-pundoo, . TEL.
Kamal, ... JAV.	Demer Hindi, . . TURK.

The tamarind tree, Tamarindus Indica, grows in the East and West Indies, the Eastern Islands, Arabia, and Egypt. It attains the height of 30 or 40 feet. Tamarind pods are from 3 to 6 inches long, and more or less curved. When ripe they consist of a dry, brittle, brown external shell, within which is the useful part, an acidulous, sweet, reddish-brown pulp penetrated by strong fibres. Within this is a thin membranous coat enclosing three oval brown seeds. The pulp, as analyzed by Vauquelin, contains citric acid, 9·40; tartaric acid, 1·55; malic acid, 0·45; bitartrate of potash, 3·25; sugar, 12·5; gum, 4·7; pectin, 5·25; parenchyma, 34·35; and water, 27·55. The fruit is used largely by the natives of India and Persia in making a sherbet or cooling drink, and also as a necessary ingredient in curries, to which it communicates a tartish flavour. The pulp allays thirst, is nutritive and refrigerant, and in full dose laxative. An infusion forms a very pleasant cooling drink, as does also tamarind whey. Infusion of senna with tamarinds is a useful laxative. Tamarinds are exported from India, packed in tins with or without syrup. Several varieties are distinguished, such as the red tamarind, the sweet tamarind, obtained from Persia; the dark tamarind, produced in Madura, one of the Eastern Islands; and the common or green tamarind, which is extensively produced throughout India. The red-coloured tamarinds are found in Gujerat, at Kheir on the Godavery, at Panderpur on the Kistna, and there are four trees in Madras. It is the best of the three Indian varieties. In preserving it for export, when the fruit is ripe, the shell or epicarp is removed, and the fruit placed in layers in a cask, boiling water being then poured over it. Another plan is to put alternate layers of tamarinds and powdered sugar in a stone jar. Tamarinds are exported both raw and preserved. Moochee bookbinders prepare a useful paste of the tamarind stones, which is called Pasay, TAM., by first taking off the brown skin and then boiling them down till they become glutinous. Tamarind seed powder, boiled into a paste with thin glue, forms one of the strongest wood cements. Tamarind seeds yield an oil of a pale bright-coloured fluid, and extremely light.—*Mad. Exh. Jur. Rep.; Ains.; Royle; M'C.; Faulk.; Tomlinson.*

TAMARIND FISH of Calcutta is made with the begti, Lates calcarifer, one of the Percidæ, preserved with vinegar and tamarind fruit. Lates calcarifer occurs in all the seas of the southern coasts of Asia, and is common in estuaries. It is greatly prized by Europeans. It is also made with white pomfret cut in transverse slices preserved in tamarinds. It is much prized as a relish. The begti is largely eaten in Bengal by Europeans.

TAMARINDUS INDICA. *Linn.*

T. occidentalis, *Gærtn.* | T. officinalis, *Hooker.*

This is a very handsome tree, of slow growth, but attains a great size, with a very extensive shady head. It is met with in gardens, near old temples, and in avenues, where it has been planted. It is a graceful avenue tree, and grows throughout Hindustan, in the Peninsulas, in Burma and the Archipelago, but is rare in the Panjab.

In Burma it rises to 90 or 100 feet high, and 12 to 15 in circumference. The branches extend widely, with a dense foliage of bright green composite leaves, very much like those of the sensitive plant. The flowers are in clusters of a beautiful yellow, veined with red. The pods hang like beans, are longer, darker, and richer than the tamarind of the West Indies, and are preserved without the addition of syrup.

Its timber is remarkably heavy and hard, much like lignum vitæ, and is used generally for shivers in blocks, and such purposes. It is dark-coloured and durable, is often finely veined, the heart-wood of old trees resembling ebony. The tree is apt to be hollow in the centre, which prevents large slabs being obtained. It is used in the manufacture of sugar and oil mills, naves, mallets, rice-pounders, and for furniture and building purposes, but silica is often deposited in its stem, and carpenters are very unwilling to work it up, on account of the great damage it causes to the best tempered tools. It is valuable for brick and tile burning. The trees grow to about 7 or 8 feet in diameter at the butt, while that of the body of the tree is about 5 feet. This part is seldom more than 10 feet long when it branches out into curves of various dimensions. Several large trees of the West Indian red tamarind grow in the south of India, and the Editor largely distributed the seeds through the Madras Board of Revenue. The tree is valuable from the quantity of fruit it produces, which is used medicinally in cookery. In India, the shadow of the tamarind tree is deemed particularly injurious to vegetation, and for people to reside beneath this tree is supposed, in India, to be unhealthy; but in the northern part of the island of Ceylon, people build their houses beneath the tamarind tree as the coolest site.

TAMARIX ARTICULATA. *Vahl.*

Faras, ... PANJ. | Arelei, ... SIND.

A moderate-sized tree of the Panjab and Sind, which grows very rapidly, often 10 to 12 feet in girth, and 60 or 70 feet high; 60 lbs. per cubic foot. It is used for Persian wheels, small ornaments, and for charcoal. The bark and galls are used in tanning, and the galls also as a mordant. —*Stewart.*

TAMARIX CHINENSIS, *Tatarinov*, is the San-chun-liu and Chih-ching of the Chinese.

TAMARIX DIOICA. *Roxb.*

Lal-jhao, ... HIND.	Ghazlei, Pilchi, . PANJ.
Rgelta, . . . LADAKH.	Rukh, Koan, . . ,,
Jhao, Lai, Kachlei, PANJ.	

Very common in Ajmir in the beds of rivers and near the great rivers of the Panjab. It is a very graceful shrub, with numerous small rose-coloured flowers in terminal drooping spikes. The Muki or tamarisk manna, used in confectionery, is said to be secreted by this plant in the cold weather. It grows up to 2500 feet in saline soil. It is a good plant for binding banks. The twigs are used for basket-making.—*Von Mueller; Roxb.* ii. p. 101; *Drs. Riddell, J. L. Stewart.*

TAMARIX ELEGANS, the Myricara elegans, *Royle.* It attains a height of 20 feet.—*Von Mueller.*

TAMARIX GALLICA. *Linn.*

T. Indica, *Roxb.*	T. gallica, *var.* T. Indica, *Ehrenb.*
T. epacroides, *Sm.*	
Turfa, ARAB., GUJ., PERS.	Koa, Rukh, . . . PANJ.
Tamarisk, . . . ENG.	Lainya of SALT RANGE.
Ferash, Frash, Jhao, HIND	Prakke, Pakke, . TEL.
Pharwan, Pilchi, . PANJ.	
Exudation—Gazanjabin.	*Galls*—Sumrut-ul-turfa, Ma-in, Buree mue, HIND.

The Indian tamarisk is a glabrous greenish plant with stiff twiggy branches, of considerable size in the Ajmir district, but the wood is there very inferior. In the Dekhan it grows abundantly as a small tree or shrub in the beds of many rivers, and affords shelter for all sorts of game. It is subject to the attacks of a cynips, which produces galls that possess astringent properties, and they are on this account used in medicine by the native doctors of India. The same property also renders them valuable in dyeing; baskets are made of the twigs, which are also used medicinally as an astringent. The galls are largely gathered in the Jhang, Gugaira, and Muzaffargurh districts, as also in Dehra Ghazi Khan district, where as much as 500 maunds are annually collected. The manna of Mount Sinai is produced from a variety of this plant, and consists of a pure sugar. It grows up to 10,600 feet on the Shayok in Ladakh, reaches 3 feet in girth and 30 high, and furnishes much of the steamer fuel in the Southern Panjab and in Sind; the wood is coarse-grained and often very red, and is used for Persian wheels, in turning, etc. In Ladakh, where wood is scarce, this is used for the handles of the sticks for polo or hockey on horseback. It adapts itself in the most extraordinary manner to the most diverse localities. It will grow alike in water and the driest soil, also in saline ground, and ascends the Himalayas to 11,000 feet. It is readily multiplied from cuttings, which strike root as easily as a willow, and push forth stems with unusual vigour. Hence it is one of the most eligible bushes for planting on coast sand to stay its movements, or for lining embankments. It furnishes material for a superior charcoal.—*Stewart; Royle; Roxb.* ii. p. 100; *Von Mueller.*

TAMARIX GERMANICA, *Linn.*, grows in Europe, W. Asia, and up to 15,000 feet in the Himalaya. It is useful as a sand-binding plant, particularly in moist places, also for solidifying precipitous river banks.—*Von Mueller.*

TAMBALA-VADU. TEL. A priest in a temple of Siva.

TAMBAN, also Tamburan. MALEAL. A prince, a raja, the title of the Cochin raja. Tamburati, a woman of the royal family of Malabar.

TAMBA PATRA. HIND. A copperplate grant or deed of gift.

TAMBI, Muhammadans of Ceylon, who excel as masons; perhaps the Tamil for brother.

TAMBIRA, in the Ahmadnaggur district, is a blight or disease occasionally attacking wheat, in which the grain assumes a copper colour and withers away.

TAMBOLI, a Hindu tribe of the Benares district. They grow the betel leaf, which, as also betel-nut, they sell. The betel leaf is among Hindus equivalent to a glass of wine after dinner among Europeans; it is also given in solemn asseverations or promises.

TAMBU, in Fiji, forbidden; the taboo of other islands.

TAMBUR. HIND. A drum of the European fashion.

TAMBURA, a sort of guitar. Tambura chherwala, a musical instrument.

TA-MEIN or Te-mi-ne. BURM. A garment or cloth in use with the Burmese women, broad enough to surround the waist, and slightly overlap there, where it is fastened by one end being tucked under the other, and it extends to the feet. It opens at every step taken by the wearer, exposing the greater part of one leg. It is the petticoat of the Burmese women. It is of cotton and silk with a zigzag pattern, the [illegible]en portion forming the skirt.—*Winter's Burma*, [illegible]56.

TAMHID. ARAB. A section of the Muhammadan creed. See Kalamah.

TAMIL, the name of a language and of a region where that tongue is in general use. The Tamil land is the same with Dravira, and comprehends all the districts in which that language is spoken, enclosing a portion of the eastern parts of the Peninsula. When the Dravira dominion was confined to the Chola, Pandya, and Chera principalities, its northern boundary was the Palar river. When the Chola princes colonized Tondamandala, it was extended westward to Tripati, in a line with Pulicat. Tamil was the language of three ancient dynasties of whom we have record, —the Chola of Tanjore and Combaconum, who were settled on or near the Cauvery and Colerun rivers, and who, as some suppose, gave their names to the Coromandel or Cholamandel coast; the Pandya, whose capital is now occupied by the inhabitants of Madura; and the Chera, who ruled at Kerala on the Malabar coast. Dravidian is a term recently applied to the vernacular tongues of the great majority of the inhabitants of Southern India. With the exception of Orissa, and of those districts of Western India and the Dekhan where Gujerati and the Mahrati are spoken, the whole of the peninsular portion of India, from the Vindhya mountains and the river Nerbadda to Cape Comorin, from the earliest period, appears to have been peopled by different branches of one and the same race, speaking different dialects of one and the same language; and scattered offshoots from the same stem may be traced still farther north and west, as far as the Rajmahal Hills and the mountain fastnesses of Baluchistan. Dr. Caldwell, excluding the Rajmahal, the Uraon, and the Brahui, designates as Dravidian nine idioms current in Southern India, viz. Tamil, Telugu, Canarese, Malealam, Tulu, Toda, Kota, Gond,

Khond or Kund or Ku; and it has been remarked that in the cultivated languages of the Dravidian tongue, Sanskrit words are not at all, or but very rarely employed.

Tamil is called Aravam by the Dekhan Muhammadans, and the Teling and Canarese races. The Tamil was formerly called by Europeans the Malabar language, but even the educated classes write it erroneously as Tamul. It was the earliest developed of all the Dravidian idioms, is the most copious, and contains the largest portion of indubitably ancient forms. It includes two dialects, the classical and colloquial, the ancient and the modern, called respectively the Shen-Tamil and the Kodun-Tamil, which so widely differ that they may almost be regarded as different languages. The Tamil language is spoken throughout the vast plain of the Carnatic or country below the ghats, the country termed the Carnatic Paen Ghat by the late Muhammadan sovereigns and by the British who have succeeded them, from Cape Comorin to Pulicat, and from the Bay of Bengal to the Eastern Ghats or eastern mountain range of Southern India. It is also spoken in the southern part of the Travancore country, on the side of the Western Ghats, from Cape Comorin to the neighbourhood of Trevandrum; and in the northern and north-western parts of Ceylon, where Tamilar formed settlements prior to the Christian era, and from whence they have gradually thrust out the Singhalese.

The Tamil race is the least scrupulous or superstitious, and the most enterprising and persevering, of all the Hindu people, and swarm wherever money is to be made, or wherever a more apathetic or a more aristocratic people is waiting to be pushed aside. The majority of the Hindus found in Pegu, Penang, Singapore, and other places in the east, where they are known as Klings, are Tamilians. All throughout Ceylon, the coolies in the coffee plantations are Tamilians; the majority of the money-making classes, even in Colombo, are Tamilians; and ere long the Tamilians will have excluded the Singhalese from almost every office of profit and trust in their own island. The majority of the domestic servants, and of the camp followers in the Madras Presidency, and along with its army, are Tamilians. The half of its army are Tamilians; and the coolies who emigrate so largely to the Mauritius and the West India Islands, were mostly of the Tamil people. Including the Tamil people who are residing in the military cantonments and distant colonies, and those in South Travancore, and excluding all Northern Ceylon, the people who, in 1881, speak the Tamil language are 13,068,279.

Ajmir,	1	Madras,	12,382,220
Assam,	242	N.W. Provinces,	477
Bengal,	1,623	Baroda,	46
Berar,	792	Central India,	428
Bombay,	8,971	Cochin,	37,256
Burma,	35,058	Hyderabad,	16,340
Central Provinces,	9,666	Mysore,	130,569
Coorg,	5,025	Travancore,	439,565

The Tamil people are, generally speaking, a dark-coloured and short-statured race, energetic, fiery, quarrelsome, but not vindictive. Most of them have embraced Brahmanism, but the non-Brahmanical and fragmentary tribes have a spirit and a devil worship, and worship the local deities called Ammun. Amongst the poorer of the Tamil people we find remnants of a belief in spirits, a veneration of black stones, a Shamanite diabolatry, indications of their earliest mythology. Tamil and Malealam writing characters were originally modifications of the ancient Tibetan. The Dravidian languages are written in alphabets derived from some prototype of Devanagari, scarcely from the actual Devanagiri. Tamil is written from left to right. Tamil labourers arrived in Ceylon in 1858 to the number of 96,000, and the number who took their departure was 50,000. Amongst the Tamil people, the Adima or Adimai were predial slaves attached hereditarily to the land, and only transferable with it. The Vellala are a Sudra race of Hindus who speak Tamil. They assume the honorific designation of Mudali or (pl.) Mudliar, meaning first man, and are chiefly farmers, but many of them are soldiers. Another branch of the Tamil race is the I'dyan, who take the honorific appellation of Pillai, meaning sons. These are of the herdsman race, and are less advanced in education than the Vellalar. Amongst the broken tribes in the Tamil country, the more prominent are the Pariah, and the Chakili, the Yenady, the Kadir, the Malai Arisar, and others. The Chakkili is a currier, a tanner, shoemaker,—the village shoemaker, known to Europeans as a chuckler,—one of the humble races of India, and corresponds to the Mhang or Mang of the Mahratta country, and the Chamar of N.W. India. They are held in great disesteem and are the public executioners. The condition, and manners is similar in Japan, where the action of the tanner particular locality, and are they are restricted to a part of 1881; *Elphinstone's* similarly employed.—*Census of India*, i. p. 410; *Tennent*; *Wilson*.

TAMLUK, an ancient seaport town in the Midnapur province of Bengal. The district has an area of 621 square miles, and a population of about half a million. Its raja is of the Kaibartta or fisherman race, descendant of Kalu Bhuya, who succeeded to the State on the death of the last Rajput Peacock dynasty. Tamluk town is now 60 miles from the sea, but in the 4th century, Fa Hian sailed from here to Ceylon. In A.D. 635 it was visited by Hiwen Thsang, and was then washed by the ocean. It is at the mouth of the Ganges, well known between the 4th and 12th centuries. The people at the western mouth of the Ganges are called Damalipta or Tamalipta. Its fine temple was respected in the 18th century by the Mahratta hordes. It was long the site of an important salt manufactory when that was monopolized by Government. Although originally a centre of Buddhism, it has continued to be a place of great sanctity.

TA-MO, styled Boohi Dharma, a Buddhist missionary from India to China in the 6th century A.D.

TAMO GUNA. SANSK. The quality of darkness, the source of inertness and ignorance. See Guna.

TAMPI is a title used as a suffix in Travancore by the sons of princes, by Sudra wives, likewise by other male members of those families, and also by the members of certain other families who had received honours from sovereigns in ancient times.

TAMPING. MALAY. A package; sago tamping is baled sago, wrapped in the leaves of the pandanus.

TAMRA, in Siam, a book on house-building. On this subject there are elaborate text-books,

both in Burmese and Siamese. The Burman book contains the omens and signs with regard to all possible events and circumstances, and not merely to the process of building. The Siamese Tamra or Manual of House-building is more systematic. The theories in both works are based on and elaborated from the Shastras which record the customs of the Brahmans. The first thing the house-builder has to do is to find out the situation of the great dragon that encircles the earth with his body, like the Midgard serpent of northern mythology. This must be ascertained before operations are begun, for it will have a great influence, not only on the time of beginning the building, but on the way in which the foundations must be dug and the method of hoisting the posts into position. This the Burmese have recorded for them in a rhyme which every schoolboy can repeat. The Siamese are not less alive to the necessity of accurate information on the subject, and it is fully set out in the Tamra.

TAMRANAGARA or Cambat, metropolis of the Bala Raya in the 5th century.—*As. Res.* ix. p. 194.

TAMRAPARNI or Tambrapūrni, also called Porunnei, a small river of Tinnevelly, in S. India, sacred to the Hindus. It is the Σωλην of the Greeks. It rises in the Western Ghats, in lat. 8° 52′ N., long. 77° 51′ E., and runs eastwards to the sea; length 70 miles. See Striviguntum.

TAMRAPARNI, a small sea-coast town in Ceylon, from which the island is called Taprobane by Onesocritus, officer of Alexander's army who accompanied Megasthenes. Colonel Yule (Cathay, clxxvi.) mentions as a legend that 'at the spot where the seven hundred men, with the king at their head, exhausted by (sea) sickness, and faint from weakness, had landed out of the vessel, supporting themselves on the palms of their hands pressed on the ground, they set themselves down.' Hence to them the name of Tambapanniyo (copper-palmed, from the colour of the soil).

TAMUNGONG, the title of the ruler of Johore.

TAN. HIND. The human body. Tan, man; dhan, body and soul and wealth. See Rudra Sampradayi; Vallabhacharya.

TAN, a handsomely-marked large snake of China, which is said not to be eaten, but its liver is prized as a medicine, and its skin is used to cover the San Heen or three-stringed guitar.

TAN, a boatman race of China who dwell in their boats. They are in all the Chinese rivers, similar to the Yao and Man tribes. The physique of the boat women is vastly superior to that of the house population, who designate them Suee ki or water-fowl.

TANA. MALAY. A continent, a land.

TANACETUM TENUIFOLIUM. *Jacq.* The tansy, grows at 10,000 feet on the Sutlej, and is useful for flavouring puddings. Eight species occur in the Himalaya.—*Stewart.*

TANACETUM VULGARIS, *var.* crispum. The young leaves cut small are used in colouring and flavouring puddings, omelets, cakes, etc. The curled variety, T. crispum, used in garnishing, succeeds on the plains of India, and grows freely in any good soil.—*Jaffrey.*

TANBORA or Timboro, a volcano in the island of Sumbawa, in lat. 80° 20′ S., and long. 118° E. Its summit is between 5000 and 7000 feet above the sea, which washes the base of the hill for three-fourths of its extent. From the 5th to the 11th April 1815, the mountain emitted dust and frequent loud sounds. The dust caused a haziness in the atmosphere at places many degrees distant from Timboro, and the sounds were heard equally far off. Between 7 A.M. of the 11th and 12th the dust fell in such quantities at Bhima, 60 miles off, as to produce a total darkness. Pumice-stone of a brown colour was thrown out from the crater in immense quantities. Great fields of it, with scorched trunks and branches of trees, were found floating in the neighbouring sea, and much of these were thrown up on the shores of Bali, Java, Madura, Celebes, etc.

The sea made a permanent inroad at the town of Timboro, which it covered to the depth of 3 fathoms. Thousands of the people, on the peninsula formed by the mountain, and their houses, were destroyed. At Samanap, in long. 113° 57′ E., the explosions were heard for several days, and the dust caused a total darkness between 5 P.M. of the 11th and 11 A.M. of the 12th. At Somabaya, in long. 112° 58′ E., the darkness was complete between 6 P.M. of the 11th and 4 P.M. of the 12th; and the effects of the eruption were felt at Batavia, in long. 106° 51′ E., at Java Head, in long. 105° 11′ E., at Monto, on the island of Barca, and at Bencoolen in Sumatra, in lat. 3° 48′ S., and long. 102° 28′ E., and at Macassar, in lat. 5° 10′ S., and long. 119° 88′ E. At Ternate, in lat. 0° 19′ N., and long. 127° 29′ E., about noon on the 11th April, the explosions were distinctly heard. —*Mr. G. A. Stewart in Jameson's New Phil. Journ.*, 1820, iii. p. 389.

TANDA. HIND. A Bunjara encampment. A caravan for transportation of goods on bullocks, bulls, and cows. A troop or company of travellers or travellers.

TANDALI, Tandiani or Tundiani, nearly 17 miles from Abbotabad in the Hindu Kush, Hazara district, a sanatorium at a height of 9000 feet.

TANDAVA, a wild frantic dance of Siva over the destruction of the world, said to be danced by Siva occasionally for Parvati's pleasure. Tandava-talika, a name of Nandi, because he accompanies Siva in the Tandava dance.—*Dowson.*

TANDEL, MAHR., or Tandelu, TEL. A superintendent of any body of men on shore or on shipboard; commonly written Tindel.

TANDESWARA, the most famous and most honoured of the sixty-three special devotees of Iswara.

TANDOI, in Bunnu, land watered by canals.

TANDOO. ARAB., JAV. Palanquin, a sedan chair, a palanquin carried by two bearers.

TANDRI. TAM. Father, a protector. Tillitandri, parents, father and mother, equal to the Urdu Ma-bap.

TANDULA, among the Mahratta race, is the chewing of grains of rice as an ordeal; another is the Tapta-masha, or taking a masha weight of gold out of a jar of hot oil or butter.

TANDUR. HIND. An oven.

TANDYA or Tandaka. SANSK. The most important of the eight Brahmanas of the Sama Veda.

TANESSUR, 30 miles south of Ambala.

TANG. HIND. A girth, anything that tightens or narrows; hence Tangi, a defile.

TANGAL. MALEAL. A priest of the Moplah Muhammadans of Malabar. They are regarded with a respect almost amounting to veneration.

TANGA MARA, a pirate race who in ancient times occupied the sea-coast from Kurachee to Lahori Bandar; one of their heroes, Rana Abaid, lived A.D. 1591.

TANGAR, a hill in the Tanna collectorate of Bombay, about 2350 feet above the sea. Its rainfall is about 80 to 83 inches. The plateau is about two miles long and one mile broad.

TAN-GAS-GUZ, the Arabic designation of the Uighur Turks who dwelt north of Tibet, their country extending from Khorasan to the China frontiers. They were Buddhists.

TANGEER, a bark of Macassar, used in making a lye for washing the hair, which it is said to cleanse and strengthen.

TANGGULUN, a hard wood of Java, of a close grain, and employed by turners for various small works.

NGHAN, a small horse of Tibet, wonderfully d enduring; they are never shod, and n cracks, and they become pigeon- re frequently blind of one eye, lled Zemik (blind ones), but this eat defect. They average £5 to animal in Tibet, and the best 0 in the plains of India, where imated and thrive well. Giantchi f Turner) is the best mart for astern part of Tibet, where some very high prices. The Tibetans give ue messes of pigs' blood and raw hey devour greedily, and it is said n them wonderfully. The custom, believes, is general in Central Asia. (Per. Nar. iv. p. 320) described the Caraccas as occasionally eating salt meat. The Tanghan, Retangun, or Tanyan of Nepal, so much esteemed for their hardiness, come entirely from Upper Tibet, and are so sure-footed that the people of Nepal ride them without fear over very steep mountains and along the brink of the steepest precipice. The species which is indigenous to Bhutan has its title from the region in which they are bred, being called Tangun, vulgarly Tannian, from Tangastan, the general appellation of that assemblage of mountains which constitutes the territory of Bhutan. In the Dekhan, and throughout the S. of India generally, the small horses or ponies from Pegu and Acheen are called Tanghan by the Muhammadans.—*Turner's Embassy*, p. 22; *Hooker's Jour.; Smith's Nepal.*

TANGHIN, Cerbera tanghin, Tanghinia venenifera, *Poir.*, formerly used in Madagascar as an ordeal in cases of suspected crime or apostasy.

TANG-T'U-P'AU. CHIN. Literally artillery; a class of drugs used for the successful attacking of disease.

TANJONG. MALAY. A headland. Tanjong Batu Besayab, Tanjong Krassak, Tanjong Merrum, Tanjong Sumbuang are headlands in the Banca Islands.

Tanjong Awat, or Cape Caran, called also Mud Point, nine miles N.W. of Salangore.

Tanjong Basso, or Baccoun Island, in lat. 0° 20′ S., long. 103° 48′ E., distant 19 miles N.W. by W. from the Calantigas.

Tanjong Bato, or Point Pedro, 12 miles E.N.E. of Acheen road, terminates in a gentle slope, and is covered with large trees.

Tanjong Sampan Mangaio, the north extreme of Borneo.

TANJORE, a town which gives its name to a district in the Madras Presidency. The district has an area of 3654 square miles, and in 1881 a population of 2,130,383. It is bounded on the north by the Colerun, and it has the Bay of Bengal on the east. The delta of the Cauvery occupies the flat northern part of the district, which is highly cultivated with rice, dotted with groves of cocoanut trees. This part is thoroughly irrigated by an extensive network of channels connecting the different parts of the delta. South-west of the town of Tanjore the country is somewhat more elevated, especially about Vellum. Tanjore was conquered by Shahji, father of Sivaji, about 1659. The Mahrattas, in A.D. 1678, held Tanjore under Venkaji, brother of the Great Sivaji.

During the 18th century, the possession of this province was greatly contested. In 1762, the raja of Tanjore agreed to pay tribute to the Nawab Walajah of the Carnatic. In 1771, the Tanjore raja, Tuljaji, son of Pertab Singh, with the aid of the British, subjected the Polygar of Ramnad, but a peace being arranged unknown to the British, the raja was compelled to cede the fort of Vellum, and the districts of Koiladdi and Elangar. In 1773, the British made prisoners of the raja and his family, but he was restored, 11th April 1776, on a treaty to submit to the E. I. Company. In 1787, Tuljaji died, and was succeeded by his half-brother, Amir Singh. But Tuljaji had adopted Sarfoji, and after a time Amir Singh was set aside, and Sarfoji reinstated. Sarfoji died in 1832, and was succeeded by his only son Sivaji, on whose death in 1855, without male heirs, direct or collateral, the titular dignity became extinct. His daughter obtained a title of princess. He had three queens, Syudammal Bai Sahibah, Kamatche Bai Sahibah, and Pathuma Bai Sahibah. By the first of these he had two daughters, but, having no male issue by any of the three, he sent his prime minister to Poona for damsels from his own kindred. Seventeen were selected for the raja and his nobles, but on arrival they claimed to be the raja's brides, and threatened to destroy themselves, on which the raja married the whole of them, the British Government sanctioning Rs. 6,72,000 for the expenses. Even by these seventeen the raja had no male issue, and he took sixty-nine concubines, by whom he had thirteen daughters and nine sons. The raja died on Tuesday, October 29, 1855, in his 49th year.

Raja Sarfoji was exceedingly fond of Schwartz, helped him liberally with funds, and gave him lands at Canandagoody for a mission, and also the site on which the mission-house, church, etc., are built. He established a boarding-school for Schwartz, and gave him the cultivated lands at Sediangal, from the produce of which the boarders were supported. These lands still support the mission at Tanjore. He repaired the great temple at Tanjore, laying down stones all through the courtyard, and also performed for it the Koombabhashagam, or regilding of the Kalasam. He also repaired several other temples in and around Tanjore, all of which cost him Rs. 8,66,700.

The district from pre-historic times has been largely irrigated by means of canals and dams,

from the Cauvery and from the Colerun, but chiefly from the former, the Colerun, which forms the boundary of Tanjore, on account of its low level, being less utilized. The main branch of the Cauvery enters the Tanjore district 8 miles east of Trichinopoly, and spreads out into innumerable small channels, which form a vast network extending down to the sea, and converts the northern portion of the district into one rice-field. Near the western boundary of Tanjore, the Cauvery and Colerun approach each other, and here in some ancient time a masonry dam, called the Grand Anicut, has been constructed to prevent the waters of the Cauvery being drawn off into the Colerun, the bed of which is here 9 or 10 feet lower. It is said to have been constructed by a king of the Chola dynasty in the 3d century A.D. The works in the early part of the 19th century were improved by Captain Caldwell and Captain (Sir Arthur) Cotton of the Madras Engineers, by means of many regulating dams and calingulas or waste weirs. In the area of 900,000 acres now irrigated, the total revenue in 1875-76 was £463,350.

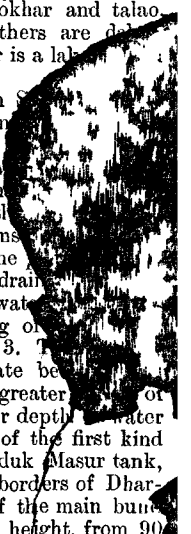
Upwards of 90 per cent. of the population are Hindus, 5 per cent. Muhammadans, and 3 per cent. Christians. Brahmans in 1871 numbered 126,757; the Vellalar, a great agricultural race, were 348,400; the Vanniar, labourers, 574,789; Pariahs, 306,569; Satani and Pandaran sectarians, 49,763. The Muhammadans are chiefly Labbai or Yonakar, a race of mixed descent from Arab fathers and women of the country. The largest towns in the district are Tanjore, Combaconum, Myaveram, Tranquebar, and Manaargudi. At Tanjore is a great Saiva temple, the finest of the pyramidal temples of India. In 1777, it was fortified by the French, and has not again been reconsecrated. The pyramid rises in thirteen storeys to a height of 190 feet. A figure of the bull Nandi faces the temple, and there are several smaller shrines in the enclosure. The sculptures on the gopuras relate to Vishnu, while everything in the courtyard is dedicated to Siva. It is said to have been erected in the 14th century by Kadu Vettiya, a Soran or Cholan king, and the statues of the courtyard may have been subsequent.

Romish missions date from the first half of the 17th century; and at Negapatam a French Society of Jesus, in 1846, founded the College of St. Joseph. In 1706, the German Protestant missionaries Ziegenbald and Plutschau established a Lutheran mission at Tranquebar, under the patronage of Frederic IV. of Denmark, and about the middle of the century the Reverend C. F. Schwartz established another mission; and missionaries are now proselytizing there under the Society for the Propagation of the Gospel. Tanjore is famed for its carpets, jewellery, repoussé-work, and copper wares.—*Pharoah's Directory; Imp. Gaz.; Horsburgh.*

TANK.

Tanken, . GUJ., MAHR. | Eri, ... TAM.
Talao, . . HIND., PERS. |

The tanks or artificial water reservoirs of India are the greatest of all the Hindu irrigation works. They are of two kinds,—one excavated and used for drinking water, bathing, and irrigation; the other formed by throwing a bund or dam across the mouth of a valley or across any sloping ground. The excavated tanks have stone or other steps all round down to the water, generally the whole length of each face; and in many instances temples have been erected around the edge, and little shrines down the steps. Many of the irrigation tanks are of vast extent, with magnificent embankments, in respect to their elevation and solidity. Some of them form lakes many miles in circumference, and water great tracts of country. As instances of this may be mentioned the Red Hill tank near Madras, the Vihar lakes near Bombay; and in Rajputana, the Raj-Samandar, the tank of Cumbum in the Kurnool district, of Ulsur near Bangalore, of Mir Alam near Hyderabad, and the Bhandara and Lachora reservoirs of Nimar approach the dignity of lakes. Also, a race known as the Ghorbasta, at some pre-historic time constructed cyclopean dams in the mountains of Baluchistan. The tanks of India are named according to their size. The ahar of the N.W. Provinces is a small pond; johar, a large pond; other tanks are called pokhar and talao, the last being of masonry; others are [illegible] liwar, talari, and garhiya. Sagar is a lake of the largest size.



The existing tank irrigation in [illegible] is chiefly ancient, and comprises in [illegible] of all sizes, from what might [illegible] downwards. These may be div[illegible] classes:—1. Those formed by th[illegible] passage of a considerable river th[illegible] gorge, in a range of hills, by means [illegible] or bund. 2. Those formed in the [illegible] bankments carried across the drai[illegible] country, and impounding the wat[illegible] more streams; these tanks being o[illegible] superficial area, but shallow. 3. T[illegible] might be considered intermediate be[illegible] other two, having in general a greater [illegible] of dam than the first, and a greater depth [illegible] water than the second. Few examples of the first kind remain entire. The ruined Mudduk Masur tank, one of this class situated on the borders of Dharwar and Mysore, has a length of the main bund on the crest, 550 yards; present height, from 90 to 108 feet; width at the base, from 945 to 1100 feet; area of the lake at 90 feet depth, 40 square miles; contents, about 1400 million cubic yards of water. The area of the drainage basin, which was on the inner slopes of the Western Ghats, was 500 square miles. Mr. Gordon was engaged on a proposed restoration of this tank, but it was found that the present average rainfall would not suffice to fill much more than one-half of its ancient basin, and it was suggested that the depth should be reduced from 90 to 70 feet. This diminution in the supply was supposed to be attributable partly to the diminished rainfall, and partly to the construction of small tanks on some of the feeders, at a date subsequent to the completion of the great tank, which was assigned by tradition to the 14th or 15th century. The main bund was supplemented by two smaller ones, placed on saddles at some distance from it, in the range of hills; and it was by the breaching of one of these that the tank was ruined, as the principal embankment remained entire. There were no traces of a waste weir or by-wash of any kind. Of the second and third classes of tanks, some are ancient ones of great dimensions, such as the ruined Poonairy tank, in the Trichinopoly district, of which the embankment was 30 miles in length,

and the Veeranum tank, still in action, with a bund 12 miles long.—*Elph.* p. 163; *Carnegy.*

TANK, a town in the Dehra Ismail Khan district of the Panjab, formerly the capital. It is situated in lat. 32° 14′ N., and long. 70° 25′ E., and is at the foot of the Sulaiman Hills. Its chief, Sarwar Khan, devoted himself throughout a long reign to the amelioration of his territory and his tribesmen. Under his sway, the Daulat Khel changed from a pastoral to a cultivating people; and they still revere his memory, making his acts and laws the standard of excellence in government. By assiduous cultivation, it has acquired an aspect of prosperity and greenness which distinguish it strongly from the neighbouring tahsil of Kolachi.

TANKA, an ancient class of gold coins in the Peninsula of India, as the Padma Tanka. Tankam in Tamil means heavy (as gold); in Telugu, and in the Dekhani, a tanka was a sum of 16 paisa or dáb, and it gives the native name for a mint, Tangsal or Tankasala, a word said to be Sanskrit. [illegible]nka would be any stamped coin, money in [illegible] Tanka kasa, a gold ducat; Rama tanka, [illegible]old coin.

[illegible] a rude tribe near the source of the [illegible]

[illegible] PRAHOE, a volcano in Java, [illegible]om which the eruptions of 1829 [illegible]846 issued. Dr. Horsfield visited [illegible]

[illegible]f leather is one of the manufactures [illegible]an unlimited supply of hides and [illegible]rks, gums, and extracts, the goods [illegible] by natives of India are not of a superi[illegible]ality. Inferiority of Indian leather may be [illegible]ribed to want of skill on the part of [illegible]e curr[illegible]r, and the use of quicklime. This is [illegible]obably owing to the very low rank of the artisans, for the art of leather production is well understood and successfully practised by the European tanners, the leathers made by them being scarcely inferior to that made in Europe. In the usual native process, the raw hides, on first being removed, are steeped in stone vats for four and five weeks in a strong pickle of salt and water; from ten to fifteen hides are placed in each vat. While steeping, a pint or quart of the milk bush, Euphorbia tirucalli, is thrown into each vat. This contains a considerable quantity of elastic gum, and is used for water-proofing leather, and rendering cords elastic. Currying the leather is the province of the wife, while manufacturing it for the market belongs to the husband. The basis of the skins of animals is composed of a substance to which the name of gelatine is given. One of the properties of this substance is, that when combined with tannin, it forms the compound of tannate of gelatine or leather material. Tannin obtained from various sources differs materially in some of its characters. The tannin of gall-nuts, which is that generally employed for chemical purposes, is sometimes called gallo-tannic acid, to distinguish it from other species. The tanning materials best known in Europe are the oak bark, Peruvian bark, and the barks of some of the acacias. The importance of oak bark has, however, been greatly diminished since the introduction of the sumachs, as Rhus cotinus, the Venus sumach, and R. coriaria, the hide or elm-leaved sumach; also of the Divi-divi, or Cæsalpinia coriaria; of Valonia, the acorn cups of Quercus Ægilops; of catechu and gambir, from the Acacia catechu and Uncaria gambir; of the Indian Myrobalans, the mimosa or wattle bark of Australia, the cork tree bark of Spain, and willow bark. Catechu has long been employed in India for tanning skins, and its tanning properties are so great that skins are tanned by it in five days. The Cæsalpinia coriaria, or Divi-divi, was introduced into India by Dr. Wallich in 1842. The produce of the kino tree (Pterocarpus marsupium), and catechu of the betel palm, are also employed. Dr. Heyne states that the morocco manufactured at Hurryhur was treated with salt and a mixture of water, and the milk of wild cotton (Calotropis gigantea).

In many parts of India the hides are so removed as to form a bag, into which the tan is placed, and the filled bag kept suspended for several weeks. Such leather is soft and flexible, and looks tolerably well, but it resists the rain indifferently, is easily penetrated by wet, and during the S.W. monsoon becomes as moist and flexible as paper dipped in water. When set aside it becomes mouldy, and very easily rots.

The following are the principal of the tanning plants of Southern and Eastern Asia:—

Acacia Arabica.	Glochidion, *sp.*
A. catechu, catechu.	Hymenodictyon excelsum.
A. vera, its fruit.	Juglans regia.
Albizzia, *sp.*	Kandelia Rheedii.
Alnus, *sp.*	Nyctanthes arbortristis.
Bauhinia variegata.	Pinus longifolia.
Bruguiera Rheedii.	Pterocarpus marsupium.
B. eriopetala, bark.	Punica granatum, rind.
B. parviflora, bark.	Quercus incana.
Buchanania latifolia.	Q. infectoria, gall-nuts.
Butea frondosa, kino.	Rhizophora conjugata.
Cæsalpinia coriaria.	R. gymnorhiza.
Calotropis gigantea.	R. mangle.
C. procera, sap.	Rhus cotinus.
Cathartocarpus fistula.	Rottlera tinctoria.
Carallia lucida, bark.	Salix, *sp.*
Careya arborea, bark.	Shorea robusta.
Cassia auriculata, bark.	Sysygium jambolanum.
Conocarpus latifolia.	Tamarix Indica, galls.
Diospyros glutinosa.	Terminalia, several species.
Eucalyptus, *sp.*	Uncaria gambier.
Hibiscus rosa Sinensis.	Zizyphus jujuba.
Garuga pinnata.	

Divi-divi, catechu, tanghedu bark, etc., produce their effect rapidly, and the leather is durable.

The bark of Bauhinia variegata is made use of as a tanning substance in Sind and other parts of Asia. The bitter astringent bark and the galls of several of the tamarisk tribe are also well suited for the purpose.

The Tenasserim Provinces are rich in materials for tanning. The bark of the careya, and of half a dozen different species of mangrove, the fruit of the sea-cocoanut, and the peel of a species of ebony, all abound in tannic acid.

All attempts to hurry the leather-making process beyond a certain point, by the use of concentrated solutions of tan, etc., are for the most part failures, as the manufacture of good leather to a great extent depends on the process being conducted in a slow and gradual, but at the same time thorough and complete manner.

The currier and tanner of India is known as the Chamar, Chakili, Malla-vadu, Ma[illegible]. They are held in great disesteem, and are the public executioners. The condition of the tanners is similar in Japan, where, as in India, they are restricted to a particular locality, and are similarly employed.

—*Wilson; Heyne's Tracts; Simmonds' Comml. Products; Prof. Solly in Jury Reports of Exhibition*, 1851; *Madras Exh. Jur. Reports; Stewart.*

TANPING is imported into Shanghai from the north of China in great quantity. It is a dry paste, the residuum or husk of a leguminous plant called Teuss, from which the Chinese extract oil, and which is used, after being pressed, as manure for the ground.—*Simmonds.*

TANSALA, a smoky quartz stone, like the smoky topaz or cairngorm stone.

TANSEIN, a mountain in Nepal rising 6000 feet above the sea.

TANSEN, a celebrated musician and composer who went to Gwalior in the beginning of the 16th century, and is buried there. He was a native of Patna, who had a great natural fondness for music, and had been attracted to Brindaban by the fame of Hari Das. The emperor's persuasions and promises prevailed upon Tansen, and he followed in the train of Akbar, to flourish in life, and acquire the celebrity of an incomparable musician in the annals of his nation. From a Hindu he became a convert to the Muhammadan faith, and his remains lie buried at Gwalior, where the tomb is overshadowed by a tree, concerning which a superstitious notion prevails, that the chewing of its leaves will give an extraordinary melody to the voice. Dr. Hunter, writing in 1790, mentioned this, and 30 years later Lloyd found that it was still 'religiously believed by the dancing girls.' So strong was this belief, that the original tree died from the continual stripping of its leaves, and the present tree is only a seedling of the melody-bestowing tamarind.—*General Cunningham*; *Tr. of Hind.* ii. p. 69.

TAN TAE HOEY, a political union amongst the Chinese of Singapore. A description given of the initiation into this combination is as follows:—About seven o'clock they had all arrived, and commenced to eat and drink spirits. In an hour this finished, when they commenced to play on drums, etc. On this they all arranged themselves in order, sitting opposite the Datu (idol), but I observed that their faces were as red as the Bunga Rayah from drunkenness. Among them all there was one chief, who sat on a lofty chair, with two men standing at his right and two at his left. After them came eight men, with drawn swords, who arranged themselves at the right and left; then came one man who burned paper in front of the idol (sacrifice); after him came eight men with drawn swords, who guarded a man with dishevelled hair, and without any upper garment,—in fact, he had only a pair of trousers. This man came in front of the chief, and bowed down till his head touched the ground; the armed men on the right and left now advanced, shouting, and laid their swords on his neck; they remained silently in this position for a short time, when a man advanced to the candidate's side. The chief then spoke as follows in the Chinese language:—'Who are you, and from whence came you? Who are your father and mother? Are they still alive, or are they dead?' These questions were explained to the candidate by the man who stood at his side, and were answered as follows:—'I am such a one, of such a country, and my father and mother are both dead.' Even if his father and mother were alive, he would be obliged to say they were dead, because no one whose father and mother are alive can be admitted into the society, as the existence of all those is as if they were dead to the world and its ties. The chief then said, 'Will you swear that your father and mother are dead?' he answered, 'I will,' and performed the oath by burning paper in front of the idol, saying at the same time, 'My father and mother are dead.' The chief then said, 'What have you come here for?' answer, 'I wish to join the Tan Tae Hoey.' These words mean the sky, the earth, and man. The chief then said, 'You are deceiving, your thoughts are not as your speech;' answer, 'I will swear that I am in good faith.' 'Then swear.' The candidate then, taking paper, burned it while he repeated his assertion. The chief then said, 'Are you acquainted with the rules of the society?' answer, 'Yes, I understand that I am required to take an oath by drinking blood.' The chief then said something, to which the following answer was made—'I promise not to divulge the secrets of the society to any one under penalty of death.' The chief said, 'Truly?' answer, 'Truly.' A vessel was then brought containing arrack and a little blood from [illegible] members of the society, and, with [illegible] placed in front of the idol. The [illegible] taking up the knife, made a slight [illegible] from which he allowed some blood [illegible] cup. The chief then said, 'Drink [illegible] Datu Peking.' The candidate then [illegible] cupful, of which the chief and all the [illegible] drank a little each in his turn. The [illegible] said, 'To-morrow go to our secretary, [illegible] for a book; in that book you will find [illegible] and secret signs; you will pay one [illegible] for it.' The chief then rose, and himself raised the candidate from his prostrate position; and now, being initiated, he can take his place among those who before would have considered him an enemy.—*Statement of Abdullah-bin-Abul Kadir Moonshee.*

TANTI. MAHR. A weaver race in Central India and Hindustan, many of whom are prosperous cultivators. Amongst the Ho of Singbhum Tanti weavers, a helot race of apparently Hindu origin, are domesticated as essential constituents of every Ho village community. There are, besides, thousands of weavers in the Pan or Panwa, Ganda, Chik of the Southern Tributary Estates, and the Pab and Panika of the western districts. In feature these people are Aryan or Hindu, rather than Kolarian or Dravidian. They worship the Hindu gods, but are not restricted as to food articles. Their numbers in Chutia Nagpur are about 50,000.—*Campbell; Dalton, Eth. Beng.*

TANTIA TOPI, an active, intelligent leader in the Mutiny of 1857. His force was overtaken, and its leader captured and hanged.

TANTRA. HIND. A set of works of the Hindus, in use as religious books in inculcating mystical and impure rites in honour of different forms of the god Siva and goddess Durga. The principal of the Tantra books are the Syama Rahasya, Rudra Yamala, Mantra Mahodadhi, Sareda Tileka, and Kalika Tantra. These are in the form of a dialogue between Siva and his bride Parvati, in one of her many forms, but principally in those of Uma and Parvati, in which the goddess questions the god as to the mode of performing various ceremonies, and the prayers and incantations to be used in them. The observances they prescribe have, in Bengal, almost superseded the original

ritual of the Vedas. The followers of the Tantras profess to consider them as a fifth Veda, and attribute to them equal antiquity and superior authority. It may be inferred that the system originated at some period in the early centuries of Christianity, being founded on the previous worship of the female principle, and the practices of the Yoga with the Mantra or mystical formulæ of the Vedas. Tradition is silent as to the authors of the Tantra; they are mythologically ascribed to Siva, but they are not included in any of the ordinary enumerations of Hindu literature, and were no doubt composed after that literature was complete in all its parts. They are specified in some of the Puranas, to which they must be anterior. They have been but little examined by European scholars, but sufficient has been ascertained to warrant the accusation that they are authorities for all that is most abominable in the present state of the Hindu religion.

The great feature of the religion taught by the Tantras is the worship of Sakti,—divine power [illegible]ed as a woman, and individualized, not [illegible] goddesses of mythology, but in every [illegible]hom, therefore, in her own person, [illegible]ip may be and occasionally is [illegible]e chief objects of adoration, how[illegible]anifold forms of the bride of Siva, [illegible] Durga, Kali, Syama, Vindhyavasini, and others. Besides the usual [illegible]offerings, oblations, hymns, invocations, [illegible]itual comprises many mystical ceremonies, [illegible]d accompaniments, gesticulations, and [illegible] and the use in the commencement and close [illegible] the prayers of various monosyllabic ejaculations of imagined mysterious import. Even in its least exceptionable division, it comprehends the performance of magical ceremonies and rites, intended to obtain superhuman powers, and a command over the spirits of heaven, earth, and hell. The popular division is, however, called by the Hindus themselves the left-hand Sakta faith. It is to this that the bloody sacrifices offered to Kali must be imputed, and that all the barbarities and indecencies perpetrated at the Durga Puja, the annual worship of Durga, and the Charakh Puja, the swinging festival, are to be ascribed. There are other atrocities which do not meet the public eye. This is not an unfounded accusation, not a controversial calumny. Some of the books are in print, veiled necessarily in the obscurity of the original language, but incontrovertible witnesses of the veracity of the charges. Of course no respectable Hindu will admit that he is vamachari, a follower of the left-hand ritual, or that he is a member of a society in which meat is eaten, wine is drunk, and abominations not named are practised. The imputation will be indignantly denied. If the Tantra be believed, 'many a man who calls himself a Saiva or a Vaishnava is secretly a Sakta, and a brother of the left-hand fraternity.' No Hindu of reason and right feeling can say anything vindicative of a system which has suffered such enormities to be grafted upon it. No explanation could afford any plea, any suggestion, any opening for abuses of which he admits, when he dares to avow them in his own case, the shame and the sin.—*Wilson's Religious Practices and Opinions of the Hindus*, 33.

TANTUR. ARAB. A bonnet worn by Druse ladies. It is a conical tube, about 18 inches long, of silver or copper plated, with patterns graved on it. It is fixed upon a cushion fastened to the top of the forehead, and inclines slightly forward. Over this is thrown a piece of white muslin, which falls down to the hips, and is used as a veil when they go abroad.

TANZIMAT, a reformed system introduced into most provinces of Turkey. Qu. Tazimat.

TAOU or Tao, doctrine of reason, a school of philosophy originated by Lao-tsze, also called Lao-Kiu, a contemporary of Confucius, born B.C. 604, died B.C. 520, at the age of 84. It was a belief in one universal spirit called Tau. Taouism in China is a recognised State religion, but it is corrupted, and Taouist priests claim to be able to expel ghosts from a house, expel noxious spirits from the sick, drive away spirits from the route of a funeral, expel spirits from a house in which a suicide has taken place, drive away spirits from the site on which a house is to be erected, and expel spirits from the pig-styes.

TAOU-TAI, a Chinese magistrate. Marco Polo, a traveller in Mid Asia and in the south and east of Asia during the 13th century, was at one time Taou-tai of a Chinese town, corresponding to the English mayor; but he is also a kind of lord-lieutenant of the county, and has judicial authority in his district, being, in short, a very powerful and responsible official.—*Frere, Antipodes*, p. 276.

TAPA. TURK. A mound, a tumulus; the tepe, tope, or st'hupa.

TAPA, a cloth made at Tahiti from the liber or inner bark of the paper mulberry, Broussonetia papyrifera. When well prepared, it is tough and flexible.—*Bennett*, i. p. 114.

TAPAN, a river on the N.E. of Mandalay, on the bank of which the town of Bhamo is built.

TAPAS, in Hinduism, penance. Tapas and Dhyan, in Buddhism, is abstinence and abstraction. The Tapas of the Buddhists was not penance or self-inflicted bodily pain like that of the Brahmans, but a perfect rejection of all outward things (pravrittika).—*Cunningham's Bhilsa Topes.*

TAPASI or Tapsi. SANSK., TAM. People who have renounced the world. If Brahmans, they are burned with clothing; if Sudras, sometimes seated on chairs and with limes in their mouths.

TAPASI MATCHI. BENG. Mango fish, Polynemus risua, *Buch.*, literally penance fish, being so called from the long streamers from its head, deemed by the Hindus to resemble the uncut hair of penitents and ascetics.

TAPHOZOUS, a genus of mammals of the subfamily Taphozoinæ, family Noctilionidæ. These bats inhabit the warmer regions of the old world and Australia. T. bicolor is said to be from the East Indies.

Taphozous longimanus, *Hardw.*

T. brevimanus.	T. fulvidus, *Blyth.*
T. Cantori.	Long-armed bat.

Found throughout India, and common in large towns, frequenting dark outhouses.

Taphozous melanopogon, *Temm.*, the black-bearded bat, occurs in Canara, and is common in Malayana. It is about 3¼ inches long, and in colour is brownish, mouse-grey above, light beneath.

Taphozous saccolaimus, *Temm.*

T. crassus, *Blyth.*	T. pulcher, *Elliot.*

The white-bellied bat, inhabits Madras, Burma, and Malay Peninsula.

TAPIOCA is obtained from the roots of two plants, Manihot aipi, *Pohl.*, the sweet cassava, and M. utilissima, *Pohl.*, the bitter cassava or tapioca plant. From the facility with which the bitter cassava can be rasped into flour, it is cultivated almost to the exclusion of the sweet variety, which contains in its centre a tough fibrous ligneous cord, which is absent in the bitter variety. The latter, however, contains a highly acrid and poisonous juice, which is got rid of by heat or by fermentation, so that the cassava bread is quite free from it. When the juice has been carefully expressed, the fecula or flour is washed and dried in the air without heat, and forms the Brazilian arrowroot of commerce; but when dried on hot plates, it becomes granular and forms tapioca. The plant is not dependent on the rainfall for its growth. About 2000 square miles of land in central Travancore are planted with it. The hill-sides are filled with the plant; and its adaptability to any soil, and its entire independence of the seasons and the water supply, induce the agricultural population to use it as an article of diet. With planting all the work of the planter ceases, except watching the plantations against robbers and wild beasts. Almost any soil, except arid sand, is congenial to the manioc plant. The ground is ploughed or dug up after a rain, and at once planted. Heaps of dried vegetation are sometimes burned, and the ashes turned with the soil before planting. The stems of full-grown plants are cut into pieces of about a foot in length, and laid horizontally in little pits dug in rows, each pit or cavity holding two sticks, one crossing the other. They are then covered with piles of dry leaves of trees, and over them small flat mounds of earth are thrown. The plants stand very close to one another, so much so that two plants per square yard is but a low average. They germinate in about a week, and it is essential that there should be one or two good showers of rain within a month after planting. An artificial tapioca is made with gum and potato starch. The granules of this are larger, whiter, and more brittle, and more soluble in cold water than genuine tapioca.—*Tomlinson; J. P. Langlois; Journ. Agri-Hort. Socy.* xii. p. 175.

TAPIRUS MALAYANUS. *Raffles.*

Tapirus Indicus, *F. Cuv.*	Asiatic tapir; Malayan do.
Babi-alu, . . BENCOOLEN.	Kuda-ayer, . . MALAY.
Le maiba, ... FR.	Saladang, . . SUMATRA.
Tennu, . . . MALACCA.	Gindol, . . ,,

The tapir is found in the Malay Peninsula, and in Sumatra and other islands of the Eastern Archipelago. It exceeds the American tapir in size. Of all living animals the tapir comes nearest to the extinct Palæotherium.

TAPIS, of Manilla, a thickly-woven silk scarf, six vara long, with oblique white stripes on a dark-brown ground. It is worn above the sarong.

TAPPA. GUJ., TAM., TEL. A stage of a journey; the post, the tapal, post-office; also a shaping block; also a piece of metal with a die or mould for producing a metal pattern in relief by hammering in soft metal.

TAPROBANE, an ancient name of Ceylon,—that used by Milton, who tells of people

> 'From India and the golden Chersonese,
> And utmost Indian isle Taprobane,
> Dusk faces with white silken turbands wreathed.'

The 6th chapter of the Mahawanso relates the arrival of Wijayo with 700 followers, and says they were tired, and supported themselves on the palms of their hands, from which the place was called Tambapanni or copper-palmed. See Tamraparni.

TAPTA-KUND. The town and temple of Bhadri-nath are situate on the west bank of the Alaknunda river, in the centre of a valley of about four miles long, and one mile in its greatest breadth. The east bank rises considerably higher than the west bank, and is on a level with the top of the temple. About the middle of the bank is a large cistern about 20 or 30 feet square, covered with a sloping roof of deal planks supported on wooden posts. This is called Tapta-kund, and is a warm bath, supplied by a spring of hot water issuing from the mountain by a subterraneous passage, and conducted to the cistern through a small spout representing a dragon's or a griffin's head. A little to the left of it is Surya-kund, another hot spring, running in a very small stream through a fissure in the bank. There is no basin or reservoir to receive the water. The idol, Bhadri-nath, is placed opposite the farther extremity. Above his [illegible] looking-glass, which reflects the [illegible] outside; in front of him are two [illegible] (which give all the light the apartment excepting from the door), diffusing glimmering rays that nothing is distinguished. The idol is dressed in a [illegible] and silver brocade. Below him is a board, covered with the same kind of cloth, glittering through the gloom, might impress the beholder with the idea of splendour and magnificence.—*Fraser's Himalaya Mountains*, p. 383.

TAPTA-MASHA or Tapta-Mukti. HIND. An ordeal to which Hindus suspected of wrong-doing are subjected. It consists of taking a masha weight of gold out of a jar of hot oil or butter or ghi. In 1807, this was tried before 7000 spectators on a young woman accused by her husband of adultery.—*Tr. of Hind.* i. p. 46.

TAPTI, a river of the western side of the Peninsula of India, which rises in the Betul district of the Central Provinces, in lat. 21° 48′ N., and long. 78° 15′ E., and after a course, including windings, of 450 miles, and draining an area of 30,000 square miles, it disembogues into the Gulf of Cambay. After leaving Multai, it cuts its way between two spurs of the Satpura mountains, the Chikalda Hills of Berar on the left and the range of Kalibhit on the right. Farther west, it passes through Kandesh, receiving the tributaries Purna, Waghar, Girna, Beri, Panjhra, and Siva. It narrows at the Harn phal or Deer's Leap, and then descends to the plain of Gujerat, and, on leaving the Dang forests, for 70 miles it passes near the Rajpipla Hills and across the Surat plain to the sea, being for 30 miles a tidal river. Tapti light-house, at the mouth of the river, opposite the island of Dumas, is on the mainland, near Vaux's tomb. It can scarcely be deemed a navigable stream, as at Surat, 17 miles from its mouth, it is fordable when the tide is out. The mouth is obstructed by numerous sands and a bar. The Ajunta caves—the most complete series of Buddhist caves in India without any mixture of Brahmanism—contain types of all the rest; they are in a ravine or narrow valley in the ghat south of the Tapti. At Baug, in a ravine or small

valley in the ghat on the north side of the valley of the Tapti, are three ancient Buddhist caves. On its banks are 108 spots, or tirthas, of special sanctity. At Bodhan, about 15 miles east of Surat, a religious gathering is held once in every 12 years. Ashvani Kuma and Gupteswar, about two miles up the river from Surat, are also held in esteem. Gupteswar is also a favourite place for burning the dead.—*Imp. Gaz.*

TAQDIR. ARAB. In Muhammadan belief, the absolute decree and predestination of both good and evil, recorded in the preserved tablet. Fate is believed in by all, and is accepted as a consolation in every trial, and as an excuse or palliation for every crime. See Fate; Kaza; Kismat.

TAR. HIND. The palmyra tree, Borassus flabelliformis. Tari, palm wine, toddy, from the palmyra tree. Tadmor, the city of the palmyra tree, is Palmyra. The Corypha taliera palm is also called tar, tara, tal, or tala.

TAR, Pix liquida.

Heh-tuh-nau,	CHIN.	Smola gesta,	POL.
Tuh-nau-hiang,	,,	Degot, Smola,	RUS.
Goudron,	FR.	Shitkaja,	,,
Theer,	GER.	Tjara,	SW.
Catrame,	IT.		

Tar is obtained by burning pine and fir trees in a close smothering heap, with a channel through which the tar exudes. It is largely made in Russia, the United States, and Sweden. In Sweden and Russia from the Scotch fir (Pinus sylvestris), by a process of dry distillation. Billets [illegible] roots of the pine being burned in a closed [illegible] the tar exudes, flowing into barrels, which [illegible] bunged for exportation as soon as filled. [illegible]he Himalaya, the deodar (Cedrus deodara) an[illegible]he Pinus longifolia are thus utilized. Applied [illegible]ood, rope, iron, it is extensively used for resis[illegible]moisture, and is consequently in great request as marine store. Tar water was long a celebrated remedy in the treatment of some [illegible]nic diseases of the lungs.—*Faulkner; O'Sh.; [illegible]. Dic.*

TARA, in Buddhism, the volumes of the sacred law. The two tables of Moses are, in Hebrew, Torah.

TARA BAI, daughter of Rao Surtan, a Solanki Rajput chief of Bednore in Rajputana. Rao Surtan was the lineal descendant of the Balhara kings of Anhilwara. Thence expelled by the arms of Ala-ud-Din, in the 13th century they migrated to Central India, and obtained possession of Tonk Thoda and its lands on the Bunas, which from remote times had been occupied (perhaps founded) by the Taks, and hence bore the name of Taksilla-naggar, familiarly Takitpur and Thoda. Surtan had been deprived of Thoda by Lilla the Afghan, and now occupied Bednore, at the foot of the Aravalli, within the bounds of Mewar. Stimulated by the reverses of her family and its ancient glory, Tara Bai learned military exercises, and joined in an unsuccessful attempt to wrest Thoda from the Afghans. Jai Mul, the third son of Rana Rai Mul, a Sesodia Rajput, proposed for her in person, and Tara Bai promised to be his if he redeemed Thoda, but before accomplishing this he rudely attempted access to her, and was slain by her indignant father. His brother Prithi-raj accepted the gage, and, relying on his honour, she accepted him in anticipation. She accompanied her husband in an attack on the Muhammadans when celebrating the Maharram; the lance of Prithi-raj and arrow of Tara Bai slew the Muhammadan chief, and their followers, rushing on, regained Thoda. Prithi-raj had been engaged in the war from the age of 14 to 23, when he was poisoned in revenge of an insult by his brother-in-law. He died at Komulver; and Tara, too late to see him in life, burned herself with his remains. Their ashes are in a lonely gorge opposite the temple of Mama Devi, where the road leads to Marwar.—*Tod's Rajasthan*, i. p. 673. See Tak.

TARA BAI, born 1627, was the widow of Raja Ram, son of Sivaji. After the death of her son, Sivaji II., she for many years exercised the authority of a sovereign, and carried on the war against Aurangzeb with great ability till that emperor's death. When Saho was released by Bahadur Shah, Tara Bai resisted his assumption of authority, and for five years carried on a civil war, till the death of her son, a person of weak intellect. Tara Bai was then set aside, and Sumbaji, younger son of Raja Ram, placed in power, only to be set aside by Saho, who assumed the sovereignty at Satara. The chief supporter of Saho was Balaji Wiswanath, a Konkani Brahman. Throughout nearly all the lifetime of Raja Saho she continued to maintain the claims of her son, Sivaji II., in opposition to Saho; and as Saho was without issue, and in his old age became imbecile, she entered into a plot with the Peshwa Balaji Rao, to make known to Saho that a posthumous son of Sivaji II. had been concealed by Tara Bai, and was still alive. At the moment of the death of Saho, the peshwa proclaimed the grandson of Tara Bai by the title of Ram Raja (A.D. 1750), and Damaji Gaekwar and Ragoji Bhonsla acknowledged the succession. But on Balaji entering on a campaign in the Nizam's territory, Tara Bai and Damaji Gaekwar intrigued against him. Tara Bai, unable to induce Ram Raja to assert his sovereignty, seized his person, and confined him in a dungeon, and proclaimed him an impostor. Balaji returned to his capital and put Tara Bai aside.

TARA DEVI, a mountain near Simla, composed of coralline magnesian limestone of fantastic shape, overhanging the road, and full of fissures and caverns.

TARAGARH, a hill fortress in the Ajmir Mairwara district of Rajputana, in lat. 26° 26′ 20″ N., long. 74° 40′ 14″ E. It is a health resort for the European troops of Nasirabad, perched on a crest of a height overhanging the city of Ajmir, and surrounded by inaccessible precipices. It was a stronghold of all the former rulers. On its summit is the shrine of Syud Husain, who was killed, A.D. 1210, in a night attack by the Rahtor and Chauhan.—*Imp. Gaz.*

TARAI, a British district in the Rohilkhand division of the N.W. Provinces, lying between lat. 28° 50′ 30″ and 29° 22′ 30″ N., and long. 78° 46′ and 79° 47′ E. Area, 920 square miles; and population, in 1879, 185,647 souls. It has a slope to the S.S.E. of about 12 feet per mile. The district is bounded on the north by the Kamaon Bhabar, on the east by Nepal and the Philibit division of Bareilly, on the south by the districts of Bareilly and Moradabad and the Rampur State, and on the west by Bijnour. The headquarters of the district are at Naini Tal, where the European officers reside from May to November. It is a long,

narrow strip of country running for about 90 miles east and west along the foot of the Himalayas, with an average breadth of 12 miles. At its northern edge, where the waterless forest of the Bhabar tract ends, a series of springs burst from the surface, and these, increasing and uniting in their progress, form the numerous streams that intersect the Tarai, running in swampy beds. The Deoha becomes navigable at Philibit; the alpine Kosi flows through Kasipur pargana. The Tharu and the Bhuksa have been its permanent inhabitants, and they withstand the malaria of the locality. They claim a Rajput descent.

TARAKESWAR, a village in the Hoogly district of Bengal, in lat. 22° 53′ N., and long. 88° 4′ E. Famous for its large shrine dedicated to Siva, resorted to by crowds of pilgrims all the year round. At the Sivaratri the three essential rites are,—fasting during the day, and holding a vigil and worshipping Siva as the marvellous and interminable Linga during the night. At the Chaitra Sankranti, on the last day of the month Chaitra (April), is the day of the swinging festival; but the votaries are now merely suspended by a belt, instead of by means of hooks pierced through the fleshy muscles on both sides of the spine.—*Imp. Gaz.*

TARAL, in the Mahratta villages, a guard of the gate. In the Mahratta villages, a low caste man employed as a porter, usually a Mhar.

TARAM. TAM. Taramu, TEL. The different classes of village lands.

TARANTARRA, in the Manja territory, the chief city of the Akali Sikhs.

TARASUN, a kind of beer of China, made from barley or wheat, a prepared hop being added to the wort in brewing.—*Simmonds.*

TARAXACUM OFFICINALE. *Wigg.*

Liontodon taraxacum.	Dandelion.
Kan-phul, Dudli, . BEAS.	Dudu battnal, . . SANSK.
Baran, ... CHENAB.	Radam, ... ,,
Yauraghi, . . LADAKH.	Shamaukei, . TR.-INDUS.
Dudal, ... RAVI.	Kha, Rasuk, . ,,

This plant is a native of Europe and the Himalayas. The inspissated juice of the plant, the infusion, decoction, and extract of the root, are strongly bitter, and prove tonic and diuretic; in large doses aperient. It is a favourite and useful remedy in the old hepatic diseases of persons who have long resided in India, and returned to a cold climate. The dose of the extract is 3 to 10 grains, thrice daily. Eclipta prostrata, *Roxb.*, the trailing eclipta, a plant of all India, is an excellent substitute.—*Stewart.*

TAR-BAN. HIND. A palmyra grove. Sandarban, HIND., a forest of the Sandar or Acacia sundra.

TARBUSH. TURK. A red cap worn by the Turk. It is a corruption from the Persian Sarposh, head-covering; head-dress. The Anglo-Saxon further debases it to Tarbrush. Fez, the other name for the Tarbush, denotes the place where the best were made. Some Egyptians distinguish between the two, calling the large, high, crimson cap Fez, the small one Tarbush.—*Burton's Mecca.*

TARBUZ. HIND. Cucurbita citrullus, the water-melon.

TARE, Fitch, Vetch, a pulse, Vicia sativa, cultivated in Great Britain principally for its stems and leaves, which are used in the feeding of sheep, horses, and cattle; and partly also for its seed, which is used in the feeding of poultry. —*Faulkner.*

TAREAQ FARUQ or Theriaca Veneta, the modern representative of the mithridatum of the ancients, is sold in little canisters in the bazars of India. On the paper wrapper are printed in Persian, 'the Theria of Andromachus, an invention of Theron the Presbyter. It is prepared, measured, and made public by me, John Baptest Sylvester, in the Rialto, by authority of the excellent Government physicians of ancient righteousness and of the council of apothecaries and learned physicians.' Andromachus was the physician to the emperor Nero. Tareaq is the Greek for treacle, but the drug contains opium.

TAREMOOK, known as Bail Kambar in Canarese, Ghassari in the Dekhani, Lohar in the Mahrati, is a wandering blacksmith of the Peninsula of India.

TARI. HIND. Palm wine from the palmyra tree. A general term for the palm wine of various palms. Nareli from the cocoanut palm, sendi from the date, and tari from the palmyra. —*W.*

TARI, of Chittagong, is the pod of a leguminous plant which grows abundantly in the hills, and is useful for tanning.

TARIKAT. ARAB. A path. In the Muhammadan religion, tarikat means the path or way which leads, or is supposed to lead, to salvation.

TARIKH. ARAB. A date, a history. Gibraltar is Jabl-tarikh, the mountain of the date. Sir Henry M. Elliot's posthumous History of India as told by its own Historians, gives extracts from more than a hundred Tarikhs in Arabic, Persian, and Turki.

TARIKH-i-BADAUNI or Muntakhab-ut-Tawarikh, written by Mulla Abdul Kadir Malik-Shah of Badaun, and finished in 1595. It is a general history of India from the time of the Ghaznevides to the 40th year of Akbar. It contains a copious notice of the reign and character of Akbar, under whom the author lived.—*Elliot's India; Muller's Lectures*, p. 143.

TARIKH-i-ELCHI NIZAM SHAH, the history of Nizam Shah's ambassador, by Shah Khurshah, who died A.H. 972. This is a general history of the world, compiled from the best known Arabic and Persian sources. The author, in his account of the Safavi dynasty of Persia, tells us that he was sent by his own sovereign, Nizam Shah, on an embassy to Shah Tamasp, at whose court he remained a long time, and from whom he received an autograph account of his own career; of this the Elchi makes considerable use in his work, and it gives it great additional interest.

TARIKH-i-GUZIDA contains a good account of the Moghul dynasties.

TARIKH-i-HIND, a history of India written by Abu Rihan, a translation from an old Arabic history, made about A.D. 1216 (A.H. 613) by Mahomed, then residing at Uch in Sind. The ancient Arabic seems to have been written before A.D. 753. It is largely drawn upon by Nizam-ud-Din, Ferishta, Mir Masum, and others. Chachnama is a Persian work descriptive of the Arab conquest of Sind. The Arab occupation of Sind was only temporary. On their retreat, the territory reverted to the rule of native princes, and was practically independent until its absorption into

the empire during the reign of Akbar, in A.D. 1592, for the successes of Mahmud of Ghazni made no permanent impression on them. Up to the time of Mahomed, the races in Arabia had been quarrelling with and robbing their neighbours. But immediately on his demise, his followers and disciples, whom his teachings had made brothers, moved with a spirit of unanimity.—*Elliot's Hist. of India*, p. 9; *Elphin.* p. 264.

TARIKH-i-KASHMIRI, a Persian history of Kashmir in MS. Compiled by Hyder Malik, at the command of Sultan Jahangir, A.H. 1027 (A.D. 1617), from the Sanskrit Raja-Tarangini, and then continued from other sources.

TARIKH-i-RASHIDI, an account of the Khans of Jatah or Moghulistan, and of the Amirs of Kashgar from the time of Taghalaq Timur Khan to A.H. 952. It is the production of a learned and accomplished man, and in the two latter parts of a contemporary distinctly acquainted with the man and events that he describes. The minute details which the author gives of his own sufferings and the sufferings of his nearest relations during the period that followed the ascendency of Shaibani Khan in Mawar-u-nahar and Khorasan, of their escapes, adventures, successes, and discomfitures, let us more into the condition of the country and the feelings of the inhabitants than perhaps any other monument extant.' The author, Muhammad Hyder, commonly called Mirza Hyder, was a cousin of Baber, and while a mere boy fought by the latter's side on his victory over the Uzbaks in A.H. 917. He attached himself to the fortunes of his cousin, afterwards khan of Kashgar, and performed for him some brilliant military services, one of them being a successful invasion of Kashmir. On the death of the khan, Muhammad Hyder, who was in Tibet, hearing that his uncle had been put to death by the new sovereign, escaped to Lahore, where he was entertained by Baber's son, Kamran Mirza. In A.H. 946 he joined Humayun, whom he endeavoured to persuade to invade Kashmir, and, being unable to prevail upon him to do so, undertook the expedition himself, made himself master of the country, and ruled it for some years, at first in his own name, and later in that of Humayun. He was killed in a night attack by some rebel chiefs in A.H. 958.

TARIKH-i-SHER SHAHI or Tuhfat-i-Akbar Shahi, a book by Abbas Khan, son of Shaikh Ali, Sarwani, written by order of the emperor Akbar. It is valuable as the writing of a contemporary, but is prolix.—*Elliot, H. of I.* iv.

TARIKH-i-SUBAH-i-SADIK is dated in A.H. 1045 (A.D. 1635) by the author, Muhammad Sadik Isfahani.—*Ouseley's Travels*, ii. p. 405.

TARIKH-i-TABARI, a book which gives the earliest account of the rise of the Muhammadan religion. Its description of the mental agitation of Mahomed, his visions and his alarm at the alienation of his own reason, bear the liveliest marks of truth. A French version has been published in four volumes by M. Hermann Zotenberg, for the Oriental Translation Fund. The original was written in Arabic, and has been translated into both Osmanli and Oriental Turkish. Tabari was a native of Amol, the capital of Tabaristan. His name was Abu Jafar Muhammad ibn Yezid ibn Jerir. He was born A.D. 839, and died at Baghdad 922. He wrote a commentary of the Koran; also a general history from the creation to A.D. 314–15, which was subsequently abridged and brought down to A.D. 1118–19 by George, son of Al-Amid, generally called Al-Macin.—*Elphin.* p. 256. See Tabari.

TARIKH-i-WASAF, composed, as appears by different dates, at the end of the thirteenth and beginning of the fourteenth century, by Abdullah Shirazi. The style of this work is much admired by the Persians, although in many places so obscure and difficult, that to most copies of it marginal explanations have been added. It contains the history of Hulaku Khan and Chengiz Khan.—*Ouseley's Tr.* i. p. 170.

TARKALANKARA, SANSK., from Tarka, the name of the nyana-darshana, and Alankara, an ornament.

TARKA SANGRUHA, an authoritative work on the Nyaya philosophy. It arranges all speech (vaidikam) into sacred, *i.e.* Vedic, and popular or profane (laukikam).

TARK-ASURA, in Hindu legend, a giant with a petrified head.

TAR KHAN is an old Turkish dignity, and distinguishes such persons as were free from taxation. In the oldest Turkish documents tarku means a letter of protection, a letter of nobility, and in Mongolian (Kowalewsky, p. 1760a), tarkha lakhu means to grant any one a privilege. Amongst the Turanian populations it is a word designating a rank, and amongst the Armenians of Georgia it indicates a freeman. Narshakhi and Tabari write it Terkhun, and suppose it to be a proper name. The Tar Khan title was bestowed by Chengiz Khan on two youths, Bata and Kashlak, who overheard Aung or Prester John making arrangements to destroy Chengiz Khan. From these are said to have descended the Tar Khan dynasties of Khorasan and Turkestan.

The Tar Khan dynasty of Sind are said to have been so denominated by Timur, having sprung from Eku Timur. When Tuktamish Khan was advancing against Timur, he was gallantly opposed by the great-grandson of Arghun Khan, Eku Timur, who fell in the unequal conflict. Timur, who witnessed the conflict, bestowed the title of Tar Khan on his surviving relatives. The origin of this titular term seems, however, doubtful, but it is an ancient one, as Tar Khan of Farghana hospitably entertained the last monarch of Persia in A.D. 703. Tar Khans are mentioned as officers under the Khakan of the Khazar, to the west of the Caspian Sea. Their rule extended to A.D. 1591-92, and with them expired the independence of Sind as a kingdom, its history from that date merging into that of the empire of Timur. Scions of the Tar Khan family still reside at Nasrpur and Thatta.—*Elliot, Hist. of India*, p. 500; *Arminius Vambery's Bokhara*, p. 27.

TARN-TARN, a town in the Amritsar district of the Panjab, in lat. 30° 28′ N., and long. 74° 57′ E., 12 miles south of Amritsar town. It was founded by Guru Arjun, son and successor of Guru Ram Das. Arjun built a temple in the town, and at its side a magnificent tank, and the waters are said to cure all persons who can swim across it.

TAROBA, a lake in the Chanda district of the Central Provinces, 14 miles east of Segaon, in a basin of the Chimur Hills. It is of great depth. The lake attracts many worshippers, wives yearning for children, and the sick praying for health.

It is believed to have been miraculously produced.

TARSHISH, of sacred history, is supposed by Sir. J. E. Tennent to be Galle. But Tarshish seems to have been a name given to several places, one of them in India, as the Dante, Kapi, and Togai of the Hebrew Bible are Indian names for ivory, apes, and peacocks,—Dant, HIND., a tooth; Kapi, TAM., a monkey; Togai, a peacock.

TARSIUS SPECTRUM. *Geoff.*

Tarsius bancanus, *Horsf.*	Lemur tarsier, *Raffles.*
Lemur spectrum, *Pallas.*	Tarsier, *Buffon.*
Didelphis macrotarsus, *Sc.*	

The tarsier inhabits Sumatra, Banca, Borneo, Macassar, Salayer. Its habits are nocturnal. It is mild, gentle, and easily domesticated. It lives on the tops of trees in the large damp forests. It eats fruits and small animals. The inhabitants have a superstitious dread of it.

TARTAR.

Wynstin, ... DUT.	Roher Weinstein, . GER.
Crude tartar, . . . ENG.	Tartaro volgare, . . IT.
Argol, Argal, . . ,,	Tartarus, ... LAT.
Tartre-cru, . . . FR.	Tartaro, . . PORT., SP.
Blanc et rouge, . . ,,	Winnui kamen, . . RUS.

An acidulous salt, which exists in the juice of the grape, and is deposited in wine casks in the form of a crystallized incrustation more or less thick, which is crude tartar or argol. It is either white or red, according to the colour of the wine. The former is preferred, as it contains fewer impurities than the red, but the properties of both are essentially the same. When good, it is thick, hard, brittle, and brilliant, with but little earthy matter. It is obtained from Florence, Naples, Sicily, and Cape of Good Hope, and is used in hat-making, gilding, dyeing, and in the preparation of tartaric acid.—*Waterstone; Faulkner.*

TARTAR, Tatar, or Tahtah, a term very vaguely and variously applied, but generally to Mongoloid races in High Asia. It is now out of use by all ethnologists. The Bhot of the Himalayan frontier of Tibet are called Tartars, as also are the Turks of Khoten and Yarkand or Little Bokhara, and the Manchu of China are called a Tartar dynasty. The Tartars of China, however, are Manchurian Tangus. The peoples who inhabit the vast regions of High Asia, bounded on the south by India, China, and Persia, on the east by the Sea of Japan, on the west by the rivers which disembogue into the Caspian Sea and Black Sea, and on the north by the Frozen Ocean, are all known in Europe by the collective name of Tartar. The term is applied to numerous half-civilised nations, who greatly differ from each other, to—

'The Tartars of the Oxus, the king's guard,
First, with black sheepskin caps and with long spears;
Large men, large steeds, who from Bokhara come,
And Khiva, and ferment the milk of mares:
Next, the more temperate Turkmans of the south,
The Tukas and the lances of Salore,
And those from Attruck and the Caspian sands;
Light men, and on light steeds, who only drink
The acrid milk of camels and their wells:
And then a swarm of wandering horse, who came
From far, and a more doubtful service own'd,—
The Tartars of Ferghana from the banks
Of the Jaxartes, men with scanty beards,
And close-cut scull-caps; and those wilder hordes
Who roam over Kipchak and the northern waste,
Kalmuks and unkempt Kuzzaks, tribes who stray
Nearest the Pole, and wandering Kirghizes
Who came on shaggy ponies from Pamere.'

'Les peuples qui habitent ces vastes contrées de la haut Asie, bornées au midi par l'Inde, la Chine, et la Perse, à l'orient par la mer du Japon, à l'occident par les fleuves qui se jettent dans le mer Caspienne et la Pont Euxin, au nord enfin par la mer glaciale, sont connus sous le nom vulgaire et collectif de Tartars. . . . Quoi qu'il en soit de l'origine de ce nom des Tatars, les Européens, qui l'ont légèrement altéré, s'en servent indifféremment pour designer une foule de nations à demi civilisées, qui different beaucoup entre elles, ainsi que la surité de cet ouvrage le fera vois. Dans ce sens, je crois qu'il est bon de conserver à ces nations le nom cellectif de Tartares, quoique corrompu préférablement à celui de Tatârs, qui paroît plus correct mais qui appartient à un seul tribu ne doit pas servir à designer les autres tribus en général.'

It was from Tartary those people came, who, under the successive names of Cymbrian, Kelt, and Gaul, possessed all the northern part of Europe. The Goths, Huns, Alans, Swedes, Vandals, and Franks were but swarms of the same hive. The name of Tatar, the terror of Asia and Europe, was applied promiscuously to all the nomadic warriors whom Asia in bygone years poured forth over Europe. Originally Tatar was a name for the Mongolic races, but, through their political ascendency in Asia after Chengiz Khan, it became usual to call all the tribes which were under Mongolian sway by the name of Tatar.

In linguistic works, Tataric is now used in two several senses. Following the example of writers of the middle ages, Tartaric, like Scythian in Greek, has been fixed upon as the general term comprising all languages spoken by the nomadic tribes of Asia. Hence it is used sometimes in the same sense in which we use Turanian. Secondly, Tataric has become the name of that class of Turanian languages of which the Turkish is the most prominent member. While the Mongolic class—that which, in fact, has the greatest claims to the name of Tataric—is never so called, it has become an almost universal custom to apply this name to the third or Turkic branch of the Aral-Altaic division, and the races belonging to the branch have in many instances themselves adopted the name. These Turki, or, as they are more commonly called, Tataric races, were settled on the northern side of the Caspian Sea and on the Black Sea, and were known as Komanes, Pesheneg, and Bulgar, when conquered by the Mongolic army of the son of Chengiz Khan, who founded the Kapchakian empire, extending from the Dniester to the Yemba and the Kirghizian steppes. Russia, for two centuries, was under the sway of these khans, known as the khans of the Golden Horde. This empire was dissolved towards the end of the fifteenth century, and several smaller kingdoms rose out of its ruins, among which Krim, Kasan, and Astracan were the most important. The princes of these kingdoms still gloried in their descent from Chengiz Khan, and had hence a right to the name of Mongol or Tatar. But their armies, and subjects also, who were of Turki blood, received the name of their princes; and their language continued to be called Tataric even after the tribes by whom they were spoken had been brought under the Russian sceptre, and

were no longer governed by khans of Mongolic or Tataric origin.

It would perhaps be desirable to use Turkic instead of Tataric, when speaking of the third branch of the northern division of the Turanian family, did not a change of terminology generally produce as much confusion as it remedies. The recollection of their non-Tataric, *i.e.* non-Mongolic origin, remains, it appears, among the so-called Tatars of Kasan and Astracan. If asked whether they are Tatars, they reply no; and they call their language Turki or Turuk, but not Tatari. Nay, they consider Tatar as a term of abuse, synonymous with robber, evidently from a recollection that their ancestors had once been conquered and enslaved by Mongolic, that is, Tataric tribes. All this rests on the authority of Klaproth, who during his stay in Russia had great opportunities of studying the languages spoken on the frontiers of this half Asiatic empire. Though the word is very vaguely used, the populations to whom it is applied belong to one of three great groups, stocks, or families,—the Turk, the Mongol, or the Tungus. It is necessary to insist upon this, because, whatever may be the laxity with which the term Tatar is used, it is, in Russian ethnology at least, a misnomer when applied to a Mongol. It is still worse to call a Turk a Kalmuk. This is because the populations under consideration are the fragments of four Turkish kingdoms or khanates, the khanates themselves being the fragments of the great Mongol empire of the Kapchak. But this great empire itself was, more or less, a consolidation of at least two older kingdoms compressed into one. There were the Mongols of Temudzhin or Chengiz Khan. There were the Chaghtai Turk of Timur and his successors, whose origin was in the parts beyond the Oxus, Bokhara, and Ferghana. There were the three denominations of the Khazar, the Pesheneg, and the Cumanian, the Chaghtai being the Turk of the dynasty to which Timur belonged.

According to Mountstuart Elphinstone, the Tartar are divisible into Turk, Mongol, and Manchu. The greater part of Timur's army was Turk; and the Uzbak, who now possess Transoxiana, the Turkoman, who reside both on the Oxus and in Asia Minor, the wandering tribes of the north of Persia, and the Othmanli or Turk of Constantinople, are all Turk. The ruling tribe, and the greater part of the army of Chengiz Khan, was Mongol.

Tartars occupy Ladakh, except in the Dras valley. In all Tartar families there, the second son is made a lama, and the third a tola, both being forbidden to marry,—in a manner obliged to renounce the world, having no interest in their father's property at his death.

Of the black Tartars, who had come from Tartary with Timur, he had settled part in Turkey, and part in Khorasan. After his death they had dispersed. Nadir Shah had desired to reassemble them, and seven or eight thousand families had been brought together under Najif Ali Khan, the chief in whose service Is'hak Khan and his father was employed.

The Tzeremish resemble the Tartars in their external appearance, and they also wear their hair short; but their language is totally distinct, and they spring from a different origin. They are the original inhabitants of the province of Cazan and O-se-ta-our-han. — *Latham Nationalities of Europe*, i. p. 349; *Recherches sur les Langues Tartares*, pp. 1, 3; *Kennedy on the Origin of Languages*, p. 57; *Malcolm's History of Persia*, ii. p. 226; *Muller's Lectures*, pp. 284, 285.

TARTARA or Koh-i-Rasul, a peak of the Khaibar range of mountains, rising 6822 feet above the sea. It has been proposed as a sanatorium for the British troops of the Peshawur district.—*Lieut.-Col. MacGregor*, iii. p. 186.

TARTARIAN LAMB. ENG. Aspidium barometz, so enthusiastically described by Darwin in his Botanic Garden, has long been celebrated in China. The ingenuity of Chinese gardeners, taking advantage of the natural habits of the plant, form it into a shape resembling a sheep or other object.—*Williams' Middle Kingdom*, p. 275.

TARTUS, the ancient town of Orthosia, on the sea-shore opposite the island of Ruad, the Arphad of the Hebrew Scriptures, and the Aradus of the Greeks and Romans. It was from this place that the wood of Mount Libanus was conveyed in floats to Phœnicia, and not from Tarsus, which is a city in the interior of Celicia, 24 miles from Mersina, its seaport.

TARU or Khu-hta are the most northern of the tribes of Burma with whose language any acquaintance has been made. They speak a dialect of Pwo. The Taru dwell north and east of the Ka, and west of the Red Karen. The Burmese call them Belu, but they style themselves Khuhta. They shave the head, leaving two side locks.—*Mason, Burma*, pp. 642, 643.

TARWAAD, on the Malabar coa[illegible] community living according to th[illegible] katayam rule of inheritance, [illegible] descent matrice, with a karnaven or head. A [illegible] family amongst the Polyandric races; in Malealam Tarawata. See Polyandry.

TASA or Tasha Murfa, a drum of a semicircular shape, played upon with two sticks, and invariably accompanied by the murfa.

TASADUQ. ARAB. Alms, an offering, a sacrifice.

TASBIH. ARAB., HIND., PERS. A rosary. A Muhammadan rosary consists of 99 beads, sometimes more, to stand for certain prayers. All Muhammadans usually carry a chaplet of this description. Amulets are also worn on the person as a protection from evil. These are portions of the Koran, or the whole book, written exceedingly small, enclosed in cases, and bound on the arm; cornelians and bits of coloured glass having the name of God and verses of the Koran engraved on them.

TASH, cloth interwoven with gold or silver thread. A fabric made at Benares and Lucknow.

TASHHIR. HIND. A public disgraceful punishment in the time of the emperors of India. The culprit had his face blackened, and was made to ride, with his face to the tail, on a donkey through the streets of the city. It was discontinued in British India about the middle of the 19th century.

TASHKEND, the capital of the Russian possessions in Central Asia, and the residence of the Russian Governor-General, has an estimated population of 120,000. A Russian town has grown up outside the ancient walls, and Tashkend is the superior of its former rivals, Khokand, Bokhara, and Samarcand. From one side to the

other the maze of streets stretch six miles across, and the circumference of the lofty clay-built walls is nearly seventeen. The supply of water is lavish, a broad canal bringing it from the Tchirtchik, sixteen miles distant, to the city walls, and with four branches and numerous ramifications convey it to every street in Tashkend. For miles the country is covered with orchards and gardens. Beyond the gardens is the steppe or prairie, stretching forty miles on the one hand, to the Syr Darya river, and, on the other, thirty miles to the mountains of Tchatkal. The steppe is thickly dotted with villages embosomed in orchards. From Kojend to Fort Perovsky, a distance of some 900 miles, and eastward as far as the Aksai and Kara Tau range, there is a stretch of fertile territory capable of being made one of the finest provinces in the Russian empire. Along this valley are evidences of former cities, compared with which Tashkend is an insignificant town, and its population a poor and obscure community.

TASHRIH-ul-AKWAM, a work by Colonel James Skinner on the origin of Hindu castes.

TASLIMAT. ARAB. Obeisances to persons of rank.

TASMAH BAZEE, a term applied in Hindustan to a class of Thugs, professional murderers, who destroyed their victims by means of a tasmah or belt.

TASMAN. Abel Janssen Tasman, an eminent Dutch navigator, who in A.D. 1642 discovered New Zealand, also the Tonga Islands or Hapai [illegible] Van Diemen's Land, 24th November [illegible]med by him after Maria Van Diemen, [illegible] daughter of the Dutch Governor of [illegible] to the prejudice which was [illegible] to deter British emigrants, the name of Van Diemen's Land was changed about the year 1840 to Tasmania, in honour of its susceptible and romantic discoverer. It was not known to be an island until explored by Flinders, who, with Bass, discovered Bass' Strait in 1799. Tasman discovered the Fiji Islands in 1643. The western shore of Tasmania is rocky and sterile, with reefs of three or four miles. The E. and S.E. coasts are bold. Hobart Town, the seat of government, is in lat. 42° 53½′ S., and long. 147° 22½′ E. It is built on the west shore of Derwent river, at the foot of Mount Wellington.

TA-SOUNG-DOING. BURM. The lamp-post festival in the month Ta-soung; before each house evening lamps are lit. It is the Chinese feast of lanterns, and supposed to be the great festival of the Pleiades, held in ancient times in November. Small fire-boats and rafts are launched, each with a number of lights on them, and as they float with the current are anxiously watched by the people who launch them. The same custom prevails in Hindustan. See Khajæ Khizr.

TAT. BENG. Corchorus olitorius. Gunny, coarse matting made of sunn and other materials. A matted screen.

TA-TA-MI. JAP. House mats 5¾ feet by 3 feet, stuffed to a thickness of 2½ inches, and covered with a finely-woven substance.

TATHAGATA, one who goes in like manner; an appellation of Gautama, implying that he came in the same way as the previous Buddhas.—*Hardy, E. Mon.*

TATI BELLAM. TEL. Sugar from Borassus flabelliformis, palmyra sugar. Tati-chettu, the tree; Tati-gedda, also Tati-kalangu, the root; Tati-nar, the fibre; Tati-pandu, the fruit; Tati-kallu, the palm wine.

TA-TSIAN-LOO, the border town and customs station of Western China. Beyond this point, a handful of tea, a few needles, or a few yards of white or blue thread, are of more value than gold, silver, or copper coin; indeed, the latter are useless, while sycee silver and rupees are only exchanged at a considerable loss. Leaving behind the magnificent gorge of Ta-tsian-loo, with its perpendicular walls of mountains, travellers follow up the stream which, flowing through it, joins the Tatow-ho at the foot of the gorge; by noon they can reach the summit of the Jeddo range of mountains, which may be said to form the great natural wall of Western China. From this point, two days' journey brings them to the little town of Hokow, situated on the left bank of the river Yarlong, a tributary of the Kin-char or Yang-tse river.—*Geog. Soc.*, 1870.

TATTA, Thato, or Nagar Thato, a small town in Sind, in lat. 24° 44′ N., long. 68° E., on the right bank of the Indus, at the head of the delta of the Indus. It is built on a slight eminence at the foot of the Makli Hills, and is notoriously unhealthy. It was founded A.D. 1445, by a Samma prince, Jam Nizam-u-Din, and was pillaged by the Portuguese in 1555.

Maurice states that Tatta is the Daibul of the Persian tables of Sir William Jones. The statement is made by Ferishta, who [illegible]s probably followed by Maurice; but Elphinstone [illegible]ows (Book v. chap. 1) that Tatta cannot be th[illegible]Dival or Dewal celebrated for the siege by the A[illegible]s under Muhammad Kasim in A.D. 711. The poi[illegible]as been discussed also by Rennell, Burton [illegible]d many other writers, but with no satisfact[illegible]result.—*Cal. Rev.*, Jan. 1871; *Burnes' Sind.*

TATTOOING the body with vario[illegible]gures of animals or plants, or with scrolls, ha[illegible]been in use from the most ancient times. It was forbidd[illegible] Moses in the Levitical law; it was not kn[illegible] among the Copts, but must always have been in use among the Lower Egyptians. It was used by the Arab prisoners of Rameses, and is practised by the Egyptian Arabs and Arab women of the present day. On the return of Philpator to Egypt, he showed his hatred of the Jewish nation by his treatment of the Jews in Alexandria. He made a law that they should lose the rank of Macedonians, and he enrolled them among the class of Egyptians. He ordered them to have their bodies marked with pricks, in the form of an ivy leaf, in honour of Bacchus; and those who refused to have this done were outlawed, or forbidden to enter the courts of justice. The king himself had an ivy leaf marked with pricks upon his forehead, from which he received the nickname of Gallus. The fellaheen or country women of Palestine generally tattoo stars and dots, with gunpowder, on their foreheads, lips, chins, breasts, arms, hands, and feet. The tattooing of women is a practice very prevalent amongst several of the races in Persia, and dots and marks are used by Arab women. The Muhammadans of India do not tattoo or mark their skins in any way, neither men nor women, but most of the women of the Dravidian races mark their forearms, from the wrist to the elbow, with scrolls. The Kharria, Juanga, Munda, Ho, Kol, and Oraon girls have

lines tattooed on the forehead and temple, and dots on the chin and nose. The Singbhum girls have a tattooed arrow. Oraon boys have severely tattooed arms. The Ho use the mark of an arrow. It is called godna, also godni, by the Mahrattas. The Kharria women are all tattooed with the marks on the forehead and temples,—three parallel lines on the forehead, the outer lines terminating at the upper end in a crook, and two on each temple. The marks of the Juanga women are larger, and those of the Munda are smaller than the Kharria marks. In Southern India almost all Sudra and Pariah women have tattooing marks on them. A blue line runs down the forehead to the root of the nose, a practice which some of the Sudra men and women of the Smartta Brahmans also follow. The women also have their forearms tattooed with flowers, and the men put a scorpion on the hollow between the thumb and forefinger of the right hand. These hand and forearm marks are for ornament, but the forehead mark is now regarded as a sectarian Hindu mark. The Khand, also higher Abor tribes, tattoo. The Abor Naga clans do not permit marriage until their faces are elaborately tattooed and disfigured; and the practice prevails among the Simang and Binua and other Ultra-Indian and Asianesian tribes. The Kol and Oraon women are all marked with the godna tattooing, the Agareah women (agricultural) on the arms and legs.

The faces of the Khyen women, near the Irawadi, are all tattooed over with deep blue marks, a custom introduced avowedly to make them unattractive, but is being discontinued under British rule.

Every male Burman is tattooed in his boyhood from the waist to the knees; in fact, he has a pair of breeches tattooed on him. The pattern is a fanciful medley of animals and arabesques, but it is scarcely distinguishable save as a general tint, existing on a rather fair skin; tracing on various parts the figures of animals or plants, in a manner so pleasing that British officers have often been attracted to submit to the painful and barbarous process. Tattooing of the Burman lads is not unfrequently followed by sloughing and death. In Fiji this practice is confined to the women, the operation being performed by members of their own sex, and applied solely to the corners of the mouth, and those parts of the body covered by the scanty clothing worn by them. The skin is punctured by an instrument made of bone, or by the spines of the shaddock tree, whilst the dye injected into the punctures is obtained chiefly from the candle-nut, Aleurites triloba. They believe that the custom was commanded by Degei, their supreme deity. Neglect of this divine commandment is believed to be punished after death. In Polynesia the practice seems to have attained its culminating point in the Society Islands and the Marquesas, where both men and women submitted to it; in Samoa and Tonga, it is restricted to the men, in Fiji to the women, and altogether ceasing in the New Hebrides. Tradition, however, asserts that the custom was known in Fiji before its being adopted in Samoa or Tonga. Two goddesses, Taema and Tilafainga, swam from Fiji to Samoa, and on reaching the latter group, commenced singing, 'Tattoo the men but not the women.' Hence the two were worshipped as the presiding d[illegible] as a trade.

A race [illegible] is practise[illegible] the women. [illegible] zations. Ersk[illegible] mentions that the [illegible] Navigators' Islands ha[illegible] The tattooing in Tahiti [illegible] formerly the bodies were comp[illegible] with beautiful figures, exhibiting every variety of curve, with animals, flowers, and the sprigs and branches of trees.

Tattooing in the Society Islands was done by professional men who travelled about the country. The instruments used were bits of bone cut into the shape of small combs, and the soot of burned candle-nut.—*Skinner's Overland Journey*, ii. p. 208; *Montgomery*, p. 127; *Galton's Vacation Tourists; Sharpe's Egypt*, i. p. 344; *De Bode's Travels*, p. 85; *Dalton, Ethnol. of Bengal; Yule*, p. 151; *Jenkins' American Expedition*, p. 164.

TATVARAYAR, a Saiva ascetic of the 17th century, who was of the Tamil people. He wrote numerous works in the Tamil language.

TATWA SAMASA, a text-book of the Sankhya philosophy, attributed to Kapila.—*Dowson.*

TAU. CHIN. The various kinds of pulse which form part of the sixth of the sixteen classes into which all medicinal and natural history substances are classed, in the Pen Tsau, a Chinese work on medicine. Abrus seeds, cardamom fruits, nutmegs, etc., are all called tau. Tau-fu is pulse-curd.

TAU of the Egyptians, a cross, anciently a symbol of the generative power, was transformed into the Bacchic mysteries. Such a cross was found on the wall of a house in Pompeii, in juxtaposition with the phallus, with symbols embodying the same idea.

The mystic Tau, or standard of the cross, as it has been called, formed just half of the Labarum, or idolatrous standard of the pagans. The Labarum bore at once the crescent and the cross; the crescent as the emblem of Astarte, the queen of heaven, and the cross as the emblem of Bacchus.

TAURIS, the modern Tabreez, was the capital of more than one dynasty, and throughout the middle ages was a chief point of contact and trade between the Latin and oriental worlds. It has been identified, not only with Shushan of Esther and the Achmetha of the Apocrypha, but with the Northern Ecbatana and half-a-dozen other ancient cities of fame. Rawlinson, however, considers it not to be older than the 3d century.—*Yule, Cathay*, i. p. 48; *Mignan's Travels*, p. 334.

TAURUS, the name applied by ancient geographers to the lower and outer spurs of the Kurdistan range. There is no Taurus range, but the ancients supposed it to begin near the shores of the Archipelago, and extend 1000 miles to the sources of the Euphrates.—*MacGregor.*

TAUTANG, the name of a tribe whom the Heuma populations describe as living beyond their boundary. See Mowtu.

TAUT'H. SANSK. Father, supposed to be the Teuthes and Tot'h, the Mercury of Egypt.—*Tod.*

TAVALAM, a term which, substituting bullocks for camels, is equivalent to a caravan. The class of persons engaged in the traffic in Ceylon, of carrying light loads on pack oxen, who resemble

industan.—
, Ecuyer,
from 1663
him merits
description of
by birth a Swiss,
geographer; and he
st traveller of his age.
an travels in the early part of
his life, he spe forty years in six journeys into Turkey, Persia, and India, and entered deeply into commerce, chiefly in that of jewels. He determined on a seventh voyage, but died on the road, at Moscow, in 1689, aged 84. The history of his six travels has been repeatedly printed, at Paris in 1676-77, at Rouen in 1713, in English in 1688. After the Jesuits, the earliest notices of India were by Bernier (A.D. 1658–1670), followed by Tavernier.—*Pennant's Hindustan; Bjornstjerna.*

TAVERNIERA NUMMULARIA. *D. C.* An undershrub of Afghanistan, Panjab, and Sind, one of the Fabaceæ. Its leaves are used as a poultice in sloughing ulcers.—*Murray.*

TAVIZ. PERS. A charm. The practice of binding sentences of the Koran on the arm would seem to be alluded to in Deuteronomy xi. 18: 'Therefore shall ye lay up these my words in your heart, and in your soul, and bind them for a sign upon your hand, that they may be as frontlets between your eyes.' The extract is usually a slip of paper with a quotation from Holy Writ, some curious spell to avert the evil eye, or a song to some dead saint. These are the charcts of ancient days, commonly used in different parts of Europe. Most Muhammadans of India carry about with them or keep in their homes some form of taviz.—*Burton's Scinde*, i. p. 280.

TAVOY, a small island off the coast of Tenasserim, to the south of the mouth of the Tavoy river. It extends from lat. 12° 55′ to 13° 13′ N., and from long. 98° 17′ to 98° 23′ E., and is about 18 miles long by 2 broad. On the east there is an excellent harbour. The swallow that forms the edible nest, builds in its caves. Tavoy Island gives its name to a district on the mainland, with an area of 7200 square miles, and a population of 71,827 in 1872. The main range of the Yoma rises in places to a height of 5000 feet, and with its densely wooded spurs forms an impassable barrier between the British and Siamese territories. Gold is washed for; there are hot sulphurous springs, with a temperature of 119° Fahr., and saline springs at 144°, and valuable timber trees. Tavoy Island is the most northern of the group called the Mergui Archipelago. Tavoy town is on the left bank of the Tavoy river, and was taken by the British on the 15th September 1824. In the neighbourhood of Tavoy are two sacred lakes, two small currentless basins in the Pagaya river at the foot of pagoda-crowned precipices, 100 to 200 feet high. A fish, a species of barbel (Barbus Mortonius), is held sacred to the pagodas by the Buddhists, and come in shoals for rice thrown to them by passers-by, as fearless of man as the barking deer that drinks their waters.

TAWURI, T'hori, or Tori, a race dwelling in the desert of Rajputana. These engrossed the distinctive epithet of Bhoot or evil spirits, and the yet more emphatic title of sons of the devil. They ranked with the Bawuri, Khengar, and other professional *thieves* scattered over Rajputana, who would bring either your enemy's head or the turband from it. They are found in the t'huls of Daodputra, Beejnote, Noke, Noakote, and Oodur. They are proprietors of camels, which they hire out, and also find employment as convoys to caravans.

TAWWAF. ARAB. Circumambulation, the procession of the Muhammadan pilgrims round the Kaba at Mecca. Tawwaf bait Allah-ul-Harām, circumambulation of the sacred house of God, which the pilgrims are enjoined by the Koran to do seven times, the first three in a quick, the last four in a calm, ordinary pace; and each time that they pass the Black Stone, Hajar-ul-Aswad, they kiss it or touch it with the hand, which they immediately apply to their lips. The stone is set in silver, at the south-east corner of the Kaba at Mecca-i-Sharif, and is about seven spans from the ground. Tayf is the participle of the Arabic verb Tafa, which signifies to go round; but is especially applied to the religious ceremony of Muhammadan pilgrims going round the Kaba at Mecca. It is the encircling of holy places so often alluded to in the Old Testament, and still practised by Buddhists, Hindus, Christians, and Muhammadans. Psalm xxvi. 6 says, 'I will wash mine hands in innocency: so will I compass thine altar, O Lord.' Hindu women often compass their husbands, as in Jeremiah xxxi. 22. Hindus and Buddhists circle from right to left, Ro ish priests and Muhammadans from left to right. The Persian couplet says, Tuaf-i-Kaaba-i-d un, gar dili dari, Circle the holy place of your h t if you have a heart. The Hajar-ul-Aswad is set in silver, and is believed by Muhammadans to have fallen from paradise to the earth, along with Adam. It remained where it fell until the deluge, when it was again taken up to heaven, but was brought back by the angel Gabriel to Abraham, when was building the Kaba. It is believed by the have been white originally, but to have bec black from being kissed by a woman when unwo The Tawwaf is the Pradakshana of the Hindus.—*Hamilton's Sinai*, p. 152.

TAXATION. The taxation per head in the principal Native States stands thus:—Travancore, 3 rupees 12 annas; Patiala, 1 rupee 14 annas; Udaipur, 2 rupees; Jeypore, 2 rupees 10 annas; Jodhpur, 2 rupees; Ulwar, 2 rupees; and Sindia, 7 annas per head.

TAXIDIA LEUCURA, the Tibetan badger, Thumpha of the Tibetans, inhabits the plains of Tibet; total length, 37 inches, whereof the tail with the hair is 10 inches, and without it 7. The aspect is entirely that of a long-tailed badger, with somewhat smaller head and longer, finer fur than usual. The small head is conico-depressed, with remote ears and eyes, and sharp elongated face. The small pig-like eyes are situated midway between the ears and tip of the snout. The ears are oval, well developed, and tending to a point. —*Mr. Hodgson in Journ. Ben. As. Soc.*

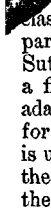
TAXILA. General Cunningham has identified this ancient city with Deri Shahan, or Shah Dheri, a village in the Rawal Pindi district of the Panjab, in lat. 33° 17′ N., and long. 72° 49′ 15″ E. The existing remains extend over an area of six square miles, among them many large monasteries and st'hupas.

The Takka race originally held all the Sind-Sagur Doab; and Arrian describes their chief town, Taxila or Takshasila, as a large and wealthy city, the most populous between the Indus and the Jhelum (Hydaspes). The city stood a few miles north of the Margala pass, where several mounds still mark the sites of its principal buildings. Alexander the Great rested his army at this point for three days, and was royally entertained by the reigning sovereign. Fa Hian, a Buddhist pilgrim from China, visited Taxila about A.D. 400, and was followed in 630-643 by his countryman and co-religionist, Hiwen Thsang, who found that the seat of government had been removed to Kashmir.

The ruins consist of six separate portions. Of these, the mound of Bir, close to Deri Shahan, has furnished many coins and precious stones. Hatial, a fortified spur of the Margala range, probably formed the ancient citadel; it is enclosed by a round wall, and crowned by a large bastion or tower. Sir-Kap presents the appearance of a supplementary fortress, united with the citadel by a wall of circumvallation. Kacha-Kat is supposed to have been for the security of the elephants and cattle. Babar-Khana contains the remains of a st'hupa, which General Cunningham has identified with that of Asoka, mentioned by Hiwen Thsang. —*Imp. Gaz.*

TAXUS BACCATA. *Linn.* Himalayan Yew.

Rakhal, ... BEAS.	Kautu, ... KASH.
Nharey, ... BHOT.	Tuno, ... KULU.
Thuneer, Z[illegible]ub, . HIND.	Dhnui kunt'h, . . RAVI.
Thunu, . . . JHELUM.	Chogu, ... ,,
Birmi, . [illegible]HELUM, RAVI.	Rakhai, Nyamdal, SUTLEJ.
Sungal, [illegible]il, . . KASH.	Kadenru, ... ,,
Tung, ... ,,	Sarap, Badar, TRANS-IND.



This tree occurs in many parts of the Panjab Himalaya, up to the Indus, at from 5000 to 10,000 feet, but sparingly in almost all except in parts of Hazara, where it is pretty common. It is found in the Sutlej valley, between Rampur and Sungnam at an elevation of 9000 to 10,500 feet. It yields a hard, heavy, strong red wood, tolerably elastic, used for making native bedsteads, in some parts for jampan poles, buggy shafts, and on the Sutlej for bows. The wood of an old tree is of a fine red colour; it polishes well, and seems adapted for upholstery purposes; it is well fitted for turning, and Vigne states that in Kashmir it is used for making clogs. The leaves are sold in the bazars of the N.W. Provinces of India, under the name of burmee or zurnub, and are used by the natives as an expectorant in catarrh; administered in powder in doses of gr. xlv., or in decoction. Its appearance and form of growth vary much when it grows in the higher latitudes and when growing in deep forests. It is a large tree with naked trunk. It is often of great thickness, but seldom attains any great height; the thick trunk generally dwindles away or divides into branches at a few feet above the ground. On the skirts of the forests it is almost a prostrate bush, while on open slopes it becomes a stout, dense, and tabular branched tree. T. cuspidata, *S. and Z.*, and T. adpussa, *Knight*, are trees of Japan.—*Hooker*, i. p. 45; *Lt.-Col. Lake; Cleghorn.*

TAYAMMUM. ARAB., HIND. Purifying the hands by rubbing with sand. When water cannot be obtained for their ceremonial ablution before prayers, Muhammadans clap the palms of their hands upon the sand, and draw them once or twice down the face and both forearms. This is performed once; it varies in different schools. —*Burton's Mecca*, i. p. 385.

TAYE, a fish of Japan, which sells at a high price.

TAYF. At a short distance, near the Bab-ul-Yemen gate, outside the town of Tayf, to the west, a five-sided block of granite, rising in a slant from the ground, is pointed out as the idol Lat. In its greatest length it measures about 12 feet, and 4½ to its highest edge. Another idol of the old Arabs, El Izzah, is within the town; like the Lat, it is an unhewn stone, with a depression or hollow on the north side, resembling a water-worn boulder. They are mentioned in the chapter of the Koran called the Star, liii. 19-23: 'What think you of El Lat and Izzah and Marrat, the third? They are but names you and your fathers have given them.' El Lat was adored at Tayf, but there is not only, Burton believes, no ancient authority for placing the worship of El Izzah here, it does not even seem to have been a stone, but rather the trunk of a tree or a wooden image, which was burned by Mahomed's order. The dimensions of the stones pointed out as El Lat correspond to the description given by Herodotus and his commentator of the idol Alilat, Αλιλατ or Αλιατ, whom he compares to Urania. Lat may not improbably have been such a stone as that pointed out to Hamilton. That it was this identical one, Burton cannot help doubting, notwithstanding the tradition of the place. Herodotus mentions another deity, Urotalt, Ουροταλτ, whom he identifies with the great Bacchus; but this can hardly be other than a slight corruption of the title of the Supreme God (Allah taalah), the r and l being easily convertible sounds.—*Hamilton's Senai, Hedjaz, Soudan*, pp. 150, 151; *Burton's Pilgrimage.*

TAYLOR, DR. JAMES, author of Topography of Dacca, Calcutta 1840.

TAYLOR, MAJOR JOHN, author of Travels from England to India in 1789, by the way of Venice, Aleppo, and over the Great Desert to Bussora.

TAYLOR, COLONEL MEADOWS, rose in the Nizam's service. He wrote Memoirs of a Thug, 3 vols., 1840; also on Celtic Remains near Ferozabad, Dekhan, in Bom. As. Trans., 1851-52; also Tara, and other works of fiction.

TAYLOR, THOMAS G., Astronomer, Madras Observatory, author of General Catalogue of the Fixed Stars, from Observations made at Madras from 1830-43, 4to, Madras 1844; Result of Astronomical Observations made at Madras, from 1831-37, 4 vols., Madras 1832-38.

TAYLOR, REV. W., of Madras, author of an Account of the Seven Pagodas, in Mad. Lit. Trans., 1844, i. p. 50; on Supposed Early Celtic and Scythian Vestiges in various parts of the Carnatic, ibid., 1847-48; editor of the Mackenzie Manuscripts.

TAYUMANAVAR, the greatest of Tamil poets, wrote in pure, plain Tamil.

TAZIA KHANA, the house of mourning, or Ashur khana. The Tazia, a model of the tomb of Hasan and Husain at Kirbala. The Muhammadans in India carry it in procession in the Maharram.

TAZKIRA. ARAB. A notice of poets; any memoir.

TA-ZOUNG. BURM. An ornamented shed or roof over an image of Gautama.

TCH, in the English language, occurs only in

foreign words, and only then to meet the spellings of the other nations of Europe, in order to obtain the sound of the English ch, as in charge, chesnut, chivalry, and church.

TCHE-KIANG, a province in China, one of the most considerable in extent, riches, and population. It contains 11 cities of the first rank, 72 of the third, and 18 fortresses, which in Europe would be deemed large cities.

TCHERKAS or Tcherkess, the Circassia of Europeans, a country on the northern face of the Caucasus. It contains many tribes of various appearance and dignity; some of them allege an Arab descent, others are Tartars. The Chetchinzi were considered the most formidable of all the tribes which inhabit the innumerable rocky valleys of the eastern line of the Caucasus. Their predatory excursions, whether in large or small bodies, were not only a dread to their own immediate neighbours, tribes like themselves, though of less extent and power, but their sudden descents, ambuscades, and continued warfare, kept the disciplined Russians constantly on the alert. These lords of the mountains seemed never to rest, day nor night. Unwearied in their watch for prey, like lightning in attack, for they struck or were lost to sight as quickly. As the Muhammadan was the last religion attempted to be introduced amongst these people, they suppose themselves to be good Muslims, but they have not any knowledge of its doctrines. The bride brings a dower, consisting of cattle, etc., proportioned in value according to the wealth of her family. She is brought home to the house of her betrothed husband, and then the ceremony is completed by dancing, drinking, and carousal. From the custom of the sons never migrating from the paternal spot, families, from one stock, increase from single sheds to considerable villages. Each habitation of these people is separated into three divisions,—one for the women, another for the men, and a third for the horses and other cattle. The whole little establishment is then encircled by a fence of wicker-work or stones.—*Porter's Travels*, i. p. 62.

TCHING-TCHEOU, a first-rate city of China, in which a kind of plain earthenware is prepared, which the Chinese prefer.

TCHING-TOU-FOU, the capital of the province of Sze-chuen, is one of the finest towns in China, in lat. 30° 40′ N., and long. 103° 44′ E. It is situated in the middle of an admirably fertile plain, watered by beautiful streams, and bounded towards the horizon by hills of graceful and varied forms. The principal streets are of a good width, paved entirely with large flagstones, and so clean that you can scarcely, as you pass through them, believe yourself to be in a Chinese town.—*Huc, Chinese Empire*, p. 79.

TCHUNG KWOCK. CHIN. The middle kingdom, a name the Chinese designate China proper.

TE. CHIN. God, an abbreviation of Shang-Te, the ancient name for God in China. It is used in place of the second personal pronoun, which could not be employed without breach of reverence.

TEA.

Chai, AR., KASH., PERS., RUS., TURK.	Thé, ... FR.
Ming, Ku-tu, Tu, . CHIN.	Thi, ... GER.
Ku-cha, Kia, Sheh, „	Cha, GUJ., HIND., PORT.
Chuen, Cha, . . . „	Tsja, ... JAP.
Te, . . CHIN., DUT., IT., MALEAL., SP.	Black T.—Itam, MALAY.
	Green T.—Putch, . „
	Teh, Chah, . . . „

There is scarcely any country in the world in which a dietetic drink or beverage resembling tea is not prepared and in general use from some exotic or indigenous shrub.

The Mexico and Guatemala people infuse the leaves of the Psoralea glandulosa, Alstonia theæformis leaves are used at Matis, and the inhabitants of New Granada utilize the leaves of Symplocos alstonia, *Humboldt*, and likewise those of Gaultheria procumbens and Ledum latifolium. In Paraguay, under the name of Maté, the Ilex Paraguayensis is employed, as also its varieties, I. gongonha and I. theezans. In the Kurile Isles, the Pedicularis lanata. In British India, the stalks of the lemon grass, Andropogon citratus, are largely made use of. Also the 'tea of heaven' of the Japanese is the leaf of the Hydrangea Thunbergii, *Siebold*. Astoria theiformis is used at Santa Fe as tea. The leaves of Ceanothus Americanus, an astringent herb, have been a substitute, under the name of New Jersey tea.

The Kola is the Sterculia acuminata; the Kat'h or Catha, the Abyssinian tea plant, is the Catha edulis. Tasmanian tea is made from species of Melaleuca and Leptospermum, also from Corræa alba, Accena sanguisorba, Glaphyra nitida, and the bark of Atherosperma moschata.

The Faham tea of Mauritius is from Angræcum fragrans, a fragrant orchid.

The two chief plants laid under contribution for tea are, however, the Chinese tea plant, and a species of holly peculiar to South America, producing the Paraguay tea.

The names by which the tea of the [illegible]a Chinensis is known to the Chinese, viz. Ming, Ku-tu or Ku-cha, Kia, Tu, also show that several shrubs have furnished that country at various times with the tea-leaf in use at different periods or places. The term Ming belongs to the time of the T'ang dynasty, is still used in literary composition, and is often put on tea boxes. Ku-tu or Ku-cha [illegible] names for the chicory leaf, but also the pr[illegible] tea-leaf. The word Kia probably referred to chicory, but also to the Sageretia theezans, a rhamnaceous shrub, the leaves of which at the present time furnish tea to the Chinese poor, to whom the proper tea-leaf is unattainable, owing to the high price to which the great exportation has raised it. Camellia leaves are perhaps mixed with it, but probably to no great extent. The refuse of packing houses is sold to the poor at a low rate. The name Tu is likewise still employed. During the reign of a prince of the Han dynasty, the use of the word 'tu' for the character 'cha' was interdicted, but the prohibition was evaded by omitting part of the Chinese character.

Thea Chinensis of Linnæus, the Camellia thea, *Linklater*, the C. theifera, *Griffith*, is, however, the plant which is to be noticed here.

Trade.—The immense traffic in the produce of this simple shrub affords one of the most remarkable illustrations of the enterprise and energy of modern commerce. Mr. Morrison, writing in 1843, says that the total exportation of tea from China was probably near 427,500 pikuls, or 57,000,000 lbs.; viz. to England, 40,000,000 lbs.; to the United States, 14,000,000 lbs.; and to all other countries, 3,000,000 lbs.; which, at 25 taels per pikul, amounts to a value of 10,687,500 taels, or 14,500,000 dollars. The increased facilities of communication, and with it the reduction of cost,

also the larger use of tea in lieu of alcoholic fluids, have so augmented the demand, that Great Britain alone, in 1882, imported about 211,080,362 lbs. Three-fourths of that quantity came from China, and about that quantity was retained for British home consumption, every person in the United Kingdom using, on an average, about 5 lbs. annually. Tea and coffee form the chief liquid food of whole nations, and must exercise a great influence upon the health of their people.

British India is now (1883) taking a large share in the commerce of this product. It imported in 1882–83, 2,751,085 lbs., value Rs. 19,30,515; and exported 57,766,235 lbs., value Rs. 3,69,95,085.

United Kingdom.

	1880.	1881.	1882.	1883.
Imported, Lbs.	206,971,570	212,462,577	211,080,362	222,005,519
Value, £	11,612,250	11,344,828	11,363,264	11,769,291
Home consumption, Lbs.	158,570,334	160,225,789	165,079,881	170,812,697

British India—Official Year.

Imported, Lbs.	2,534,517	3,322,407	2,845,212	2,751,085
Value, Rs.	21,20,625	27,13,094	19,96,906	19,30,515
Exported and re-exported, Lbs.	38,174,521	46,413,510	48,691,725	57,766,235
Value, Rs.	3,05,10,200	3,05,42,400	3,60,91,363	3,69,95,085

The London market cannot easily absorb the quantity of tea that now reaches it from India and China. In 1871 the exports of tea from India to all ports were 13,250,000 lbs., valued at £1,139,703; in 1881 they were 38,400,000 lbs., valued at £[illegible]72,244. The consumption of Indian tea has increased necessarily in the ten years; but during [illegible] time China has largely increased her export, and it is commonly said in London that, for the time being, the supply of tea of one sort or another is in excess of the world's demand. The export of tea from China is not increasing; and the proportion of really good to unquestionably inferior tea that she ships is steadily decreasing. China, in 1873, exported 39,299,000 H. [illegible] and in 1882, 31,332,000, a tael being 12 avoir. India is strong in high-class teas, and her planters should spare no pains to maintain the repute of those teas in European, American, and colonial markets.

There is no information as to the quantities of teas retained for home consumption amongst all the millions using it in the countries in the S.E. of Asia. There is a large export trade of tea from China, through Si-ning-fu in Kan-su, with Muhammadan and other tribes, who bring horses in exchange. The Russians established in Hu-peh have taken out of Chinese hands the making of brick tea for the Mongols, Siberians, and Kirghiz.

The prices of the teas of China greatly vary. The Russian teas, brought by caravans, are the most expensive and are the best used in Europe. The Chinese themselves pay 7½ dollars per lb. for the Yen Pouchong teas. Full chests were exhibited in 1851 by Mr. Ripley of various Pekoe teas, some of which sell at 50s. per lb. in the China market; whilst 7s. was the very highest price any of the sort fetched in England, and that only as a fancy article. The plain and orange-scented Pekoes bring little in Great Britain. All caravan teas are purchased by the wealthier Russian families. The finest, however, never leave China, being bought up by the mandarins; for though the transit expenses add 3s. to 4s. per lb. to the value when sold in Russia, the highest market price in St. Petersburg is always under 50s. Among the scented teas are various caper teas, flavoured with flowers and the buds of plants belonging to the orange tribe, Magnolia fuscata, Olea flowers, etc. The Cong Sou-choung or Ningyoung teas are chiefly purchased for the American market. Oolong tea was long the favourite drink in Calcutta, though less prized in England, its delicate flavour being injured by the length of the voyage. For delicacy, no teas approach those usually called 'Mandarin teas,' which, being slightly fired and rather damp when in the fittest state for use, will bear neither transport nor keeping. They are in great demand among the wealthy Chinese, and average 20s. per lb. in the native market. The dealers in China are very particular in the selection of high-sounding and felicitous titles for their several parcels, and often a particular parcel acquires such a name as to be eagerly sought after for each successive season.

In Great Britain there is so little demand for the high-priced teas, that in 1878 no tea in the market over 3s. per lb. found purchasers; in 1882 the best of the Indian teas were selling at 1s. 3d. per lb., and in 1883 prices were ranging from 6d. per lb. upwards.

In *Formosa*, tea is largely grown and exported to Foh-kien and Macao, where it is freely mixed with the Canton teas. Oolong tea is also produced in Formosa, and exported to the United States. Tea is grown in Cochin-China, but is considered inferior to that of China, being less strong and pleasant in flavour.

In *Japan*, 36,000,000 lbs. of tea were produced in 1871, the province of Suraga contributing 13,000,000 lbs. of that quantity.

What Indian tea is becoming to Chinese in Great Britain, Japanese tea is becoming to that of China in the United States. The loss to China in that quarter is even greater, for more than a third of the tea now consumed there comes from Japan.

Into *Java*, in 1828, the tea plant was introduced by the Dutch; and, so early as 1848, nearly 1,000,000 lbs. were exported to Holland. Mr. Jacobson, inspector of tea culture in Java, published a book upon the mode of cultivating this plant, upon the choice of ground, and the best processes for the preparation and manipulation of the leaves. On the mountain range which runs through the centre of the island, the tea gardens, extending from near the base high up the mountains, reach an atmosphere tempered by elevation.

In *Ceylon*, the cultivation of tea is become important. Begun about the year 1867, at which time about 10 acres were planted, it made small progress till 1875, when the acreage was estimated at 1080. Since then the increase has been more rapid, the area under tea at the close of 1880 being estimated at close upon 9300 acres. The exports for five years were—

1876,	757 lbs. Rs. 1,907	1879,	95,969 lbs. Rs. 85,229
1877,	2,105 ,, 3,457	1880,	139,752 ,, ...
1878,	19,607½ ,, 20,900		

This does not represent the whole annual out-turn, there being a large local consumption.

In the Andaman Islands, tea cultivation promises success. On the 14 acres of tea which were under cultivation one season, the out-turn has been 411 lbs. to the acre for the twelve months.

History.—No mention of tea-drinking was made

by Marco Polo. Suliman, an Arabian merchant, who wrote an account of his travels in the east about the year A.D. 850, is quoted by Macpherson in his History of European Commerce with India, as stating that tea (sah) is the usual beverage of the Chinese; yet no other mention of the custom has been met with prior to the Jesuit missions to China and Japan, a little before the middle of the 16th century. Botero is quoted as speaking of it in 1590; Texeira, a Portuguese, about the year 1600, saw the dried leaves of tea at Malacca; and Olearius in 1638 found it in use among the Persians, who obtained the leaves from China through the medium of the Uzbak traders. Tea seems to have been first introduced into Europe by the Dutch East India Company, and to have found its way into London from Amsterdam. Tea, coffee, and chocolate are all mentioned together in an Act of Parliament of 1660, wherein a duty of 8d. is charged upon every gallon of chocolate, sherbet, and tea made for sale. How great a novelty it was is shown by Pepys' well-known entry, 25th September 1661:—'I sent for a cup of tea (a Chinese drink), of which I had never drank before.' It long continued to be imported in small quantities only, the East India Company having purchased in 1664, for presentation to the king, 2 lbs. 2 oz. of tea. In 1678 they imported 4713 lbs. of tea, it being then for the first time thought worth their attention as an article of trade.

In the six following years the entire imports amounted to no more than 410 lbs. According to Milburn's Oriental Commerce, the consumption in 1711 was 141,995 lbs.; 120,595 lbs. in 1715; and 237,904 lbs. in 1720. In 1745 the amount was 730,729 lbs. For above a century and a half, the sole object of the English East India Company's trade with China was to provide tea for consumption in the United Kingdom. The Company had the exclusive trade, and were bound to send orders for tea, and to provide ships to import the same, and always to have a year's consumption in their warehouses. The teas were disposed of in London, where only they could be imported, at quarterly sales. In 1740, 1,493,695 lbs. of tea were retained for home consumption. Two years afterwards, the quantity fell to 473,868 lbs., and in 1767 only 215,019 lbs. were retained. Next year the amount increased to 3,155,417 lbs.; in 1769 it was 9,114,854 lbs.; in 1790, 21,342,845 lbs; in 1836, 49,842,236 lbs.

An Act of Parliament in 1834 threw open the trade to China, and the imports into Britain of tea during the years 1838, 1852, and 1882 were as follows—

Years.	Black. lbs.	Green. lbs.	Total. lbs.	Home Consumption. lbs.
1838,	26,786,000	8,215,000	35,001,000	36,415,000
1852,	55,525,000	9,175,000	64,700,000	54,724,000
1882,	...	...	211,080,362	165,079,881

Varieties.—In European commerce, various kinds are known, as Black Tea, Bohea, Brick Tea, Congou, Green Tea, Gunpowder Tea, Imperial Gunpowder, Hyson, Pukli Hyson, Hyson Skin, Pekoe, Pekoe-Souchong, Flowery Pekoe, Scented Pekoe, Pouchong, and Souchong.

The Chinese names given to the various sorts of tea are derived for the most part from their appearance or place of growth, but the names of many of the best kinds are not commonly known abroad. *Bohea* is the name of the Wu-i Hills (or Bu-i, as the people on the spot call them), where the tea is grown, and is not a term for a particular sort among the Chinese, though it is applied to a very poor kind of black tea at Canton; *Sunglo*, likewise, is a general term for the green teas produced on the hills in Kiang-su. The names of the principal varieties of black tea are as follows:—*Pekoe* or *Pecco*, 'white hairs,' so called from the whitish down on the young leaves, is one of the choicest kinds, and has a peculiar taste; *Orange Pecco*, called shang-hiang, or 'most fragrant,' differs from it slightly; *Hungmuey*, 'red plum blossoms,' has a slightly reddish tinge; and the terms, prince's eyebrows, carnation hair, lotus kernel, sparrow's tongue, fir-leaf pattern, dragon's pellet, and dragon's whiskers, are all translations of the native names of different kinds of souchong or pecco. *Souchong* or *Sian-chung* means little plant or sort, as *Pouchong*, or folded sort, refers to the mode of packing it; *Campoi* is corrupted from kan-pei, *i.e.* carefully fired; *Chulan* is the tea scented with the chulan flower, and applied to some kinds of scented green tea. The names of green teas are less numerous:—*Gunpowder* or *Machu*, *i.e.* hemp pearl, derives its name from the form into which the leaves are rolled; *Ta-chu*, or 'great pearl,' and *Chulan*, or 'pearl flower,' denote two kinds of imperial; *Hyson* or *Yu-tsien*, *i.e.* before the rains, originally denoted the tenderest leaves of the plant, and is now applied to the young hyson; as also another [illegible], *Mei-pien*, or 'plum petals;' while *Hi-chun*, 'flourishing spring,' describes hyson; *Twankay*, 'beacon-brook,' is the name of a stream in [illegible]-kiang, where this sort is produced; and *Hyson skin* or *Pi-cha*, *i.e.* skin tea, is the poorest kind, the siftings of the other varieties; *Oolung*, 'black dragon,' is a kind of black tea with green flavour. Ankoi teas are produced in the district of Nganki, not far from Tsinen-chan-fu, possessing a peculiar taste, supposed to be owing to the ferruginous nature of the soil. De Guignes speaks of *Pu-'rh* tea, from the place in Kiang-su where it grows, and says it is cured from wild plants found there; the infusion is unpleasant, and used for medical purposes. *Congo* is a corruption of *Kung-fu*, signifying labour; and the *Moning Congo* is so called from being grown in the district named from the city of Wuning, meaning Military Rest. Chulan tea, mentioned above, is brought from Foh-kien; it is scented with the Aglaia flowers, and answers to the scented caper of foreign markets. In the tea shops of China, Lung-ching, Tsioh-sheh, and Yai-chai are names of good teas in high repute.

Culture.—The tea plant is multiplied by seed like the hawthorn, and therefore the produce cannot be identical in every respect with the parent. Instead, therefore, of having one or two botanical varieties of tea plant in China, there are in fact many kinds, although the difference between them may be slight. The seeds of this plant are gathered year after year in different climates, and in the course of time the plants in one district slightly differ from those of another, although they may have been originally produced from the same stock. But the plants of Canton, Hwuy-chow, and Wu-i are the same species, and the slight differences observed are the results of reproduction and difference of climate.

These differences, however, do not alter the

commercial value of the plants found cultivated in the great tea countries of Foh-kien and Hwuy-chow, where the finest teas are produced. While the tea shrub may have improved in the course of reproduction in these districts, it may have become deteriorated in others. For this reason, seeds and plants for forming fresh plantations ought always to be procured from the districts famed for the excellence of its produce.

Sir John Davis, Mr. Fortune, and Archdeacon Gray have given detailed accounts of the Chinese modes of its cultivation and manufacture.

The last-named author mentions that in China the seed is gathered in October, and perfectly dried in the sun. In February or beginning of March, the seeds are soaked for 24 hours in cold water, and are then deposited in cloth bags in a moderately warm chamber, usually the cook room. When partially dried, they are moistened with water, after which they are again partially dried, and then once more moistened; and this process is continued until they begin to sprout, when they are placed half an inch apart in thin layers of earth, spread over basket-work or matting. During the first four days, every morning they are well watered and exposed to the sun, and in the evening are sheltered in-doors. On the fifth day they are strong enough to be exposed at night, and when 4 inches high they are planted in the ground, each 2 feet apart. Hilly ground, as affording good drainage, which is of vast importance, is be[illegible]apted for the growth of the plant than flat g[illegible]d.

The te[illegible]nt yields its first crop at the end of the third [illegible]r. If stripped before this, it may be spoiled or se[illegible]ously injured. After this age, if the annual stripping be omitted, the following year would be marked by a very poor and comparat[illegible]ly useless crop. There are three gatherings [illegible]arly. The first crop of leaves is gathered in [illegible]tter part of April, the second towards the [illegible] May or in the early part of June, and the [illegible]bout 30 days afterwards. Great pains are [illegible]not to exhaust the plants by plucking them too bare. Despite every care, when 8 or 10 years old, they become unproductive, yielding only a few coarse leaves; and farmers cut the shrubs down to the stems to obtain new shoots and leaves in succeeding summers.

Before commencing their labours, the gatherers have to wash their hands, and they deposit the leaves which they pluck in clean wicker-work baskets. An expert labourer can, with comparative ease, gather from 10 to 13 lbs. of leaves in a day. The leaves are plucked with great nicety, not more than one being plucked from the stalk at a time.

Manufacture. — In making *Congou*, the leaves are spread out in the open air to dry. They are then for 2 or 3 hours trodden by labourers to press out any moisture remaining in them, and are again heaped together and covered with cloths, and allowed to remain for one night, during which they generate a heat which changes their green to black or brown, become more fragrant, and undergo a decided change in flavour. The labourers now rub the leaves between the palms of their hands, so as to twist or crumple them, and in this state they are dried in the sun, or, if rainy, baked over a slow charcoal fire. In this state they are sold to the proprietors of the tea hongs, who again give them a two hours' firing, and the bad leaves and stems are then picked out, the whole winnowed, and packed in boxes lined with paper. The colour of the leaves gives their special names of black leaf, red or brown-leaf congou, Oonan congou, Ning-chow congou, and Ho-chow congou. Oo-pak congou comprises the numerous kinds of congou produced in the province of Hu-peh, and largely exported from the port of Hankow. Oonan congou is produced in the province of Honan; the leaves have a greyish-blackish colour, and in some instances a tinge of red.

Ning-chow congou is produced in the N.W. of the province of Kiang-si, and its finest varieties at Wu-ning, a place S.W. of the city of Kiu-kiang, where, as also at Canton and Hankow, it is chiefly sold. Its leaves are of a brownish-black colour. Ho-chow congou is produced in the N.E. parts of the province of Kiang-si, and on the north of the Bohea Hills. The Ho-how teas are almost all sent to Kiu-kiang for sale, small quantities to Shanghai, Canton, and Fu-chu. The Ho-how teas rank lowest of all; the finest Oo-pak teas consist of the best black-leaf teas. Fine Oonan teas are superior to those of Ning-chow.

Foh-kien yields the small and closely-twisted red and brown leaf congous, but the finest of this kind, called Kai-shan, come from a district near the town of Shama. The principal market for these teas is Fu-chu, but those produced in the southern part of the province of Foh-kien are sent to Amoy.

The best congou of the Kwang-tung province is called Tay-shan congou. The leaves are long and wiry, and of a brownish-black hue. Much of it is sold at Macao.

In recent years a good imitation of red-leaf congou, small and twisted leaves, has been made at Canton and exported to Great Britain, to which also the red-leaf sorts are sent, and in smaller quantities to the United States, packed in chests or half-chests of from 40 to 60 lbs. Tay-shan congous are packed in boxes from 20 to 30 lbs., and black-leaf congous in chests containing 85 to 110 lbs.

Souchong tea has the same reddish or brownish colours as the red-leaf congou. Souchong is a class of tea very similar to congou. Fine souchong is produced only in the N.E. part of the province of Foh-kien. The picked leaves are spread out in the open air to dry, then trodden by labourers, and piled for one night in large heaps, each of which is covered carefully with a cloth. Next morning every particle of it is carefully rubbed between the hands, and for three hours dried over charcoal fires. The method of making souchong is similar in all respects to that of making congou. The first crop of souchong is only fired once, but is afterwards exposed to the sun's rays.

Flowery Pekoe, a fancy tea, is little made. It is prepared from leaf-buds which are exposed to the sun to dry as soon as they are gathered and then sold to the wholesale proprietors of hongs, who finally fire the leaves over a slow fire, and then pack them. The leaves have a downy appearance, and vary in colour, some being yellow, some black. It is exported from Fu-chu, and a little from Canton, to England.

Oo-long tea is produced in the province of Foh-kien. It is of some importance in trade, and is exported from the Fu-chu and Amoy ports largely

to the United States and to England and Australia. In preparing it, the leaves when gathered are spread out to dry; they are then sprinkled or moistened with water, and eventually fired in the same manner as congou. The planters then sell them to the tea hongs, whose workmen pick out all the stems and bad leaves. After this, the leaves are again moistened with water and once more fired. When leaves have been collected sufficient to form a chop, they are all mixed together and once again fired. In appearance they are yellow, with a black or dirt-green tint; in form they are bold, irregular, somewhat wiry, and not closely twisted.

Scented Orange Pekoe is made in the provinces of Quang-tong and Foh-kien. Those manufactured in the Quang-tong province are called Canton scented orange pekoe; those from Foh-kien are Fu-chu scented orange pekoe. In their manufacture, the leaves are spread out in the open air to dry; labourers then rub them between the palms of their hands to impart a twisted or crumpled appearance to them, and they are sent in that stage of manufacture to the markets of Canton and Fu-chu, where they are immediately unpacked and baked over a slow fire, and mixed with the flowers of the Arabian jasmine. When they are supposed to have sufficiently imbibed the fragrance, they are separated from the jasmine flowers by means of sieves. Fine kinds of scented orange pekoe are twice scented. They are not fired a second time. The leaves of the Fu-chu scented orange pekoe are small and closely twisted, of a yellow colour, with a brownish or blackish tinge. The Canton scented orange pekoe is long, wiry, closely twisted, and black, with occasionally a yellowish or greenish tinge. The black colour is produced by a mixture of powdered charcoal. Scented orange pekoe is invariably packed in boxes, and is exported to Great Britain; a small quantity from Fu-chu to Australia.

Scented Caper is made in the same manner as the scented orange pekoe. It consists, in fact, of pellet-shaped leaves, separated by a sifting process from the leaves of scented orange pekoe. Those prepared at Fu-chu are yellowish and brownish or blackish, whereas those manufactured at Canton are black or brown, with an occasional tinge of yellow or green. The tea made into caper at Canton is grown upon an extensive range of hills in the district of Hok-shan, one of the counties forming the prefecture of Kwang Chu-fu. After being there well dried and fired, the leaves are forwarded to Canton, where they are made into caper by the following process:—17 or 18 handfuls are placed in each of the pans with which the tea hong is furnished, are moistened with water, and well stirred up by hand. Rendered thus soft and pliable, they are immediately put into small coarse sackcloth bags, each of which, when filled and tightly closed, has the appearance of a football. These bags are all arranged on the floor of one of the largest chambers of the hong, and are moved to and fro by labourers who stand upon them, and who, in order to roll them backwards and forwards with their feet without the risk of falling, support themselves by grasping long wooden poles. Under this process, the tea leaves in each bag assume the form of pellets or capers.

The coarser leaves are gathered from the finer caper, are well fired, put into wooden troughs, and cut into several pieces by means of choppers, not unlike in shape to large spuds, and by the same process are made into a tea, which is also called caper.

A very inferior kind of scented caper is made by mixing tea-dust with congee water and sifting it, giving it the form of pellets. Scented caper is exported to Great Britain.

Green tea is prepared as follows:—The leaves, as soon as they are plucked, are placed in iron pans over a charcoal fire for 2 or 3 minutes; they are then rubbed together for a short time, after which they are again fired for 2 or 3 hours, all the time being constantly stirred. With the fine tea, the leaves are constantly fanned during the first hour of the second firing, so as to preserve their green colour. After this process, they are packed and sold to the tea hongs, where they are a third time exposed for half an hour to the action of fire, and are then cleaned by the usual sieving, picking, and winnowing.

In manipulating green teas, much care and attention must be given to the separation of leaves which differ in size and shape. When separated, the leaves are sold to the foreign merchants. The small pellet-shaped tea are termed Gunpowder, and the larger-sized pellets are called Imperial; small-sized leaves which are wiry and twisted are called Young Hyson, whilst those of a larger size are called Hyson. Twan-kay is a t[illegible]m applied to leaves which are light, large, coarse, and irregular; and those that are skinny and br[illegible]n are called Skin or Hyson Skin, also Hyson Tw[illegible]kay.

When these leaves have been s[illegible]ated and classed under their respective na[illegible] they are again fired — Gunpowder for 12 [illegible] 14 hours; imperial for 8 hours; young hyson for 10 hours; hyson for 8 hours; and twan-kay and skin for 3 hours. When each of these kinds is half-fir[illegible] small quantities of gypsum powder, Prussian bl[illegible] and turmeric are mixed with them to give t[illegible] the desired tint. All green teas, whether common, are mixed with these named ingr[illegible] in such quantities as the tea-men desire. the different kinds of green tea leaves have under gone the action of fire, they are well stirred up and fired once more for half an hour. Green tea is generally packed in half-chests, occasionally in boxes. The finest description is made in the neighbourhood of Wuyune, and is known by the name of Moyune. All green teas are forwarded for exportation to Shanghai, Kiu-kiang, and Ningpo.

Scenting.—Flowers of various plants are used in scenting by the Chinese, some of which are considered better than others, and some can be had at seasons when others are not procurable. Mr. Fortune prepared the following list with great care. The numbers prefixed express the relative value of each kind in the eyes of the Chinese, and the asterisks point out those which are mostly used for scenting teas for the foreign markets in the order in which they are valued. Thus the Mo-le and the Sieu-hing are considered the best, and so on:—

1 Rose-scented (Tsing moi-qui-hwa).
1, 2 Plum double (Moi-hwa).
2 *Jasminum sambac (Mo-le-hwa).
2, 3 *Jasminum paniculatum (Sieu-hing-hwa).
4 *Aglaia odorata (Lan-hwa or You-chu-lan).
5 Olea fragrans (Kwei-hwa).
6 *Orange (Chang-hwa).
7 *Gardenia florida (Paksema-hwa).

It has been frequently stated that the Chloranthus is largely used. This appears to be a mistake, originating, no doubt, in the similarity of its Chinese name to that of Aglaia odorata. The Chloranthus is called Chu-lan, the Aglaia Lan or Yu-chu-lan. The different flowers are not all used in the same proportion. Thus of orange flowers there are 40 to 100 lbs. of tea; of Aglaia there are 100 to 150 lbs.; and of Jasminum sambac there are 50 to 100 lbs. The flowers of the Sieu-hing (Jasminum paniculatum) are generally mixed with those of the Mo-le (Jasminum sambac) in the proportion of 10 lbs. of the former to 30 lbs. of the latter, and the 40 lbs. thus produced are sufficient for 100 lbs. of tea. The Kwei-hwa (Olea fragrans) is used chiefly in the northern districts as a scent for a rare and expensive kind of hyson pekoe,—a tea which forms a most delicious and refreshing beverage when taken à la Chinoise, without sugar and milk. The quantity of flowers used seemed to Mr. Fortune to be very large; and he made particular inquiries as to whether the teas that are scented were mixed up with large quantities of unscented kinds. The Chinese unhesitatingly affirmed that such was not the case, but notwithstanding their assertions he had doubts on this point. The length of time which teas thus scented retain the scent, is most remarkable. It varies, however, with the different sorts. Thus the Olea fragrans tea will only keep well for one year; at the end of two years it has either become scentless, or has a peculiar [illegible] odour which is disagreeable. Teas scented with orange blossoms and with those of the Mo-le will keep well for two or three years, and the Sieu-hing kinds for three or four years. The Aglaia retains the scent longer than any, and is said to preserve well for five or six years. The tea scented with the Sieu-hing is said to be most esteemed by foreigners, although it is put down as second or third rate by the Chinese. Scented teas for the foreign market are nearly all made in Canton, and are known to merchants by the names of Scented Orange, Pekoe, and Scented Caper. The flowers are grown in and near a place called Tashan, in the Canton province.

Mr. Fortune thus describes the scenting process. In a corner of the building there lay a large heap of orange flowers, which filled the air with the most delicious perfume. A man was engaged in sifting them to get out the stamens and other smaller portions of the flower. This process was necessary, in order that the flowers might be readily sifted out of the tea after the scenting had been accomplished. The orange flowers being fully expanded, the large petals were easily separated from the stamens and smaller ones. In 100 parts 70 per cent. were used, and 30 thrown away. When the orange is used, its flowers must be fully expanded, in order to bring out the scent; but flowers of jasmine may be used in the bud, as they will expand and emit their fragrance during the time they are mixed with the tea. When the flowers had been sifted over in the manner described, they were ready for use. In the meantime the tea to be scented had been carefully manipulated, and appeared perfectly dried and finished. At this stage of the process it is worthy of observing that, while the tea was perfectly dry, the orange flowers were just as they had been gathered from the trees. Large quantities of the tea were now mixed up with the flowers, in the proportion of 40 lbs. of flowers to 100 lbs. of tea. This dry tea and the undried flowers were allowed to lie mixed together for the space of twenty-four hours. At the end of this time the flowers were sifted out of the tea, and by the repeated sifting and winnowing processes which the tea had afterwards to undergo, they were nearly all got rid of. Sometimes a few stray ones are left in the tea, and may be detected even after it arrives in England. A small portion of tea adheres to the moist flowers when they are sifted out, and this is generally given away to the poor, who pick it out with the hand. The flowers, at this part of the process, had impregnated the tea leaves with a large portion of their peculiar odour, but they had also left behind them a certain portion of moisture which it was necessary to expel. This was done by placing the tea once more over slow charcoal fires in basket sieves prepared for the purpose of drying. The scent communicated by the flowers is very light for some time, but, like the fragrance peculiar to the tea leaf itself, comes out after being packed for a week or two. Sometimes this scenting process is repeated when the odour is not considered sufficiently strong; and the headman in the factory said that he sometimes scented twice with orange flowers and once with the Mo-le (Jasminum sambac).

In *British India*, tea growing and its manufacture into the commercial product have become great industries. The name in ordinary use, alike for the plant and its products, is Cha. In Cachar the tea tree is called Dullicham, meaning white wood, from the light colour of its bark. It is called Phlap also Khlap by the Assamese, but also Misa Phlap in Muttack, and Heelkat in other parts of Assam. Chinese tradition points to India as the original home of the tea plant. 'A Brahman ascetic named Dharma went as a missionary to China. Wearied with a toilsome journey, he fell fast asleep on reaching his destination, and on awaking, angry at such weakness, he tore out his eyebrows. The hairs, taking root, became tea plants, the leaves of which he tasted, and he was soothed into mystic meditation.' Colonel Kyd in 1780 formed a tea-garden in Calcutta with plants from Canton, the nucleus of the Calcutta Botanic Garden.

It was not known to Europeans to be indigenous in British India till the early part of the 19th century. At the request of the E. I. Company, on the suggestion of Warren Hastings, Sir Joseph Banks in 1788 had drawn up a memorandum recommending the introduction of plants from China, and suggesting Behar, Rungpur, and Koch-Bahar as suitable regions.

But it was only in 1815 that a Bengal Lieut.-Colonel brought to notice the presence of the plant in the N.E. of British India. From that date the notices became frequent. Dr. Buchanan Hamilton early mentioned it as a plant of Assam and the Burmese territories there. In 1816 the Honourable Mr. Gardner found it in the Nepalese dominions; Moorcroft in Bussahir in 1821; Bishop Heber in Kamaon in 1824; brothers Bruce in 1826; and Dr. Corbyn in 1827. But the really practical discovery was made in 1819 by Mr. David Scott, Commissioner of Assam, who sent from Munnipur to Mr. G. Swinton, then Chief Secretary to the

India Government, a specimen of the leaves of a shrub which he insisted was a real tea. The very specimen is still preserved in the Linnæan Society of London. It has been said that they were brought to his notice by the two brothers Major R. and Mr. C. A. Bruce. The latter, the younger, had been trading in Assam previous to its annexation, and subsequently, in 1826, being in command of a division of gunboats in Upper Assam, he brought down with him some shrubs and seed, which were at once identified as belonging to the tea plant of commerce, and he subsequently, in 1833, brought it to the notice of Capt. Jenkins.

The tea had been found by Mr. Bruce on the Naga Hills; but in his latest account, published in August 1839 in the Journal of the Asiatic Society, he gives an account of the discovery of 120 tea tracts, some of them very extensive, both on the hills and in the plains.

In 1834, Lord William Bentinck, Governor-General, urged upon the Court of Directors the importance of cultivating the plant, and a committee, consisting of eleven European and two native gentlemen, was appointed to mature and carry out a plan for introducing the plant into such districts of India as seemed best suited to its culture. As it had been found in a wild state in Assam, the committee proceeded thither, established nurseries, and organized a sort of exploring service under Mr. C. A. Bruce.

Chinese seed and young plants were also introduced, and were found to thrive well. At first, progress was very slow and unsatisfactory. A sample of the produce of the new gardens was sent to the Directors in 1836, but it arrived in such a mouldy condition, that it could not be tested. It is said that this specimen merely consisted of green leaves, and that no attempt had been made to render it commercially valuable. Those in charge of the plantations knew nothing whatever of the process of manufacture, and in 1837 it was necessary to introduce Chinese tea-makers and artisans. Under their superintendence, consignments of Assam tea were forwarded to the Court of Directors in the years 1838-39, and were found, on arrival, to be of excellent quality, and commanded very high prices in the open market. So good was it that it at once attracted the attention of speculators, and a company, which was afterwards styled the Assam Company, was formed for the cultivation of the tea plant and the manufacture of tea in Upper Assam. Having thus seen the industry adopted by the commercial world, the Indian Government withdrew in favour of private enterprise, and handed over two-thirds of its establishment, gardens, and nurseries to the company. The remaining third was retained for a few years longer, and was subsequently disposed of (1849) to a China-man for 900 rupees.

But in 1850 the E. I. Company despatched Mr. Fortune to China to glean all possible information regarding the tea plant and the manipulation of its leaves, and to bring plants and seed of the best varieties, as also some experienced cultivators and work-people.

From 1863 to 1865, Calcutta went fairly mad about tea; speculators set to work at the purchase of enormous tracts of land in Assam and elsewhere, which were subsequently disposed of to limited liability companies at enormous profits. Eventually the bubble burst, and for a time the very name of tea cultivation fell into unmeasured odium. From 1866 to 1868, estates on which many lakhs of rupees had been expended, were sold for a few hundreds. Some shrewd capitalists, however, bought up the more conveniently situated plantations, and quietly developed their productive capacities. The rehabilitation of the Indian tea industry fairly commenced in 1869, and has continued to make rapid progress ever since.

The *India tea plant* flourishes from the confines of Afghanistan to the borders of Burma, from the 25th to the 33d degree of latitude, and from the 70th to the 95th degree of longitude. Tea grows on the Himalayas at an elevation of 7000 feet above the level of the sea, in the valley of the Doon, at the base of the Himalayas, an elevation of 2000 feet, on the banks of the Brahmaputra in Assam, and the Surma in Sylhet, at a very small elevation above the level of the sea. On hill or plain, from 1000 to 8000 feet above the level of the sea, the tea plant thrives well, and the only condition that it appears to require is a light and porous soil. Over this vast area, wherever tea has been planted, it has more than answered the expectations of growers. It is now cultivated to a great extent in Assam, Dacca, Koch-Bahar, Chittagong, Chutia Nagpur, Darjeeling, Terai, Kangra, Garhwal, Kamaon, Cachar, Sylhet, Dehra, Hazaribagh, to a considerable extent on the Neilgherry Hills, with smaller plantations on the Shevaroys.

Tea cultivation was undertaken on the Neilgherries about 1863, and although not much had been done there, it was clearly established that tea would grow, the plants attaining a large size, and yielding very fairly. Just when the matter was being taken up, coffee was introduced, for which the climate was found very favourable, and it practically superseded tea.

In 1872, the tea produced in the small gardens in the Neilgherry Hills amounted to only 80,000 lbs., and four distinct methods of manufacturing it were in vogue. In the following year, the quality of the Neilgherry tea had so much improved that its price ranged from 2s. 4d. to 3s. per lb. and upwards. There can be no doubt that these hills are well adapted for the growth of tea. Though better tea is turned out at higher elevations, larger quantities are obtained lower down, and Kotagherry, Kodanaad, Cunur, and the numerous ravines having any aspect but a S.W. one, will be found the most suitable localities for the formation of tea plantations. Forest land, if possible, should be secured; the less precipitous it is the better. And as drought is not unusual at certain seasons, care should be taken to provide for water being led to any part of the site selected.

Plants supplied by Government through Dr. Wallich were planted in the Shevaroy Hills about the year 1844, and had thriven well.

Culture.—Neilgherry and Shevaroy tea seed is very liable to rot before it germinates. The best way to prevent this is to crack the shell of the tea seed, place it immediately in a loose, rather open soil in shallow large flower-pots, apply steam below these pots for an hour every day, and about the fifth day the seed will begin to sprout. It is better to propagate tea in this way than to sow the seeds out, as many of them lie for months without

striking. In six weeks or two months the young trees may be transplanted.

In the year 1877-78, there were in British India 130,130 acres of mature plants under cultivation, in 2103 tea plantations. Of these plantations, 786 were in Assam, 221 in Bengal, 1041 in Kangra in the Panjab, and 53 on the Neilgherries, and the yield was estimated approximately at 36,143,045 lbs., the average yield in lbs. per acre of mature plants ranging in the several provinces from 101 to 395 lbs.

The tea plantations in the N.W. Provinces in 1881 were 90 in number, of 8562 acres.

In the Panjab, almost all in Kangra, there were 1422 plantations of 7466 acres, mostly small plots, owned chiefly by natives.

The joint-stock share market quotations of 14th February 1884 gave the present values of 86 tea companies, showing five at par, 16 at a premium. But the £20 share of the original Assam Company was selling for Rs. 550–560.

Age.—The tea plant does not yield leaves fit for the manufacture of tea until the third year; it increases yearly its produce until the eighth or tenth year, at which time it attains its maximum. From a series of experiments made in the hills and the Dehra Doon, full-grown plants yield tea in the proportion of 20 lbs. to the 100 plants. An acre of land contains from 1500 to 1600 plants; the yield of tea would therefore be from 300 to 320 lbs.

Manufacture.—In China, manual labour is alone employed in the processes of manufacture, from the green leaf to the commercial article. In India, machinery for preparing the leaves has been invented by Europeans. Mr. Joachimi suggested one to be moved with steam, and in 1866 three machines for dressing tea leaves were patented in England. A well-appointed Indian factory has a steam-engine of perhaps 20 horse-power, working rollers, driers, equalizers, sifters, etc., and the work is done more regularly, better, in a more cleanly way than by hand.

Testing.—Teas are repeatedly tested during the stages of manufacture, by pouring boiling water on a few leaves, to observe the colour, aroma, taste, strength, and other properties of the infusion. As many as fifteen drawings can be made from the best leaves before the infusion runs off limpid. In selecting all kinds of tea, the colour, clearness, taste, and strength of the infusion are the principal criteria; the weight of the parcels, taste and colour of the dry leaf, and its smell when strongly breathed upon, are also noticed.

In China, the infusion is sold in public houses in every town, and along public roads and the banks of rivers and canals; nor is it unusual for the burdened and weary traveller to lay down his load, refresh himself with a cup of warm tea, and then pursue his journey. The wealthy Chinese simply infuse the leaves in an elegant porcelain cup, which has a cover of the same material; the leaves sink to the bottom of the cup, and generally remain there without inconvenience, though occasionally some may float or rise to the surface. To prevent this inconvenience, sometimes a thin piece of silver filigree is placed immediately on them. Where economy is necessary to be studied, the teapot is used. Chinese use the best they can afford, generally the young leaves from old trees; they put a few leaves into a cup and pour on them water a little short of the boiling point, and drink hot.

Raw tea leaves, just as they are plucked from the bushes, and unmanufactured, are exposed for sale in the markets of China. They are sold at from three farthings to five farthings a pound; and as it takes about 4 pounds of raw leaves to make 1 pound of tea, it follows that the price paid is at the rate of 3d. to 5d. a pound; but to this must be added the expense of manipulation. In this manner the inhabitants of large towns in China, who have no tea farms of their own, can buy the raw leaves in the market, and manufacture the beverage for themselves and in their own way.

The tea of Mongolia is prepared by simply firing the leaves, so soon as plucked, seven or eight times in an iron pan.

The wealthy Japanese continue the ancient mode of grinding the leaves to powder; and, after infusion in a cup, it is whipped with a split bamboo or denticulated instrument till it creams, when they drink both the infusion and powder, as coffee is used in many parts of Asia.

Analysis of Tea.—The infusion made from tea contains gum, glucose or saccharine matter, a large quantity of tannin, and a peculiar nitrogenized principle called *theine*; this is identical with caffeine, and upon its presence many of the properties of tea depend. The amount of gum and tannin contained in a given sample of tea afford data by which its quality may to some extent be determined. Tea by many is looked on more as a luxury than of use to the human system; but Liebig, without entering minutely into the medical action of caffeine, theine, etc., says it will surely appear a most striking fact, even if we were to deny its influence on the process of secretion, that the substance, with the addition of oxygen and the elements of water, can yield taurine, the nitrogenized compound peculiar to bile.

Properties of Tea.—Lo Yu, a learned Chinese, who lived in the dynasty of Tang, A.D. 618 to 906, gives the following account of the qualities and effects of the infusion of the leaves of the tea plant: —'It tempers the spirit and harmonizes the mind; dispels lassitude and relieves fatigue; awakens thought and prevents drowsiness; lightens or refreshes the body and clears the perceptive faculties.' In Pereira's Materia Medica, we find the following remarks relating to the properties of tea:—'Its astringency is proved by its chemical properties. Another quality possessed especially by green tea, is that of diminishing the tendency to sleep. Tea appears to possess a sedative influence with regard to the vascular system. Strong green tea taken in large quantities, is capable, in some constitutions, of producing a most distressing feeling, and of operating as a narcotic.'

Brick tea in Hankow is made of two sizes. The large green brick tea is made by the Russian factors at Hawning, and at Tsung-yang in Hu-peh, and is sent through the Kalgan gate of the Great Wall. The small brick tea is much finer than the large, and the black brick tea is made in the same moulds. These teas go to the Siberians, the Buriat, the Tungus, and Kirghiz tribes, as well as the Mongols. The bricks are in a convenient form for barter. They are by no means an in-

ferior tea, and it is actually eaten, the leaves being chopped up with salt and butter or koumiss. The finer sorts are friable masses, and are packed in papers; the coarser are sewn up in sheepskin. In this form it is an article of commerce throughout Central and Northern Asia and the Himalayan provinces; and is consumed by Mongols, Tartars, and Tibetans, churned with milk, salt, butter, and boiling water, more as a soup than as tea proper. Certain quantities are forced upon the acceptance of the western tributaries of the Chinese empire in payment for the support of troops, etc.; and is hence, from its convenient size and form, brought into circulation as a currency over an area greater than that of Europe.

Green brick tea is made at Tung-shan in Ho-nan province from leaves which have fallen to the ground. These are put into wicker baskets, which are placed over slow fires, in iron pans filled to the brim with water, which is kept boiling, and the ascending steam permeates the mixed leaves in the basket. The contents are then placed in moulds, and eventually pressed with heavy weights. The process takes a month. Black brick tea is prepared in the same manner in three weeks. It is made at Sung-yang and Yang-lou-tung in Hu-peh province. —*Jameson's Ed. Jo.*, 1825, p. 378; *Baron F. Von Mueller, Select Plants; Ball, Cultivation and Manufacture of Tea; Dr. Cooke, Food; Sir John Davis, China; Fortune, Tea Districts; Fortune, Wanderings in China; Williams' Middle Kingdom; Bonynge's America; Cat. Exh.*, 1862; *Smith, Mat. Med. China; Archdeacon Gray, China*, ii. pp. 204-214; *L. Lyod and Cheshire's Market Reports; Ewart Macaughy and Co.'s Circulars; Wade*, pp. 141, 142; *Universal Review; Hassall's Food and its Adulterations; M'Culloch's Commercial Dictionary; London Market Reviews and Commercial Circulars; Prize Essays on Tea Cultivation, published in the Journal of the Agri-Horticultural Society of India*, iii. part 2, 1872; *J. F. W. Watson on the Cultivation and Manufacture of Tea; The Tea Cyclopædia—Articles on Tea Statistics, compiled by the Editor of the Indian Tea Gazette, and Blights from Drawings by S. E. Peal*, 1882; *The Tea Industry in India, by Samuel Baildon, author of Tea in India*, 1882.

TEA-HEIH-TU-SHWO. Chow-tsze was the originator of the second epoch of philosophical development in China. To him is ascribed the merit of having revived that distinct knowledge of the greatest truths which had been lost to the world for the thirteen centuries that had elapsed after the death of Mencius (Meng-tse). And he regained that knowledge by the independent efforts of his own mind, unaided by any master. Only two of his works have been preserved, the Tea-heih-tu-shwo and the Tungshat. He died in A.D. 1200; and in A.D. 1241 an imperial rescript ordered his tablet, with those of four of his immediate predecessors, whose works he had annotated, to be placed in the temples of Confucius, which are to be found in every district city throughout the empire. From that time to this, a period of six hundred years, his views of philosophy, morality, and politics have been supreme in China. At this day, his commentaries on the Yih King and the Four Books are learned by heart by millions of Chinese, with the text of these works. The Public Service Examinations cannot be passed unless this be done.

TEAK, Tectona grandis.

Sagwan, . . .	HIND.	Tek maram, . . .	TAM.
Jati, ...	MALAY.	Teku chettu, . .	TEL.

The teak tree grows in the southern and western parts of the Peninsula of India, in Malabar, in Canara, in the Wynad, in the forests of the Animallay Hills, also in Burma, N. Siam, Sumatra, Java, Celebes, Sumbawa, Lao, and the Shan States. Between Japara and Sourabaya several extensive teak forests occur. But Java is the only island in the Archipelago possessing teak forests which are available to any extent for the purpose of ship-building. In Sumatra, Celebes, and Sumbawa, the forests are so far distant from the sea, that the expense of land carriage prevents the natives from deriving any great advantage from its use. Teak is not known to inhabit the Malayan Peninsula. The teak forests in Pegu and Amherst, also those of the Wynad and Godavery, are extensive. The tree grows to a great size, attaining maturity in about eighty years, and is the best wood in India for ship timber, house-carpentry, or any other work where strong and durable wood is required.

Godavery teak varies much in density; much of it is finely veined; generally it is heavier than the Rangoon teak, but not equal to some from the Malabar coast.

Upon the whole, the Malabar teak seems the best. That of Rangoon is lighter and more open in the grain, and is preferred for masts and spars. The dark or heavy teak of the mountains bordering on the Godavery is very little if at all inferior to the Malabar, but a good deal of the Godavery teak is very open-grained.

The sap-wood is white and small; the heart-wood, when cut green, has a pleasant and strong aromatic fragrance and a beautiful dark golden-yellow colour, which on seasoning soon darkens into brown, mottled with darker streaks. It is moderately hard, exceedingly durable and strong, does not split, crack, warp, shrink, or alter its shape; when once seasoned works easily, and takes a good polish. A cubic foot, when seasoned, averages 42 lbs. It does not suffer if in contact with iron, and is rarely if ever attacked with white ants. It is used for house and ship building, for bridges, sleepers, furniture, and is also exported from India—

	Cubic Tons.	Value Rs.		Cubic Tons.	Value Rs.
1874-75,	42,868	32,85,640	1879-80,	38,420	28,19,590
1875-76,	60,612	44,06,182	1880-81,	65,626	50,00,466
1877-78,	56,939	40,66,524	1882-83,	59,187	61,12,597

Linseed oil applied to teak brings out the veins of the wood very beautifully. For ship-building purposes, teak is superior to every other sort of wood, being light, strong, durable, whether in or out of water. The ships of war built of this timber were—

Ships of the Line.—Minden, Cornwallis, Melville, Malabar, Wellesley, Ganges, Asia, Bombay, Calcutta, Hastings.

Frigates.—Salsette, Amphitrite, Trincomalee, Seringapatam, Madagascar, Andromeda, Alligator, Samarang, Herald.

Sloops.—Victor, Chameleon, Sphynx, Cochin.

Teak wood is used as a rib-lining of the arches in the caves of Karli, and is said to be coeval with their formation, about two thousand years

ago. Pliny states that the beams in the temple of Apollo at Utica were in perfect preservation in his time, though they had then endured 1178 years. The teak furnishes an opaque, dull ash-coloured oil, which separates into two layers, an upper or dark-coloured clear stratum, and a lower and more solid deposit. Its chief use is for applying to wood-work of all sorts, either alone as a natural varnish, or in combination with certain resins.

A concretion of lime or gypsum is occasionally found in the shake of the teak.—*M. Ex. J. R. Records; Govt. of India F. D. Conservators' Reports; Mr. Earl; Mr. Gamble.*

TEAL.

Tulsia bigri,	Beng.	Cercedula, Cercevolo,	It.
Krik-and,	Dan.	Sartella, Scavolo,	,,
Winter taling,	Dut.	Anitrella,	,,
Sarcelle, Cercelle,	Fr.	Anitra d'Inverno,	,,
Cercerelle, Aldebrande,	,,	Kestel-ort-and,	Nor.
Garsote, Halebran,	,,	Arta, Kræck,	Sw.
Spiegel entelein,	Ger.	Cor-hwyad,	Welsh.
Kriekente,	,,	Brach-hwyad,	,,

The teal is a swimming bird of the family Anatidæ and sub-family Anatinæ, and of the genus Querquedula, and several species are known. They are of somewhat slender make, and fly very rapidly. Teal have long been prized as a delicate food. Willughby remarks that for the taste of its flesh and the wholesome nourishment it affords the body, it 'doth deservedly challenge the first place among those of its kind.' In the Portraits d'Oyseaux 1557, the following quatrain celebrates its excellence, and alludes to its habits:—

'Bien peu souvent se plonge la sarcelle
Entre deux eaux, de lequelle la chair
Est delicate; aussi couste elle cher
Autant qu'oyseau qui soit petit comme elle.'

Accordingly it held a high place in ancient feasts. We find it among the 'goodly provision' at the banquet given at the enthroning of George Nevell, archbishop of York, in the reign of Edward IV.,—'mallardes and teals, 4000.' The price in the Northumberland Household Book is, 'Teylles, 1d., mallards being 2d.'

Q. crecca, *Linn.*, the common teal of India, is 14½ inches long. It is migratory, and breeds in the northern and temperate regions, but it is one of the most abundant, as also one of the earliest visitors to India. It arrives early in September, and frequents both tanks and rivers, often in immense flocks. Its flight is amazingly rapid. Large numbers are netted and caught in various ways to supply the tealeries. It is a night-feeder. It is most excellent food.

Q. circia, *Linn.*, the blue-winged or Garganey teal, is distributed over the greater portion of the Old World. It is even more abundant in India than the common teal, but is somewhat later in its arrival. It has a swift flight, occurs in vast flocks, and feeds at night. Vast quantities of this and Q. crecca are caught alive, some by large flap-nets, others by nooses fixed to a long line across a jhil, and in some places by a man wading, with his head above water concealed in a large earthen pot, several of which have previously been set afloat.

Q. formosa, the Japanese teal, is very beautiful; is likewise a native of North-Eastern Asia, being found in Japan and Manchuria.

Q. glocitans, *Pallas*, is the clucking teal of India. It is a rare bird both in Europe and in India, and appears to be most common in Northern Asia on the borders of Lake Baikal, and in China and Japan. It has a peculiarly loud clucking call, mok-mok-mok-lok!

The whistling teal is the Dendrocygna awsuree. Other species are Q. falcata, *Pallas;* Q. Javana, *Bodd.;* Q. Manillensis, *Mull. and Schl.;* and Q. numeralis, *M. and Sch.*—*Jerdon*, ii. p. 806.

TEASEL.

Fuller's teasel,	Eng.	Kratzdistel,	Ger.
Fuller's thistle,	,,	Cardo da cardare,	It.
Chardon à carder,	Fr.	Cardeucha,	Sp.
Weber-distel,	Ger.	Cardo peinador,	,,

This plant is the Dipsacus fullonum of botanists. It is cultivated in England; clothiers employ the crooked awns of the heads for raising the nap on woollen cloths, etc.—*M'Culloch; Faulkner.*

TEA-TASTER, a person who tests the qualities of teas in the Chinese ports, or in the London brokers' offices.—*Simmonds' Dict.*

TECOMA, a genus of elegant plants of the order Bignoniaceæ. Several species occur in India, and others have been introduced. T. jasminoides has pink flowers. T. radicans is a climbing glabrous plant. It grows against a wall by throwing out roots from its branches in the same manner as ivy. Its large flowers are called trumpet-flowers. T. stans is a small tree or ornamental garden shrub. Its roots are reputed diuretic.

TECOMA CAPENSIS, *Lindl.*, is the Bignonia Capensis, *Thunb.*, an elegant creeping plant with orange-coloured flowers, well adapted for covering a wall or running up a trellis-work; grown from seed in common garden soil.

TECOMA UNDULATA. *G. Don.*

Bignonia undulata, *Roxb.*

Bug-trora	of Bombay.	Reg-dawan,	Pushtu.
Rohira, Lahura,	Panj.	Reodan, Rebdun,	,,
Luar,	,,	Khew,	Sind.

A small stiff-looking tree occurring in the arid tracts from Dehli westward through Hurriana and the Central Panjab to the Salt Range and Trans-Indus, where it grows up to 2500 or 3000 feet. Also in the Siwalik, and on the Beas below Kangra. This has perhaps the handsomest flower of any indigenous Panjab tree, and its gorgeous orange-blossoms make quite a show in some parts in the west of the province. Trees of four and five feet are not uncommon; but at Sirsa, near the Sutlej, are seen trees up to 7 or 8 feet girth and 40 feet high. The leaves vary greatly in size. The foliage is browsed by cattle. The wood is hard, close-grained, and strong, but is rarely large or abundant; used for making charpoys, spinning-wheels, and ploughs in the Salt Range.—*Hort. Garden*, p. 6; *M. E. J. R.; Eng. Cyc.; Riddell; Powell, Handbook; Stewart.*

TECTONA GRANDIS. *Linn.*

Segun,	Beng.	Saga,	Mahr.
Ky-won,	Burm.	Jati,	Malay.
Jaadi,	Can.	Tekka,	Maleal, Singh.
Teak tree,	Eng.	Tek maram,	Tam.
Sagwan,	Hind.	Teku, Teku chettu,	Tel.
Shalduna	of Jubbulpur.	Pedda teku,	,,

The places of growth and the character of the timber of this tree are noticed under Teak. The teak tree is of rapid growth, and the trunk grows erect, to a vast height, with copious spreading branches. In 25 years the teak attains the size of two feet diameter, and is considered serviceable timber, but it requires 80 years to arrive at

maturity. A forest patch of teak, when in full bloom, has much the appearance of a field of ripe corn when viewed from a distance, with a few spots of green interspersed; by this appearance the native hill people discover the trees of teak, and at one season cut around their roots to prevent the sap from ascending the next year. The persons who work the forests of teak on the sides of the hills are thus able at a distance to distinguish the trees from the others. Mr. Conolly, about the year 1848, commenced planting teak seeds in Malabar, and since then additional land has been occupied by teak plantations. As the best method of rearing young trees, take a layer of fresh stable manure, three inches to be first strewed over the bottom of the trench, then four inches of decaying leaf-mould, then one inch of wood-ashes, and over this about six inches of a light sandy soil. The fine silt from the bed of a tank is the best. The seeds of some trees, like the tamarind and nim, sprout most readily when put in very thickly in handfuls at two inches from the surface. Some trees come up in three or four days, others in ten or twelve, while a few appear to have a particular month for coming up, and they remain in the ground without germinating till a particular season. This has been remarked with the Adansonia and teak. It may occur with other trees. A good mode of rearing the teak tree is to steep the nuts in water for 36 hours, then sow them in holes four inches apart and half an inch under the surface, covering the beds with straw so as to prevent evaporation, and gently watering them every evening. The seeds sprout in from four to eight weeks. Teak does not frequently spring up under shade. The prevalence of other trees, therefore, over teak is a great hindrance to the growing up of seedlings in sufficient quantity to replace those trees that have been removed. Young teak is not injured by elephants. It belongs to a family of plants, Verbenaceæ, that affords no fodder for animals; and Dr. Falconer satisfied himself, in passing repeatedly through forests infested with wild elephants, that they do not cause the slightest injury to young teak.

Tectona Hamiltonia, *Wall.*, Ta-hut, Ta-nap, BURM.

This species of teak grows on the banks of the Irawadi, at Segaen, Prome, Ava, and at the foot of Taong-Dong, and, from native descriptions, Dr. Mason imagines it is found in the province of Yay. It flowers in March; its wood is inferior to that of T. grandis. — *Drs. Roxburgh, Wight, Falconer, Mason, M'Clell., Gibson, Cleghorn, Stewart, and Brandis; Mr. Rohde; Mr. Earl; Mr. O'Riley.*

TEE. BURM. Properly h'tee, the umbrella which crowns the top of a Burman praw or pagoda, without which it is not considered to be sanctified. In restoring that of the Shooay-dagon at Rangoon, which had been destroyed by an earthquake in 1769, the king of Ava attended with an army of 50,000 men.—*Cole. Myth. Hind.* p. 397.

TEEA, a Bornean weight, the sixth part of the mace; about 6¼ grains.—*Simmonds' Dict.*

TEEBA. HIND. Sand ridges in the desert of India.

TEEJA or Zeearat. HIND. In Muhammadanism, a visiting of the grave; also visiting the ālam or standards.

TEE-KA-LOUNG or Tha-ka-dat-ghee. BURM. A timber tree of maximum girth 3 cubits, maximum length 22½ feet. Abundant at Mergui and Tavoy. When seasoned, it floats in water. It is a durable, tough wood, used for bedsteads, house-building, and helves or hammer handles.—*Captain Dance.*

TEELUK, Tika, or Akshata. HIND. A mark placed by Hindus in the centre of the forehead. If a grain or two of rice be fixed on it, it betokens that the person has performed his devotions. Telak-Matti, HIND., a grey slate in Cuttack, also from Neilgherry in Orissa, used by Hindus for making the sect marks on their bodies.

TEEN. TAM. Obsolete. Grief, sorrow, distress, same as old English. Spencer sings—

'Of God's high praise, and of his sweet love's teen.'

TEEN. HIND. Literally earth, dust, or clay. Adam, according to Muhammadan belief, was created from it.

TEEN-CHAOU. CHIN. The Chinese empire.

Teen-chuh, the Chinese name for India at the time of Christ.

Teen-choo-keaou, CHIN., the religion of the lord of heaven, the term used in China to designate the Roman Catholic religion.

Teen-chu-sze, a famous Buddhist monastery at Hankow in China.

Teen-how, literally queen of heaven, the goddess of the sea, called also Ma-tsoo-po. Every ship is furnished with this idol.

Teen-sin, China lunch, literally supporting the heart. See Tien.

TEEN-TSING-FOO or Tien-tsing, a Chinese city of great trade, particularly in salt, at the junction of the Eu-ho or Yun-liang-ho with the Pei-ho.

TEEN YARI. HIND. A name of the Shiah sect of Muhammadans, applied to them by the Sunni Muhammadans, because the Shiah reject the khalif Abubakr as the first successor of Mahomed, and claim the rule to have fallen to Ali.

TEER, properly Tevan, islanders, also written Tiyar, a race in Travancore, certainly immigrants from Ceylon. They occupy also Malabar, and are engaged in cultivation. Their women have forms of great symmetry, with a clear light-brown complexion, uniform and brilliant. The chaste women of their class wear no covering on the upper parts of their bodies. Their name is also written Iyuver or Juver; they are the toddy-drawers of Malabar, are a servile class who follow the rule of descent a matrice, and are polyandrous. On the Malabar coast they form a great part of the people; they are a fair, good-looking race, and until recently were treated as out-castes, and compelled to move from the road when a Nair approached. The Teer, educated in the Government schools, obtain service, are acquiring land, and are very well to do. They are fairer and more refined looking than the Nair. Both the Maldives and Ceylon are named as their original country. —*Caldwell.* See Kummaler.

TEERAT'H. HIND. Any holy place of pilgrimage visited by Hindus or Jains. Amongst the most celebrated are the Ganges at Hardwar; the town of Benares, Mount Abu, Panderpur in the Dekhan, Triputty in the Carnatic, Conjeveram, and Ramisseram. At Mount Abu a group of five of the twenty-four Jain pontiffs are more particularly reverenced, and distinctively called the

Panch-Teerat'h ;—Rishubdeva is the first; Suntnath, the sixteenth ; Nemnath, the twenty-second ; Parswanath, the twenty-third ; and Mahavira, the twenty-fourth. Each has his sacred mount or place of pilgrimage (teerat'h), and each is recognised by his symbol or cognisance, viz. the bull, black antelope, conch shell, hooded serpent, and tiger ; and it is quite sufficient to find one of these symbols upon the plinth to ascertain the particular pontiff to which it belongs.—*Rajasthan*, ii. p. 724.

TEEREE, a small territory near Mussoori and Dehra Doon. Families of slaves lead to this day a grovelling existence, all around Barahaut, Ramonlie, Barraghad, and Danarghad, in the Teeree raja's territories. These unfortunates are of various Hindu castes, mostly low, and have been slaves from generation to generation. The men and women labour in open fields and in the house alike, and, except in very rare instances, absolutely devoid of all clothing. Their hovels afford no adequate shelter from the keen winds and biting frosts of a Himalayan winter. They obtain a bare sufficiency of the coarsest fare. All desire to escape into British territory, and whole villages in the Doon of Dehra are composed of fugitives fortunate enough to cross the watershed that divides Teeree from Mussoori. There would be a universal exodus of slaves, but for the vigilance of their taskmasters, who often capture runaways. These hapless bondmen behold the sale of their sons and daughters to buyers from a far country, and their moanings and regrets betray the internal agony that wrings their bosoms.

TEER-GHAR, in Bengal, a temporary structure for lodging a Hindu girl on the first occurrence of the menses. It may be outside the house, or in a corner of a room, enclosed on all sides by split bamboos, about a yard long, fastened by thread. This prevails throughout India.

TEESE OIL of Calcutta is the boiled linseed oil.

TEESTA, a tributary to the Brahmaputra. It rises in about lat. 27° 59′ N., and long. 88° 50′ E., and runs S.S.E. into the Brahmaputra after a course of 333 miles. It receives the Lachoong, 23 miles; Rungbo, 22 miles; Ranjit, 23 miles. It is navigable for craft of 6 or 7 tons as far up as Puharpur, 15 miles beyond the divergence of the Attree.

TEETH of animals, and teeth and tusks of elephants, form articles of commerce. The grinders or teeth proper are used for knife-handles and other purposes. The teeth of many carnivorous animals are used for necklaces and ornaments. Knocking out of the front teeth is a Negro custom, and a custom of Australia. Teeth are filed to a point in Brazil, and in Western Africa by the Otando, Apono, Tshogo, and Ashango tribes.—*Simmonds' Dict.*

TEHAMA, a political division of Yemen, in Arabia, extending along the whole sea-coast of that province washed by the Red Sea, with a varying breadth of from twenty to eight miles. Tehama is now a part of the Turkish empire ; its principal cities are Hodaida, Lohea, Mokha, and Jezan on the sea-coast, with Zebid and Bait-el-Fakih in the interior. Zebid town lies near one of the most beautiful and well-irrigated valleys in the country. Though still possessing many mosques and other public buildings, with a handsome aqueduct, much of its ancient regal splendour has departed. It still, however, possesses an academy where the youth of Yemen and Tehama receive a liberal education, according to modern Arabian ideas, and is besides one of the chief meeting-places where the merchants of Egypt, Arabia, and Persia assemble.

TEH-CHAU. All the Banner garrisons of China, save those of Fu-chu, Canton, Liang-chau, Ninghia, Chwang-liang, Tai-yuen, Teh-chau, and the nine inner garrisons of the metropolitan cordon, send up a small number of officers and men to Pekin to be there taught their duties in the hunting suite of the emperor, should he repair to the preserves of Muh-lan, at Jeh-ho (Zhehol). These are in the keeping of a tsung-kwin (3a), two yih-ching (4a), eight fong-yu (5a), and eight hiauki kiau or subalterns, all under the orders of the tutung of Jeh-ho.

TEHERAN is known from repeated observations to be 3600 feet above the level of the sea. It is in lat. 35° 37′ N., and long. 50° 52′ E. The plain on which it stands consists of the debris of limestone and trap-rocks. It is surrounded by a deep ditch, towers, and a mud wall, embracing a circuit of eight thousand yards, with four gates ; that to the south leading to Isfahan, that to the north-west to Tabreez ; the other two look towards the hills in the corresponding directions. Outside the walls there are suburbs of considerable extent, several large caravansaries, and many enclosed gardens. Inside, the principal object is the Ark, or Royal Palace, which occupies a large space of ground adjoining the northern wall, and is completely cut off from the rest of the town by its own circle of bulwarks. At all its issues sentinels keep guard, and at night no one can traverse the streets which skirt it without the password.

Teheran is a mud-built city of 100,000 inhabitants. It was made the capital by the founder of the Kajar dynasty in 1788. It stands on a vast plain. Looking to the west and south, only the faint outline of distant hills are visible. Looking northwards, the Elburz mountains are seen rising from advanced spurs some three or four miles off, their loftiest peak, Demavend, its base hidden by intermediate ranges, and distant about 50 miles, towers high over all, 20,000 feet and more, into the sky.

The Elburz mountains at this part have an older and more romantic celebrity attached to them than the gloomy fame they derive from Hasan Sahib and his sanguinary followers. The ancient Hyrcania, a country of warriors who are reported to have carried a charmed life, lying immediately north of these hills, their passes became the scenes of more than mortal combats between the simply brave heroes of Persia and these magician chieftains. They are also noted for having been the place of refuge of the illustrious prince Zal.

In summer the thermometer ranges in the shade between 95° by day and 86° in the night, and the people then live in the cellars, and sleep on the house-tops, while the court retires to the shah's summer palace on the slope of Elburz, or to the tents under which the descendant of the Turkomans loves still to dwell.—*Porter's Travels*, i. p. 309 ; *Quarterly Review*, No. 269.

TEH-P'UNG-SHAH. CHIN. A substance

brought from Ho-hien in Kwang-si, used along with borax as a vulnerary.—*Smith.*

TEHR, the Himalayan wild goat, Hemitragus Jemlaicus, *Jerdon*, pronounced Tare, also Tahir. It is the Jharal of Nepal. H. hylocrius is the Neilgherry wild goat, the ibex of Neilgherry sportsmen. Capra ibex is of Europe; C. Caucasica, the Caucasian ibex; C. walie and C. Nubiana are of N. Africa.

TEIMENI, a tribe of the Aimak who dwell in the Jolga-i-Herat, from Kerrukh to Sabzwar; the few who have extended to Farrah being styled by the Afghans, Parsivan. Each member of the Char Aimak knows no greater enemy than the Afghan, and all attempts to form Afghan colonies amongst them have failed. The Teimeni are of a wild, warlike nature, though agricultural.

TEINOSTACHYUM ATTENUATUM. *Munro.* A hardy bamboo of Ceylon, growing on the mountains at elevations of 4000 to 6000 feet. It attains a height of 25 feet. T. Wightii, *Munro*, is a common plant on the western mountains of the Peninsula up to 3000 to 4000 feet.—*Baron F. Von Mueller; Beddome.*

TEJA-CARNA, son of Icshwaku, last king of the Suryapala dynasty.—*As. Res.* ix. pp. 154, 183.

TEJBAL. HIND. The seeds and capsules of the Xanthoxylon hostile; they are employed by the natives of Northern India as a remedy for the toothache, and also for intoxicating fish. They have a warm, spicy, pepper-like pungency, a property which is participated in by the bark and other parts of the tree. The term is, however, applied to the capsules and seeds of several species of Xanthoxylon and to other drugs.—*Faulkner; Ben. Phar.*

TEJPAT, aromatic leaves of Cinnamomum albiflorum or of C. tamala, also called in Hindi Tamala patra. Tejpata is also applied to leaves of laurus or C. Malabathrum, the folia Malabathri of the ancients, and in Bengal it is given to the leaves of C. nitidum, *Nees.* Their odour resembles that of cloves; the flavour is aromatic and hot. Tejpat-ka-Phul, HIND., cassia buds.—*Simmonds' Dict.; Ben. Phar.* See Malabathrum.

TEJUREH or Tajurra, the seaport of the Danakeli, is governed by the chief of the Danakeli tribe, who assumes the title of sultan. It is on the E. coast of Africa, and contains about 100 huts, with about 500 inhabitants.

TEL. HIND. Any oil. Tel-i-gandhak, petroleum. Tel-Multani, oil scented with orange flowers. Tel-Siya, lit. black or coarse oil, rape-seed oil. Karwa tel, oil of azadirachta seed.

TELA. HIND. A blight on sugar-cane, like a dark powder.

TELAGA. TEL. A species of Gardenia, of the Godavery forests and Dekhan; has a very hard wood, would be very good for turning.—*Captain Beddome.*

TELAGA-BODAS, the Guevo Upas or Valley of Poison, at the side of the volcano Papandayang in Java, is 500 feet below the run of the old crater, which is now the Telaga-bodas or White Lake. It is a small bare place with many crevices, from which carbonic acid is poured, and many dead animals—dogs, cats, squirrels, rhinoceros, tigers, birds, and snakes—are seen in it.—*Bikmore*, p. 53.

TELEGRAPH PLANT of India, Desmodium gyrans, remarkable for the spontaneous jerking of the lateral leaflets, which are alternately raised and depressed.

TELEGRAPHS. At the close of the year 1880 there were in the United States 170,103 miles of line, and during that year 33,155,991 messages were sent. The miles of wire were about 300,000. This does not include the lines used exclusively for railroad business. The other countries having the greatest length of lines are as follow:—Russia, 56,170 miles; Germany, 41,431; France, 36,970; Austro-Hungary, 30,403; Australia, 26,842; Great Britain, 23,156; British India, 20,631; Turkey, 17,085; and Italy, 15,864. On the 17th May 1854 the first message passed between Calcutta and Bombay. Telegraphic wires were successfully laid between Suez and Aden on the 28th May 1859. The Red Sea Telegraph was opened on the 1st October 1859. The telegraph system in Japan, which dates from 1871, comprised at the beginning of 1882, 3929 miles of line, with 9345 miles of wire. The Japanese language having no regular alphabet, it became necessary for telegraphic purposes to form a combination of Morse characters to represent the sounds of the syllabary known as the Katakana. This was effected by using the letters of the international code, supplemented by others formed of five dots and dashes (figures excepted), to produce a total of 47 signs.

TELI. HIND. In India, a term applied to oilmen shopkeepers, who make and sell oils,—a humble avocation. Kahān raja [illegible]n, kahān Ganga teli, Behold the distance [illegible]ween raja Kishn and Ganga the oilman. Th[illegible]ere over three millions in 1881. They occupy a respectable position among the lower castes; nevertheless, the higher castes will not permit them to touch their food. Most of them manufacture oil as well as sell it. In Benares they have a considerable number of subdivisions, which for the most part do not intermarry or eat together.—*Sherring.*

TELINGA, the name of a people and their language dwelling in the Peninsula. The term is supposed by some to be derived from the Sanskrit words Tri-lingam, the country of the three lingams. The country is known as Telingana, and extends from Pulicat on the north of Madras, as far to the north as Ganjam, and westwards to Triputty, Bellary, Kurnool, Beder, and Chanda, throughout the regions where Telugu is spoken; by Europeans the Teling are styled Gentoo. See Telugu.

TELINGA POTATO. ENG. Amorphophallus campanulatus, esteemed a very wholesome food. The large dark-coloured flowers have a very curious appearance.—*M. E. J. R.*

TELINI, Indian blistering fly, species of Meloe or Mylabris cichorei. The wing-covers are marked with large spots of light-brown alternating with deep-blue. Another blistering fly is small, steel-blue, Cantharis violacea.—*Ben. Phar.*

TELL. ARAB. A mound, generally ruins of some ancient city, as the mound or tumulus of Kala Jerablus, the ancient Carchemish, on the west bank of the Euphrates, rising in places 100 feet above the Euphrates. At Babylon, the Mujalibah, the Amran, and Jumguma mounds mark the sites of the palaces and temples of the mother city of Western Asia civilisation. At Nineveh, the Koyunjik and Nabbi Yunus mounds

mark the sites of the palaces of Assyria's kings; and at Kala Shergat or Assiu, at Nimrud or Kalah, in N. Syria, cities of the Hittites, and on the banks of the Lower Euphrates, those of the cities of the Chaldæans.

Tell-el-Yahudi, the mound of the Jews, is 20 miles from Cairo, on the site of Matarieh or Heliopolis, the biblical On. It has long been regarded as enclosing the site of the temple built by Onias, the Jewish high priest, who led the colony of his countrymen from Jerusalem to Egypt, when the holy city and its temple were desecrated by king Antiochus Epiphanes (B.C. 168). The description of this temple given by Josephus is that it was built on the site of a deserted shrine dedicated to the Egyptian goddess Basht, statues of which divinity had accordingly been found at Tell-el-Yahudi, and that it was finally closed by Paulinus, after the destruction of Jerusalem. Excavations were made in the mound in 1870, when it was found that it covered the site of a walled enclosure, about half a mile long and a quarter broad, the best preserved portions of the walls being 15 feet thick, built in three thicknesses, much as the walls of the tomb of Osiris at Abydos. In the enclosure were found a subterranean passage descending under a part of the mound still unexplored, several broken statues, and a square chamber, enclosed by walls of well-cut limestone blocks, and paved with finely-polished alabaster slabs. In this chamber were four detached pedestals, two of which are in the Boulak Museum. The walls have been burned into lime by the Arabs. The chief objects of interest were the decorations of the chamber, which were of tiles, of a type hitherto unknown before mediæval times. Many of these tiles were brought to the British Museum. The ornamental tiles are of various kinds; all have patterns upon them; but some are simply in relief, and glazed with the ordinary bluish-green glaze so well known in the little Egyptian sepulchral statuettes; others are inlaid with mosaics, others with brilliant enamels. No such work is known to have been used either by the Egyptians or Assyrians in decorating their walls, although painted bricks were common enough, and mosaic and enamelled work were commonly used by both nations in small objects of personal ornament. In Persia, inlaid enamelled tiles have been used for many centuries; but no antique specimens are known. The greater part of the tiles from Tell-el-Yahudi are purely Egyptian in design, and many of them bear a title of Rameses III.; but some others (always of a circular form and without hieroglyphics) are distinguished from the rest by having stamped upon them, on the reverse side, the Greek letters A and E.

TELLICHERRI or Tallacheri, a seaport town in Malabar district, Madras, lat. 11° 44′ 53″ N., and long. 75° 31′ 38″ E.; pop. (1871), 20,479, including 12,608 Hindus and 7080 Muhammadans. It is 412 miles from Madras, and 9½ miles S.E. of Cannanore. Its harbour has a natural breakwater formed by a reef of rocks 472 yards long, and a second parallel reef at a distance of 614 yards. Inside there is sufficient depth of water for a ship of 600 or 700 tons. The people are Moplah Muhammadans, Tiyar, Nair, and Mukwa.

TELMESSUS SERRATUS, a rare crab of the Gulf of Peh-chi-li.—*Adams.*

TELUGU is the language of Telingana, and the 17,000,358 people speaking it are partly subject to the British power, and partly to the Hyderabad State. The boundary line of this language may be roughly drawn from immediately north of Madras, where it meets the Tamil, by Kirkambari and Cuddapah to Bellary, where it meets the Canarese, skirting which it runs to the west of Beder to Dangapura and Murkunda; then, turning north and eastward and having Gondwana as its northern boundary, it rejoins the line near Vizagapatam, and at Chicacole it begins to meet Uriya. The most westerly spot at which it is spoken is the small town of Murkunda, about 30 miles west of Beder, and it reaches this by a wavy line running westerly from Sedashepet (Satyassi) on through Sungnam and Beder and Dungapura to Murghpetta or Murkunda; the villages in the whole of the line from Sedashepet to Murkunda, speak Telugu, Canarese, and Mahrati, and are called Si b'hasha basti, three-tongue towns. In ancient times, Telugu seems to have been spoken as far north as the mouths of the Ganges. This appears both from the geographical limits which the Greeks have assigned to the territory of the Andhra race, or Northern Telugu people, and from many of the names and places mentioned by Ptolemy up to the great delta being found to be Telugu. Even now the Teling are tolerably pure along the southern boundary of Bustar, but Gond tribes are dwarfed amongst them. Telugu is also called Telugu, Telinga, and Telunga, and its meaning is doubtful. It is the Andhra of Sanskrit writers, a name mentioned by the Greek geographers as that of a nation dwelling on or near the Ganges. It is the same language which, until lately, Europeans termed the Gentoo, from a Portuguese word signifying heathen or gentile. In respect to antiquity of culture and glossarial copiousness, it ranks next to the Tamil in the list of Dravidian idioms, but it surpasses all of them in euphonic sweetness. See Telinga.

The Telugu people are a taller and a fairer race than the Tamilar, many of the more northern of them being equal in stature to the Aryan Hindu of the north. They are more Brahmanical than the Tamilian races, and are as bold and energetic as the latter, though less restless.

The Telugu people are the most numerous branch of the Dravidian race, although the Tamil surpass them in restlessness and enterprise, and in that self-reliance which supports them in their emigrations. Including the Naik or Naidu (Nayaka), Reddi, and other Telugu tribes settled in the Tamil country, who are chiefly the descendants of those soldiers of fortune by whom the Pandiya and Chola kingdoms were subverted, and who number not less than a million of souls, and including also the Telugu settlers in Mysore, and the Telugu inhabitants of the Nizam's territory and other native states, the people who speak the Telugu language are ascertained (1881) to amount to seventeen millions. Tamil and Telugu roots are in the great majority the same, but peculiarities in inflection and dialectic changes have so modified the modern tongues, that they differ from each other as much as Portuguese from Spanish, Irish from Welsh, Hebrew from Aramaic, and Hindi from Bengali.

The Teling race are good farmers, carefully

storing the rainfall in artificial ponds or lakes. They have been good infantry soldiers, but are not horsemen; they repeatedly drove back the Golconda and Beder armies. A considerable portion of the force with which Lord Clive fought the battle of Plassey was composed of Telings, and, until late years, perhaps even now, Teling was the term given in Northern India to the irregular foot soldiers employed there. Those engaged in civil life push their way fearlessly amongst the other nations on their south and west; many of them are seafaring men, undertaking long voyages, and a portion of them in former ages conquered and held large islands in the Eastern Archipelago, where, under the term Kling, from the Kalingapatam rulers, the peoples of India are still known. The Telings are partly Aryan, partly a non-Aryan people, but most of them follow outwardly the Brahmanical teachings, though adhering to many unorthodox rites; they are sober and staid, little impressionable, and not easily excited. A body of them, known as Reddi, a very energetic, enterprising race, have held large municipal rights for centuries. An extensive colonization of Southern India, by the Teling race, took place under the Bijanagar dynasty, and they still exist there as distinct communities. The Reddi migrated from their original seats near Rajamundry over the whole of Southern India, and even into the Maharashtra country, where they are met with as far north-west as Poona, and are considered the most thriving ryots. The Reddi are large men, good cultivators. Many of those in the Cuddapah collectorate were, till A.D. 186[illegible] addicted to dacoity. In their marriages, in the south of India, a young woman of 16 or [illegible] may be married to a boy 5 or 6 years old, but lives with some other adult male, perhaps a maternal uncle or cousin, or it may be with the boy-husband's father, *i.e.* her father-in-law, though she is not allowed to form connection with the father's other relatives. The offspring of these arrangements are fathered on the boy-husband. When he grows up, the wife has become old or past child-bearing, and he adopts the same course.

The Telugu country is nearly twice larger than the Tamil, but is less thickly populated. Considerable colonies of Telugu people have been formed in the Tamil country, who retain their own language. The Telugu country, as a borderland, has been subject to the devastation and rapacious oppression of conquerors from a distance, who yet would not so far settle among its people as to blend and have common interests with them, or establish well-ordered governments among them. The whole face of the country—dotted with hill forts, destitute of irrigation, with (till lately) large tracts of waste land, bare of gardens—bears testimony to this. The fewness of flourishing towns and of large temples; the presence, in all the larger villages, of petty forts, and in most of the smaller villages of round towers commanding the doors of all the houses, from which to fire upon gang robbers; the style in which the best houses are built, everything being sacrificed to strength and security,—all have the same significance. The abject servility towards courts and cutcherries is shown by the term devaravaru, God, with the honorific plural, applied to a superior, while the genius of the language forbids the use of anything but the singular for the deity. The common word in use for saving or taking care of anything, as money, is dapettee, hide. Only after the Disarming Act, consequent on the 1857 mutiny, the people of all classes got out of the habit of carrying arms with them. Except along the coast, hardly any Europeans penetrated into the Telugu country earlier than the beginning of the 19th century, and only since its middle have the efforts even of Christian missionaries extended beyond the limits of the town where they established themselves. The Telugu people compared with the Tamil are physically a larger, handsomer, and more robust race, partaking much of the Aryan element. The tall forms, drooping (yet broad) shoulders, and regular Circassian features of the Rayat and Reddi races in particular, are in strong and favourable contrast to the general make of the Tamil people. They are of a free, independent spirit,—not so tractable or plastic as the Tamil people. Under the robbery and oppression of former rulers, they emigrated, or in their turn became robbers; slavery is unknown among them. Though they are very jealous for caste as far as they do observe it, and will make great sacrifices for it, nothing like the extreme homage paid by the southern out-castes to the superior castes is either demanded or yielded in the Telugu country. Not like the Tamil people, only tell the Teling a thing, and they'll do it quietly; say a word to a Tamil, and the Tamilar answer you. Servility is confined to the Brahmans and Mul[illegible]adans of courts and cutcherries,—regions wher[illegible]e immediate presence of the former rulers use[illegible] to be felt. The Rayat has a firm, stolid attitude, and a free, steady stare. The people avail themselves with avidity of their rights as soon as they become aware of them. The abuses that prevailed under the supposed sanction of Government were countless, but wherever it became known that any one of them was unlawful, it soon passed away. Telugu people, with all their ignorance, are ever ready to petition and appeal and to fight for their rights to the last. They are very faithful and submissive to lawful authority. Sircar is a magic word with them; and it is hard to say what extent of wrong they will not endure, if they believe it sanctioned by Government. Whether it is that the hard rule of their former masters taught them submission, or whether the instincts of a people emerging on the whole under a kind Government from a state of desperate oppression and anarchy to one of prosperity are necessarily peaceable, or whether, again, the nearness of the Nizam's dominions to all parts of the British-Telugu country teaches them to appreciate their present masters,—resistance to official power is never in any case dreamed of. They will evade, cheat, run away, appeal,—anything but resist. You never hear of a riot among the Telugu people, though they are spirited enough. The Tamil sepoy may perhaps be the more smart and active; but for good behaviour, solid steadiness in the ranks, and discipline, the Telugu man carries the palm.

The Telugu people not only are a conquering race, but in times of oppression and famine, when other Hindus remain to die in crowds, are used to emigrate, and wherever they go they attain respectability among the classes to which they belong. A

large proportion of Telugu Brahmans, merchants and bazarmen in Madras, hold very fair positions in their respective ranks. A good sprinkling of Reddi is to be found as far south as Tinnevelly. The numerous body called in the Tamil country Badagar or Vaduvar, north-men, are Telugu, and belong to the kapu or rayat, or agricultural class. All the bearers and Waddaru in the south are of Telugu origin. The flow of emigration gradually ceased with the returning prosperity of the country, and the rapid improvement of the Telugu people under what little European influence they have enjoyed, is a fair index to their capabilities. Their towns are beginning to be something worthy of the name. Money and the marks of it are rapidly on the increase. In the Rajamundry district and other parts, the people have thrown themselves into the indigo and cotton trade; and by traffic, under immense disadvantages, they make the western as well as the eastern coast their own.—*Rev. Dr. Caldwell.*

TEMBILI. SINGH. A variety of cocoanut in Ceylon, called king cocoanut, of a bright orange colour, and somewhat oval shaped.—*Simmonds' Dict.*

TEMBOW, or black-heart wood, grows in the Malabar forests to about 18 inches in diameter, and from 25 to 35 feet in height. It is a useful wood for general purposes in house-building, for native vessels, and implements of agriculture.—*Edye, M. [illegible] C.*

T[illegible]CK, C. J., author of Coup d'Œil [illegible]ger [illegible]les Possessions Neerlandaises dans l'Inde Archipelagique, Leide 1846.

TEMPLE, from the Latin templum, is the term by which Europeans designate the places of worship of the Hindus, the Buddhists, the Jains, the Japanese, and the Chinese. That of the Hindu is known also as the pagoda, a word the source of which has not been traced; but the Burmese call it prau, the Siamese wat, the Tamil people call it koil, the Telugu people call it gudi; by the Persian Muhammadans it is styled a But-Kada (But-Khana) or idol-house, and the Indian Muhammadans call it dewal, from Deo, god, and Alaya, a habitation. The better known temples of the Hindus in the south of India are those of Dwarka, Dewal or Somnath, Jejuri, Pandarpur, Triputty, Srirangam, Madura, Tanjore, Conjeveram, Ramnad, and Jaganath. Conjeveram is remarkable for possessing both a Saiva and Vaishnava shrine. Ordinarily, the Hindu temples of the south of India consist of the garbah-graham or shrine in which the vigraham or idol is kept. It is a square pedestal with one or more cupolas, and, where the cupolas are repeated, each is supported, one above another, by two bearers (dhari) at each of the four corners. There is a walled enclosure, at each corner of which, if a Saiva temple, is a figure of Siva's vahan, the bull Nandi; and if a Vaishnava temple, is a figure of Garuda, the eagle vahan of Vishnu. In front is the portico or arched colonnaded vestibule. In all the temples in S. India—such as Conjeveram, Srirangam, and others—the pilgrims are at liberty to go in and see the idol inside, without paying anything to the temple authorities. But at Triputty each pilgrim who wishes to have a look at the idol must pay one rupee for each visit,—one silver rupee, and not sixteen annas. Copper coins are no legal tender in the temple. Again, the stone idol here is dressed four times a day in different ways; and if pilgrims desire to see this they should pay one rupee for each visit. Again, if pilgrims wish to burn camphor before the idol, they will have to pay a rupee once more. In Rajputana the most celebrated temples are the Ek-Linga of Siva in Mewar; of Krishna at Nat'h-dwara; and the temples at Komulmer, Nadole, Mundore, Ajmir, Tamba-nagari, Kuraira, Barolli, Ganga-bheva, Dhumnar, J'halra Patun, Morakuro, Chitore, and Nagara.

In *Kashmir*, the whole of the building of Jyteshwara or Sankarachari temple is of stone, which is laid throughout in horizontal courses, no cement appearing to have been employed. This horizontal treatment is peculiar to most Hindu buildings in India, and is adhered to in all the ancient examples of Kashmir. The style of the Jyteshwara temple reproduces itself in all the Hindu Kashmirian buildings. The high-pitched pyramidal roof, the one, two, or more gables or pediments, the enclosing wall, and the character of the base mouldings, are features common to all.

In *Bengal*, the pediments and gables are slightly curved, and much more numerous; but alike in Kashmir and Bengal, the primary form was the square block surmounted by a pyramidal roof. The mode of elaborating the plan remained the same in both countries, and consisted in the addition of one or more projections to each of the original four sides of the square.

The various orders of Hindu sacred architecture are distinguished by the form of the sikra, which is the portion springing from and surmounting the perpendicular walls of the body of the temple. The sikra of those of Siva is invariably pyramidal, and its sides vary with the base, whether square or oblong. The apex is crowned with an ornamental figure, as a sphinx, an urn, a bull, or a lion, which is called the kallas. When the sikra is but the frustrum of a pyramid, it is often surmounted by a row of lions, as at Bijoli. In the mindra or cella is the statue of the god; the munduf, in architectural nomenclature, is the pronaos; the portico is the mandap or antarala.

In *Rajputana*, all temples dedicated to Bal-Siva, the vivifier or sun-god, face the east. The portico projects beyond the munduf; occasionally pilasters are placed on either side of the entrance to the munduf, serving as a support to the internal toran or triumphal arch. The Ek-Linga temple of Rajputana is of white marble, and of ample dimensions. Under an open-vaulted temple, supported by columns and fronting the four-faced divinity, is the brazen bull Nandi, of the natural size; it is cast, and of excellent proportions. Within the quadrangle are miniature shrines, containing some of the minor deities. Siva is represented with three eyes, hence his title of Trinitra and Tri-lochun, the Tri-ophthalmic Jupiter of the Greeks. From the fire of the central eye, according to Hindu belief, is to proceed Pralaya or the final destruction of the universe. This eye, placed vertically, resembling the flame of a taper, is a distinguishing mark on the foreheads of his votaries. But the ordinary marks on the foreheads of the Saiva sect are a round spot about the root of the nose, or a crescent on the forehead. The priests of Ek-Linga are termed Gosain or Goswami, which signify

control over the senses, and the high priests are celibates. The idol emblem of Siva is often called Bawa Adam or father Adam. The grand temple of Barolli in Rajputana is dedicated to Siva, whose emblems are everywhere visible. It stands in an area about 250 yards square, enclosed by a wall built of unshaped stones without cement. Beyond this wall are groves of majestic trees, with many smaller shrines and sacred fountains. Just before entering the area is a pillar erect in the earth, with a hooded snake sculptured around it. The body of the edifice, in which is the sanctum of the god, and over which rises its pyramidal sikra, is a square of only 21 feet; but the addition of the domed vestibule (munduf) and portico makes it 44 by 21. The whole is covered with mythological sculpture, without as well as within, emblematic of the great god (Mahadeo) Siva, who is the giver as well as the destroyer of life. In a niche outside, to the south, he is armed against the Dytea (Titans), the roond-maja or skull-chaplet reaching to his knees, and in seven of his arms are offensive weapons. His cap is the frustrum of a cone, composed of snakes interlaced; with a fillet of skulls; the cupra is in his hand, and the victims are scattered around. On his right is one of the maids of slaughter (Jogini) drunk with blood, the cup still at her lip, and her countenance expressive of vacuity; while below, on the left, is a female personification of death, mere skin and bone, a sickle (koorpi) in her right hand, and its knob a death's head, which completes this group of the attributes of destruction.

To the west is Mahadeo (Siva) under another form,—a beautiful and animated statue, the expression mild, as when he went forth to entice the mountain nymph Mera to his embrace. His tiara is a blaze of finely-executed ornaments, and his snake-wreath, which hangs round him as a garland, has a clasp of two heads of Sehesnag (the serpent king), while Nandi below is listening with placidity to the sound of the dumroo. His cupra and kharg, or skull-cap and sword, which he is in the attitude of using, are the only accompaniments denoting the god of blood.

In the northern compartment is a picture disgustingly faithful of death and its attributes, known to the people as Bhookha Mata, or the personification of famine, lank and bare, her necklace, like her lord's, of skulls. Close by are two mortals in the last stage of existence, so correctly represented as to excite an unpleasant surprise. The outline is anatomically correct. The mouth is half open and distorted; and although the eye is closed in death, an expression of mental anguish seems still to linger upon the features. A beast of prey is approaching the dead body; while, by way of contrast, a male figure, in all the vigour of youth and health, lies prostrate at her feet.

Dhumnar, famed for its Buddhist caves, has also been at one time a seat of the Vaishnava sect, and at another a seat of the Saiva religionists. There is a gallery 100 yards in length, terminating in a quadrangular court, measuring 100 feet by 70, and about 35 feet in height, hollowed out of the cellular iron-clay rock, in the centre of which is the temple of the four-armed divinity, Chatur-bhuja or Vishnu, the ground plan of the temple being the usual mindra and munduf and portico. Vishnu, who is here adored as the four-armed, is placed upon an altar clad in robes of his favourite colour (pandu or yellow ochre), whence one of his titles, Pandurang. The principal shrine is surrounded by the inferior divinities in the following order:—First on entering are the Polea or porters, Ganesa is upon the right, close to whom is Saraswati, whose throne is on the tongue, and on the left are the twin sons of Kali, the Bhairu, distinguished as Kala, black, and Gora, fair; a little in advance of these is a shrine containing five of the ten Mahabedia or ministering agents of Kali, each known by his symbol or vahan, as the bull, elephant, buffalo, and peacock. The Mahabedia are the evil genii, invoked in 'jup,' or incantations against an enemy, and phylacteries containing formulas addressed to them are bound round the arms of warriors in battle. At the back of the chief temple are three shrines; the central one contains a statue of Vishnu as Narayana upon his hydra couch, with Lakshmi at his feet. Two Dyta or evil spirits appear in conflict close to her, and a second figure represents her in a running posture, looking back in great alarm at the combatants. Smaller figures about Narayana represent the heavenly choristers administering to his repose, playing on various instruments, the murali or flute, the vina or lyre, the muyoora or tabor, and the mudhung and thal or cymbals, at the sound of which a serpent appears rearing his crest with delight. From the south side the eye has an unlimited range over the plains beyond the Chambal, even to Mundisore and Sondwarra. Descending some rude steps from this place of view, there opens a cavern, the roof of which is supported by one of those singular [illegible] shaped columns named after the sacred mounts of the Jains. Here everything on one side is Buddhist or Jaina, on the other all is Saivite or Vaishnava. At the entrance to an adjoining cave are various colossal figures, standing or sitting, characteristic of the Buddhists or Jains. There are representations of the deified pontiffs of the Jains, and a group of five are the most celebrated of the twenty-four, and distinctively called the Panch-Teerat'h, viz. Rishubdeva, the first; Suntnath, the sixteenth; Nemnath, the twenty-second; Parswanath, the twenty-third; and Mahavira, the twenty-fourth. Each has his sacred mount or place of pilgrimage (teerat'h), and each is recognised by his symbol, viz. the bull, black antelope, conch shell, hooded serpent, and tiger; and it is quite sufficient to find one of these symbols upon the plinth to ascertain the particular pontiff to which it belongs. At the farther end of the cave known as Bhim's Bazar is a dagoba supporting the roof. Two columns, called Sumeru, support the roof, and as Sumeru mount is sacred to Adinath, the first pontiff, it is likely that he was here worshipped. There is an extensive piazza, supported by rows of massive square columns, all cut out of the solid rock, evidently a dharmsala for pilgrims, and on the exterior are numerous square cells, the apartments of the Srawak or Jain laity. There are also many Pausid-sala or halls of the Yati, or initiated disciples, who stand in the same upright meditative posture as the pontiffs.

Jain architecture is as distinct in character from the Brahmanical as their religion. There is generally a chasteness and simplicity in their temples, affording a wide contrast to the ela-

borately sculptured shrines of the Saiva and other polytheist sects of India. The design of the Jain temple at Komulmer is truly classic, and consists only of the sanctuary, which has a vaulted dome and colonnaded portico all round. A temple at Hallybede, about 60 miles N.W. of Seringapatam, in Mysore, is almost identical with that at Komulmer. But Colonel Tod found that Saiva sectarians had introduced into the Jain temple of Komulmer a massive monolithic emblem in black marble of the Hindu Jivi-pitri. At Kuraira is a temple of some celebrity, dedicated to the twenty-third of the Jain apostles, Parswanath. There are inscriptions recording its foundation in S. 11, and several from 1300 to 1350. The temple is imposing, and though evidently erected in the decline of the arts, may be considered a good specimen of the twelfth century. It consists of two domes, supported by numerous massive columns of a species of porphyry of close texture, excessively hard, and taking a fine polish. The capitals of the columns are filled with figures of the Jain pontiffs. The domes are of nearly equal diameters, about 30 feet each, and about 40 in height; under the further one is the sanctum of Parswa. There is a splendid colonnaded vestibule at the entrance, richly sculptured, which gives a very grand appearance to the whole edifice, but it stands in the midst of desolation. In the Tinnevelly district is a rock temple, Kalugumalei, covered with Jain figures and inscriptions. These inscriptions have been pronounced the oldest specimens of the Tamil language hitherto discovered. The Tamil character of the inscription is different from the Tamil character of to-day, but the germ of the present character is contained in it. In a field close to Nagalapuram, in Ottapedaram taluk, is a colossal Jain image. There is a small Jain image in the village of Kolatur, and it is worshipped by the natives, who apparently do not know what it is. There is another in the ancient village of Kolkhei, near to Sawyerpuram. Many cinerary urns in cromlechs, notably in Courtallum. There are many iron implements and exquisite pottery in them. The neighbourhood of the Jain image at Nagalapuram abounds with these urns. The old Jain temple, Kalugumalei, is dedicated to the god Subramanya, Siva's youngest son. According to the oldest legends, Subramanya is the god of war, and that the Jains in the south were cruelly exterminated by the Saivites is a matter of history. Each inscription designates the image above it a Tirru Meni, the usual term for a Jain saint. Some of the Jain temples around Mount Abu are grand, and large sums have been expended on them.

In *Southern India* the great religious institutions are Srisailam in Cuddapah, Conjeveram, Chellambram, Srirangam, etc. There are also many others of great architectural merit, very worthy of being depicted and preserved for the beauty of their sculpture and elegance of their design, such as the stone mantapam in the fort at Vellore, since used as an arsenal and cutcherry; the temples at Tanjore, Gangondaram, and Tribhuwanam, the ruins of Bijanagar, the pagodas at Leepichi in Bellary, and of Tadpatry in Cuddapah, with many others equally worthy of admiration in secluded and desert places, little known beyond their immediate neighbourhood. Nearly all the finest buildings of early times have been constructed of stone, while the edifices of modern times, that is since about the fourteenth century, comprising some of the most stupendous piles at present to be met with, are of brick.

At Satara, a Hindu temple erected to Vishnu by Anand Rao Bhikaji, Rasti, cost Rs. 2,16,250, and he built a Wada at Wai in A.D. 1789 at a cost of Rs. 1,02,000.

The mandap or antarala is the entrance-hall of a Hindu temple. In front of a Hindu temple is the dipmal, usually a monolith pillar, on which lamps are suspended.

A Buddhist temple has the gala or neck of the dagoba, the garbha (womb), the shrine, the dome, the h'tee, the finial, and umbrella on a Burmese dagoba. In China, at the entrance of Buddhist temples there are generally placed colossal figures or pictures of four great beings, possessing different attributes. They are the polia or warders of the place. The Confucian temples have by rights no images in them, the monumental tablet being the object of worship among the disciples of Confucius, and before which they burn incense and pray. In all other temples the idols are multitudinous, not only of Buddha himself in his three attitudes, contemplation, exhortation, and repose, but of many other deities, such as the god of war, the god of agriculture, the queen of heaven, and numberless others.—*Frere, Antipodes*, p. 229; *Tod's Rajasthan; Cole. Ill. Build. Kashm.*

TEMPLE, SIR RICHARD, Baronet, G.C.S.I., C.I.E., D.C.L., a Bengal civil servant, author of India in 1880, Men and Events of my Time in India (1882). Whether as regards the varied offices held by him, or the great extent of the countries in which he served or which he visited, he was never surpassed by any servant of the British Indian Government. Amongst other offices, he was Secretary to the Governor of the Panjab; he was Foreign Secretary to the Government of India, Finance Minister to the Government of India, Chief Commissioner of the Central Provinces, Resident at Hyderabad, Lieutenant-Governor of Bengal. He was Governor of Bombay, from which he retired after a service of 33 years. He was born at Nash-Kempsey in Worcestershire, 8th March 1826. He was educated at Rugby and Haileybury, and entered the Indian Service 8th January 1847, and his career was marked by a continuous series of successes. His minutes and reports are models of clear, precise, and yet picturesque official writing. It was he who digested and compiled the Panjab Report on the Mutiny, also the Panjab Civil Code, the Report on the Trans-Indus Frontier Tribes; and perhaps few know that when the publishers of the Calcutta Review hesitated about continuing it, he secured its reappearance by guaranteeing them from all loss.

TENASSERIM, or Tha-neng-tha-ri, a tract of mountainous country between lat. 11° and 17° N., lying along the E. coast of the Bay of Bengal, and between it and a high chain of hills about 40 miles inland. It is British territory, a division of the province of British Burma, comprising the seven districts of Amherst, Tavoy, Mergui, Moulmein, Shwe-gying, Tounghoo, and the Salwin Hill tracts. Area, 46,780 square miles; population (1881), 825,741 persons. These districts formed

the tract south of Pegu which British India conquered from Burma in 1826, and were for many years generally known under their official name of the Tenasserim Provinces. The mountains, 40 miles inland, are about 500 miles in length, and in parts exceed 80 miles in breadth, and in places 5000 feet high. The small town of Tenasserim, in lat. 12° 6′ N., and long. 99° E., is built on the Great Tenasserim river. A chain of islands, called the Mergui Archipelago, runs along the coast 15 or 20 miles distant from it.

Coal occurs in several parts of Tenasserim on the Great and Little Tenasserim rivers. At Mergui the beds are very extensive, from 9 to 18 feet thick, and about 16 feet from the surface. The principal mine is about 90 miles up the Great Tenasserim river. It was at one time worked by Government, but from want of management did not prove remunerative, and was abandoned. The Mergui coal was regarded by the coal committee as true mineral coal, but of inferior quality. A similar coal is found on the banks of Tenasserim north of the latitude of Tavoy.

The principal metallic ores are tin, antimony, iron, gold, and galena, those of tin being widely diffused, and are worked.

The races and tribes occupying Tenasserim are Burmese, Karen, Lawa, Selon or Selung, Shan, Siamese, Tavoyer of Arakanese descent, and Talaing or Mon.

TENDA. TEL. A lever for raising water, the Pakota of Europeans in the Tamil country.

TENDUKHERA, a small town in the Narsinhpur district of the Central Provinces, in lat. 23° 10′ N., and long. 78° 58′ E. Population (1872), 3034. It has iron mines, which are leased by the Narbada (Nerbadda) Coal and Iron Company.—*Imp. Gaz.*

TENGAH. MALAY. A variety of the Rhizophora mangrove. It is exported to China, where it is used for tanning leather and fishing-nets, and is used locally as a dye, a decoction of it producing a deep-black colour when the cloth or substance has previously been dyed blue. It is plentiful in the mangrove forests on the coast and river-banks of the Province Wellesley.

TENGALAI, lit. the southern branch, a sect among the Southern Vaishnava, distinct from the Vadagalai or northern branch.

The Tengala follow the precepts of one Manavala Manumi or Ramyaja Matri, and the Vadagala claim Vedanta-chari or Vedanta Desica as their authority. Both of these saints were pupils of the same master, Ramanuja-chari, and neither sect speaks disrespectfully of the apostle of the other. Both sects worship Vishnu, and use the same rites, with some minor differences.

The Tengala and Vadagala, if of the same caste, may eat together and intermarry; but among no other sects are there such frequent and bitter quarrels. Tencalei means Southern Veda, and Vadacalei Northern, and in all probability the existing disputes have reference to the assumption of superiority of ritual on the part of some northern Brahmans settling in the south. The Tengala are most numerous in the southern provinces, and this fact would seem to confirm the view that the quarrel primarily arose from the northern people, the Vadagala, attempting to interfere with the established practices of the southern sect.

The great and really serious matter in dispute between the two sects is in regard to the mode of wearing the trident or caste mark. All Vaishnava wear their caste marks on the forehead in longitudinal form, while the Saiva wear theirs horizontally or as round dots.

Some old Sanskrit authority has laid down that the Vaishnava marks shall extend from the nose to the hair, but no one seems to know who the authority was, or in what book the statement was made.

This very dubious authority seems to have been the cause of the quarrels of the sects. The Vadagala or Northern Vaishnava say that from the nose means any part of the nose, and so begin their marks at the root of the organ, between the eyebrows. The Tengala argue that everything has a beginning, a middle, and an ending, so they begin their marks on the upper part of the nose itself, considering that the organ is divisible into three parts. The trident is the same in both sects, only that one carries the middle line a little way down the nose, while the other stops short at the root of the nose. Women of the Vaishnava sects do not wear the trident, but a single straight yellow line from the hair to the nose. This weighty matter is a cause of constant clashing between the sects. If an old temple of Vishnu is found with the trident carved upon it after the fashion of the Vadagala sect, they claim the temple and endowments as belonging to their party, and appeals are sometimes made to the law courts for the settlement of these disputes. All Vaishnava resort to all Vaishnu temples without any sectarian differences.

TENGGER MOUNTAINS, a range in Java connected with Gunungdasar, E. of Sourabaya, where a remnant of the people still follow the Hindu worship. These people occupy about 40 villages, scattered along this range of hills in the neighbourhood of what is termed the sandy sea. The site of their villages, as well as the construction of their houses, are peculiar, and differ entirely from what is elsewhere observed in Java. They are not shaded by trees, but built on spacious open terraces, rising one above the other, each house occupying a terrace, and being in length from 30 to 70 and even 80 feet. The door is invariably in one corner, at the end of the building, opposite to that in which the fireplace is built. At the interment of an inhabitant of Tengger, the corpse is lowered into the grave with the head placed towards the south (contrary to the direction observed by the Muhammadans), and is guarded from the immediate contact of the earth by a covering of bamboos and planks.

This terrace practice seems to have once prevailed in the Philippines. The inhabitants of the Serwatti Islands select the summits of hills or the brows of cliffs which rise abruptly from the sea, as sites for their habitations. The crest or extreme summit of the hill is occupied by a large waring tree, the Ficus Indica of Rumphius, beneath which the idols of the village are placed on square platforms of loose stones. Here the elders meet when any important matter is to be discussed. Below the tree the sides of the hills are scarped into a succession of platforms or terraces, on which are erected their oblong barn-like houses, with wooden walls and palm-leaf thatch. At Letti, a neighbouring island, where the hills are far

inland, the brows of the cliffs which overhang the sea are selected, and a similar mode of scarping into terraces is adopted when necessary. The same system also prevails at Baba and Timor Laut. The Serwatti islanders have a more general resemblance to the inhabitants of the South Sea Islands than to those of the Indian Archipelago. They are taller and fairer than the Malays or Bugis. They wear a waist-cloth made of cotton orof the bark of the paper mulberry, and allow their long wavy hair to float over their shoulders, or tie it at the back of the head. Their vessels, the cora-cora, are long and graceful, with low sides and great breadth of beam, high stems and sterns, which rise like horns at each extremity of the vessel, and are ornamented with festoons of large cowrie shells and bunches of feathers. Major Hamilton, H.M. 21st M.N.I., who had travelled in Java, mentions that he found the same system of terracing amongst the Malai Arasar or hill kings of the Pulney Hills in the extreme south of India.—*Raffles' Java*, i. p. 329.

TENGHE, a silver coin current in Central Asia. In Bokhara 24 make an English pound, but in Khiva 40.

TENIMBER ISLANDS. The groups of the Arafura Sea consist of the Tenimber, the Ki, and the Aru groups, with others of inferior significance. They are scattered over a considerable space, and vary in size from 70 miles in length to mere tufts of verdure floating in the sea, like baskets of grass and flowers, crowned by tall clumps of palm. The Tenimber Islands are inhabited by a race half savage [illegible]anner, whose villages, built on lime-stone hills near the shore, combine, with the varying outlines of the surface, the fresh and green aspect of the interior slopes, and the blue water in the channels between, to present a graceful prospect to the navigator's eye.

TENKAIA. TEL. Cocos nucifera, the nut. Several products of this useful palm receive distinct names, as Tenkaia bellam, sugar from the palm; Tenkaia gurutu, cabbage; Tenkaia kalu, palm wine; Tenkaia yennai, cocoanut oil. The cocoanut palm is called in Telugu by two names, Tenkaia chettu, and Kobbari chettu. Tennam kittu, TAM., cocoanut leaves used in thatching; Tenna maram, cocoanut palm; Tennam-kai, nut; Tennam-nar, the coir fibre; Tennam-kalu, the palm wine; Tennam oli, the cadjan leaf used for writing on with a style instead of paper and a pen.

TENNENT, SIR JAMES EMERSON, a Ceylon civil servant, author of Sketches of the Natural History of Ceylon; also of Christianity in Ceylon.

TENREIRO. Antonio Tenreiro, in 1520 was sent by the Portuguese Governor in India on an embassy to the Persian court. He went by way of Ormuz; and his narrative, which was published at Lisbon in 1763, is one of the earliest accounts we possess of the trade through Persia at the time when it first began to be affected by the competition of the Cape route.

TENTS are used as dwellings by all the nomade tribes of Asia, and by many of the races settled in towns. They are used throughout India by all travellers of any position, and during war are carried by the armies. They are made of cotton canvas, lined or unlined. A double-poled regulation tent, of four cloths throughout, with four feet verandah, complete, with carpets, bamboo chicks, purdahs, gunny bags, and ropes, 28 feet by 16 feet, will cost Rs. 670, and 23 feet by 14 feet will cost Rs. 520.

A single-poled regulation tent, of four cloths throughout, with four feet verandah, complete as above, 16 feet square, will cost Rs. 450; 12 feet square will cost Rs. 310.

Hill tents with four folds of cloth throughout, complete as above, 14 feet square, with two saiban, Rs. 265; 10 feet square, with two saiban, Rs. 200.

Swiss cottage tents, double fly, with saiban, complete as above, 16 feet square, Rs. 390; 12 feet square, Rs. 300.

Rowti, five cloths to the fly, and four to the kanat, complete as above, 16 feet by 14 feet, Rs: 210; 13 feet by 12 feet, Rs. 175.

Shamianah, 40 feet square and 12 poles, Rs. 400; 15 feet square and 4 poles, Rs. 90.

Bechobah tents, five cloths in fly, and four in kanat, as above, 12 feet square, Rs. 135; 8 feet square, Rs. 90.

Necessary tents and tents for servants, called pal, as also stable tents, are in use.

The pastoral races of Asia, who dwell in tents, make them of black felt. Indeed, the term nomade designating these migratory nations is from Namad, a felt.

The northern Arab calls the tent his house (beit). The covering (zhaher-el-beit) consists of pieces of stuff made of black goats' hair, stitched together according to the depth of the tent. Some tents are of goats' hair stuff, white and black. It effectually keeps off the heaviest rain. It is supported by nine poles or posts (amound or column), three in the middle and an equal number on each side. These several poles have distinct names. The middle ones are seven feet high; the side ones only five, which obliges the person who enters to stoop a little. The tent is open before, and closed on the sides and back part to keep out the wind. It is divided into two parts; the men's apartment (mekaad rabiaa) and the women's (maharram), separated by a white woollen carpet drawn across the tent, and fastened to the three middle posts. In the men's apartment a carpet is sometimes laid on the ground. They recline upon the camels' pack-saddles, the wheat sacks and camel bags being piled up round the middle post. The women's apartment is the receptacle for the cooking utensils, the butter and water skins, the provisions, and all the lumber of the tent.—*Robinson's Travels*, ii. p. 133.

TEPHROSIA, a genus of plants of the order Fabaceæ; about thirty species are known to occur in the south and east of Asia. Tephrosia candida, the fisher's tephrosia, contains the narcotic principle of the genus, and is used in the East Indies to poison fish, as T. toxicaria is in the West Indies. It is the Lehtia of Kamaon, and is a handsome white-flowered shrub of the Sub-Himalayan tract, Eastern Bengal, and Burma. T. apollinea is a native of Egypt, and yields a blue dye.

TEPHROSIA PURPUREA. *Pers.*

T. stricta, *Grah.*
T. lanceæfolia, *Lind.*
Galega purpurea, *Linn.*
G. colonila, *Ham.*
G. lanceæfolia, *Roxb.*
G. cærulia, *Rottl.*

Ban-nil,	BENG.	Punkhi,	SANSK.
Surpunka,	HIND.	Kat kolingi,	TAM.
Kolinil,	MALEAL.	Vempali,	TEL.
Bansa,	PANJ.	Bonta vempali,	,,
J'hojru,	,,	Tella vempali,	,,

This small shrub occurs in the Panjab and North-West Provinces of India, from the Salt Range to Dehli, and is common on the eastern coast of the Peninsula. In Hurriana the twigs are used for making baskets. The root is bitter, and given by the native practitioners in dyspepsia and chronic diarrhœa, as an alterative tonic and febrifuge.—*O'Sh.* p. 292; *Powell*, i. p. 340; *Roxb.*

TEPHROSIA TINCTORIA. *Pers.*

T. hypargyrea, *D.C.*	Galega Heyneana, *Roxb.*
T. nervosa.	
Ceylon indigo, . . ENG.	Anil, ... SINGH.

This small plant is found in Mysore and in Ceylon. It yields a blue colouring matter, used for the same purposes as indigo.—*Roxb.; Voigt.*

TEPPA. TEL. The catamaran of the Coromandel coast.

TERA, the Buddhist temple of Japan.

TERAH, father of Abraham, Haran, and Nahor. He left Ur of the Chaldees for Haran (Harra), *i.e.* back towards Asroene or Sarug, on the way to Canaan. Abraham, Haran, and Nahor were born at Ur.

TERAH-TEZI. HIND. The first 13 days of the month Safar, during which Mahomed was seriously unwell. On the 12th or 13th day Muhammadans bathe and distribute food.

TERAI, a valley at the foot of the Himalayas, which varies in breadth from 10 to 30 miles. The Nepal Terai is called the Morung. The Terai is a belt of forest that runs along the foot of the Himalaya from Oudh to Assam. The sal and the sissoo trees grow abundantly, and their timbers are floated down the rivers Konki and Kosi.

The soil of the Terai is composed of alternating beds of sand, gravel, and boulders brought from the mountains, and the soil is generally light, dry, and gravelly. The large blocks are near the mountains, but the gravel beds extend for fully 20 miles south of the Sikkim mountains.

For nine or ten months, a disease, denominated by the natives the 'Ayul,' renders the Terai impassable even to the natives of the country. At the north foot of the Khassya, in the heavily timbered dry Terai, stretching for 60 miles to the Brahmaputra, it is almost inevitable death for a European to sleep any time between the end of April and November. Temperature in September, 77° to 80°; and in November, 75° to 77°. The Terai of the Nepal dominions is profitable from the revenue yielded by its productions. Valuable timber and turpentine, ivory, and hides are shipped down the Buri Gandak, on which river Segowlee is situated, to Calcutta. This district, along with Kamaon and other hill tracts, was ceded to the British Government after the Nepal campaigns of 1815 and 1816, which were undertaken in consequence of the systematic designs of the Nepalese to encroach on the territories north of Bareilly and Oudh, which formed part of the British possessions. According to the terms of a treaty assented to by the Nepal Government, the lowlands between the Kali and Rapti rivers, and further east up to the Gandak, were transferred to the British Government.

In the Terai which borders the Sarda river, no attempts have been made to utilize the land, to clear away the forest, to make roads, or introduce any scheme of drainage. For a few months in the winter, cattle graze on the prairies, but many buffaloes and bullocks are destroyed by tigers, in spite of the precautions taken to drive them home before sunset, and prevent their straying into the forest. Cattle, indeed, are very often pulled down in broad daylight, the shepherds in charge not daring to interfere. There are extensive swamps and jhils, overgrown with tall feathery grass, of which Bamania Tal is said to be the largest stronghold of tigers in the district. There are a few rhinoceri in this swamp, where the reeds and grass are very dense. The Sikkim Terai gives us the Dhimal, the Bodo or Mechi, and the Koch, which latter also occupy the plains of Koch-Bahar, and the northern parts of Rungpur, Dinajpur, and Purnea.—*Hooker, Him. Journ.* i. p. 266; *Oliphant's Journey*, pp. 39, 173. See Tarai.

TERAIYAR is said to have been one of the twelve disciples of Agastiya. Three treatises on medicine bear his name, but their real authors are unknown, viz. Sikamani Venpa, Nadikottu, and fragments of a work on hygiene, Noyanukaviti.

TERI TOI, a river in the Kohat district, Panjab, formed by the junction of two streams, which rise in the eastern border of Upper Miranzai, and unite about 10 miles due west of Teri town; thence the river flows eastward until it joins the Indus.—*Imp. Gaz.*

TERMES, the White Ant; Termites (pl.).

Dewak, ... HIND.	Chellu, ... TAM.
Dotus, ... JAP.	Chathulu, . . . TEL.

Species of this insect are abundant in India, Ceylon, the Cape of Good Hope, a[illegible]t. Helena, and attract attention from the large co[illegible]l mounds of earth which they erect, and the des[illegible]on they produce in timber. The ordinary w[illegible] ant has the head large and rounded, and, besides compound eyes, it has three ocelli, or simple eyes, situated on the upper surface; the antennæ are as long as the head and thorax, inserted in front of the eyes, and composed of about 18 joints. The abdomen is terminated by two small jointed appendages. As the lofty mounds of earth are all carried up from beneath the surface, a cave of corresponding dimensions is necessarily scooped out below, and here, under the multitude of miniature cupolas and pinnacles which canopy it above, the termites hollow out the royal chamber for their queen, with spacious nurseries surrounding it on all sides, and all are connected by arched galleries, long passages, and doorways of the most intricate and elaborate construction. In the centre and underneath the spacious dome is the recess for the queen,—a hideous creature, with the head and thorax of an ordinary termite, but a body swollen to a hundred times its usual and proportionate bulk, and presenting the appearance of a mass of shapeless pulp, weighing as much as 30,000 labourers. From this great progenitrix proceed the myriads that people the subterranean hive, consisting, like the communities of the genuine ants, of labourers and soldiers, which are destined never to acquire a fuller development than that of larvæ, and the perfect insects, which in due time become invested with wings and take their departing flight from the cave. But their new equipment seems only destined to facilitate their dispersion from the parent nest, which takes place at dusk, and almost as quickly as they leave it they divest themselves of their ineffectual wings, wearing them impatiently, and twisting them in every direction till they become detached and drop

off, and the swarm, within a few hours of their emancipation, become a prey to the night-jars and bats, which are instantly attracted to them as they issue in a cloud from the ground. Those that escape from the caprimulgi fall a prey to the crows on the morning succeeding their flight. The natives of India, also, in the morning, gather and eat them, fried with a little ghi, as they are pleasant tasted. One species of white ant, the Termes taprobanes, was at one time believed by Mr. Walker to be peculiar to Ceylon; but it has been found in Sumatra and Borneo, and in some parts of Hindustan. In Ceylon, Termes monoceros builds its nest in the hollow of an old tree, and, unlike the others, carries on its labours without the secrecy and protection of a covered way. The cobra snake generally makes its home in the caverns of the white ant, and it is believed to live on the termites within. At Vasarapad, near Madras, are many ant-hills with numerous cobra snakes. About one mile from Somerset, in the northern extreme of Queensland, at the eastern entrance to Albany pass, white ants have raised their hills to heights of 16 feet.—*Tennent's Ceylon*, p. 413; *Moresby*, p. 13. See Ants; White Ants.

TERMINALIA. This genus of plants is found in the tropical parts of Asia and America, and many of the species furnish valuable timber and other useful products. The genus belongs to the natural order Combretaceæ; about 17 species are natives of the E. Indies. The bark of T. arjuna is used in India in medicine for its astringency, and in dyeing, as [illegible] of T. benzoin in the Isle of France. The galls found on the leaves of T. chebula are powerfully astringent, and used in dyeing yellow and black; the ripe fruit of T. belerica is reckoned astringent, and that of T. Moluccana is like it. That of T. chebula, in an unripe state, and of different ages, has long been known under the names of black, yellow, and chebulic (Kābuli, from Kābul) myrobalans, and considered generally laxative. The fruits of T. citrina, T. angustifolia, and T. Gangetica are like that of T. chebula, and employed for the same purposes. The kernels of T. catappa have the same Hindi-Persian name, badam, applied to them, as to those of the common almond; they are eaten as such, and are very palatable. Dr. Royle had seen the tree as far north as Allahabad, in gardens. The kernels of T. Moluccana and those of T. belerica are also eaten. From the latter a gum exudes. A milky juice is described as flowing from T. benzoin, *Linn.*, which, being fragrant on drying, and resembling benzoin, is used in churches in the Mauritius as a kind of incense.

The more important species of the E. Indies are T. alata, arjuna, belerica, bialata, catappa, chebula, citrina, fœtidissima, myriocarpa, paniculata, procera, pyrifolia, and tomentosa.

TERMINALIA ARJUNA. *W. and A.*

Pentaptera arjuna, *Roxb.*	P. angustifolia, *Roxb.*
P. glabra, *Roxb.*	
White aeen, ANGLO-HIND.	Koha, Jamla, . . HIND.
Arjun, . BENG., HIND.	Kahua, Kowah, . MAHR.
Sadara, . . . BOMBAY.	Azun, ... ,,
Touk-kyan, . . . BURM.	Jumla, Kukhsoba, PANJ.
Belee waulkee, . . CAN.	Vella mutti, . . TAM.
Arjuna, DUKH., SANSK.	

This large tree grows in the Panjab, in Bengal, in the Irawadi jungles, south-east of Surat, and in Canara and Sunda, but only by rivers and streams, mostly below the ghats. As a forest tree, it is rare in the northern parts of the Bombay side, but very common in the South Konkan, from Ramgarh southward, and there too always found in the vicinity of streams and rivers. It reaches everywhere a very large size. It is common throughout the Madras Presidency, growing near the banks of rivers, up to an elevation of 3500 or 4000 feet; it is largely planted as an avenue tree, particularly in the Tinnevelly district, where it attains an immense girth, and is often furnished with very large buttresses. It is also found in Bengal, Bombay, and Burma. The wood is used for building, and boats are often made from it; it is inferior to the Terminalia tomentosa, but a valuable timber. It flowers in April and May, and the seeds ripen towards the close of the rains.

In the southern forests of Pegu, next to teak, the most valuable kinds of timber are T. glabra and T. arjuna, which present clean trunks of 6 to 8 feet in diameter, and 50 to 80 feet high without a branch. The bark is justly celebrated as an application to wounds.—*Col. Beddome, Fl. Sylv.; Mr. Gamble; Drs. Roxb., Voigt, Gibson, M'Clelland, J. L. Stewart, and Mason; Capt. Sankey.*

TERMINALIA BELERICA. *Roxb.* ii. p. 431.

Beleyluj, ... ARAB.	Vibhituka, . . SANSK.
Tit-sein, Ban-kha, BURM.	Bulu-gass, . . SINGH.
Bulla, ... DUKH.	Tandi maram, . . TAM.
Beleric myrobalan, ENG.	Tani kaia maram, . ,,
Bahira, . HIND., SANSK.	Tondi, Tadi chettu, TEL.
Berda, Yehela, . MAHR.	Katthu elupæ, . . ,,
Tani, ... MALEAL.	Bahadha, Bahadrha, ,,
Beleyleh, ... PERS.	

This very large forest tree has a straight trunk and a spreading head. It grows in Ceylon up to an elevation of 2000 feet on the open grassy plains, and it is found throughout India; is not uncommon in the Walliar jungles of Coimbatore, grows on the Siwalik tract, and at Peshawur, and occurs, planted, up to the Indus. Grows also in Goalpara, Sukanaghur, Gorakhpur, Dhomtola, Morung mountains. Flowers small, greyish-green, offensively smelling. The wood is white or yellowish, coarse-grained, and soft, but is used and is said to be tolerably durable; it answers well for packing-cases, coffee-boxes, and catamarans; grain measures are made from it; and in Malabar and South Canara the tree is sometimes hollowed out for canoes. The fruit is used in dyeing and tanning, and the leaves also for the latter purpose; the dried fruit is said to be similar to the Ægle fruit; an oil is expressed from the seed, which is used for strengthening the hair. In the Bombay Presidency it is found abundantly in all the inland and the coast jungles, but although one of the largest and finest-looking trees in the forest, straight, and of great scantling, it is there quite useless as a building timber, being immediately attacked by worms. Bark, when wounded, gives out a large quantity of an insipid gum. Its fruits are known as the beleric myrobalans; they are astringent, tonic. Kernels, tasting like filberts, eaten by the natives, and held to be intoxicating when eaten in quantity. It attains full size in 60 years; the people of Kangra consider it unlucky to employ it in house-building. It is a good avenue tree, is extensively cultivated for the sake of its dense foliage, and the leaves are considered the best and most nutritious of all fodder for cattle, particularly for milch cows. The oil from the kernels separates into two portions,—the one fluid, of a pale oil-green colour, and the other white, floccular, and of the

consistence of ghi. — *Madras Museum Report; Drs. Roxb., W. and A., Wight, Gibson, Brandis, M'Clelland, Voigt, and Cleghorn; Beddome.*

TERMINALIA BIALATA. *Wall.*

Pentaptera bialata, *Roxb.* | Lein-ben, ... BURM.

A large deciduous tree of the mountainous parts of India, with small greenish-yellow flowers, common in British Burma and the Andamans. A cubic foot weighs 39 lbs. In a full-grown tree on good soil, the average length of the trunk to the first branch is 80 feet, and average girth, measured at 6 feet from the ground, is 12 feet.—*Drs. Voigt, Brandis; Cal. Cat. Ex.*, 1862.

TERMINALIA CATAPPA. *Linn.*

T. Moluccana, *Lam.*
T. myrobalana, *Roth.*
T. subcordata, *Willde.*
T. intermedia, *Spr.*
Juglans catappa, *Lour.*

Indian almond tree, ENG.
Badam, . . . HIND.
Catappa, . . . MALAY.
Ada maram, . . MALEAL.
Ingudi, ... SANSK.
Nattu vadom, . . TAM.
Badama chettu, . TEL.

This large, beautiful tree, with small purplish-green flowers, grows in the Moluccas, in both Peninsulas of India, in all parts of the Dekhan, and Bengal. It attains a large size in Malabar, where the wood is said to be much esteemed. Europeans call it the Indian almond tree, with reference to the oval and flattened shape of its drupe. The kernel, however, is cylindrical; it is eaten, and is palatable, resembles the almond in taste and composition, and yields an excellent oil. It is raised easily from seed, and in a good light soil, well watered, will in two years be ten or more feet in height, and give blossom. Its large leaf turns red previous to falling off. Captain Beddome says that as it occurs in the forests of the Godavery, the wood is very strong. It makes a good avenue tree. The bark and leaves yield a black pigment, with which the natives colour their teeth and make into Indian ink; the juice of the leaves and milk of the nut are used medicinally. One species of the tasar silk-worms feeds on the leaves.—*Useful Plants; Drs. Roxb.* ii. p. 430, *Voigt, Gibson, Wight, Cleghorn, O'Sh.; Beddome, Fl. Sylv.*

TERMINALIA CHEBULA. *Retz.*

T. reticulata, *Roth.*

Aleluj aswad, . . ARAB.
Helij-i-Kābuli, . . ,,
Pang ah, ... BURM.
Pilla-marrada, . . CAN.
Alali mara, . . . ,,
Ho-li-leh, Ho-tsze, CHIN.
Hirda, Huldah, DUKH.
Hordah, ... GOND.
Har, Harhar, . . HIND.
Halela zard, . . . HIND.
Umbed'hur, . . . ,,
Kodorka maram, MALEAL.
Helileh-i-kalan, . . PERS.
Helileh-i-siah, . . ,,
Haritaka, . . . SANSK.
Aralu-gass, . . SINGH.
Kadukai, ... TEL.
Karaka, ... ,,

This tree grows in Ceylon, in both the Peninsulas of India, and northwards to Nepal, the Panjab, and Kābul, in Tenasserim, and in Canton province, and everywhere is a large tree. Colonel Beddome describes the wood as of good quality, and much used for building purposes; the heart-wood is yellowish-brown or dark-brown, hard and heavy, and makes good furniture, but is cross-grained and difficult to work. In Burma, yokes and canoes are made of it. The tender leaves, when scarcely unfolded, are punctured by an insect, and its eggs deposited therein, which by the extravasation of the sap become enlarged into hollow glands of various shapes and sizes, up to 1 inch in diameter; they are powerfully astringent, and make as good ink as oak galls; they also yield, mixed with alum, a good durable yellow dye. The fruit gives the black myrobalans, which are better than those of T. belerica; is an article of commerce for the large quantity of tannin which it contains. The fruit and gall-nuts are both used medicinally by the natives. Mr. Gamble says the bark is used for tanning and dyeing, and the unripe fruit is used for tanning, dyeing, and medicine, under the names balhar, zangi, and zangi har. 471,167 cwt. of myrobalans were exported from India in 1882-83, value Rs. 18,46,976; and Mr. Gamble says that in the southern circle of Bombay, the Forest Department in 1877-78, from the fruit of this tree, had a clear profit of Rs. 77,000. —*Drs. Royle, Cleghorn, Wight, M'Clelland, and Voigt; Mr. Gamble; Colonel Beddome; Thwaites; Powell*, p. 539.

TERMINALIA CITRINA. *Roxb.* ii. p. 435.

Myrobalanus citrina, *Gærtn.*

Huri tuki, . . . BENG.
Kyoo, ... BURM.
Haria, Harra, . . HIND.
Liba, ... SANSK.

A very large and tall timber tree of Assam and the Khassya Hills, and common in the Kotah jungles. The wood is very hard, and is not attacked by insects. It is of a grey colour, and is darker towards the centre, and in Assam is used for planks and general building purposes. Drupe oblong, lanceolate, about two inches long, two in circumference, obscurely five-grooved, dull orange-yellow, smooth; nut oblong, deeply five-grooved, one-celled. Fruit a gentle purgative; it is often made into a pickle, and is used as that of T. chebula. —*Irvine, Gen. Med. Top.; Voigt; [illegible]; O'Sh.*

TERMINALIA MYRIOCARPA. *[illegible] and M.*

T. myriocarpa, *Kurz.*

Hollok, ... ASSAM.
Sunglok, ... LEP.
Pani-saj, ... NEP.

A very large evergreen tree of the Eastern Himalaya and Assam; growing also in the Darjeeling Terai. Heart-wood brown, beautifully mottled with dark streaks, and is used for building and tea-boxes, also burned for charcoal. — *Gamble.*

TERMINALIA PANICULATA. *W. and A.*

Pentaptera paniculata, *Roxb.* ii. p. 462.

Honal, Huluva, . . CAN.
Kindal, Kinjal, . MAHR.
Marwa, ... S. CAN.
Matti, Marda, . . TAM.
Pilla-marda, . . . TAM.
Pu-marda, ... ,,
Nee meeri, ... TEL.

A tree of Malabar, of the valleys of the Konkan rivers near their sources; abundant in the jungles south-east of Surat and at Courtallum, and rising in the forest mountain tracts up to 2000 or 3000 feet elevation. In S. Konkan it is common along the foot of the ghats. The timber is very good, but not equal to that of T. tomentosa; it is said to be improved by being kept under water.— *Colonel Beddome.*

TERMINALIA TOMENTOSA. *Roxb.*

T. alata, *Ainslie.*
T. coriacea, *W. and A.*
T. crenulata, *W. and A.*
T. glabra, *W. and A.*
Pentaptera coriacea, *Roxb.*
P. crenulata, *Roxb.*
P. glabra, *Roxb.*
P. tomentosa, *Roxb.*

Pia-sal? . . . . BENG.
Mutti, Karai mutti, CAN.
Asan, Saj, . . . HIND.
Ain, ... MAHR.
Koombook, . . SINGH.
Karra-marada, . . TAM.
Maddi, Nalla maddi, TEL.
Sahajo, . . . URIYA.

This is a very large timber tree, often 70 to 80 feet to the first branch. It grows in Ceylon, is common in Mysore and throughout the Madras Presidency, up to an elevation of 3000 or 3500 feet. It grows in the Godavery forests, rises very

straight on the Animallays, and very fine on the Nullamallays in the Kurnool district; also in the forests of the Bombay Presidency and the Central Provinces, in Oudh, and in all the Sub-Himalayan tract from the Ravi eastwards to Darjeeling.

The wood is dark-coloured, very hard, heavy, and strong. It is much used in house-building, and for boats and canoes, solid wheels of carts, furniture, and other purposes. The ashes from its burned bark produce a kind of potash, which is eaten by the natives with betel leaf; the bark is astringent, and used for dyeing black and for tanning.

Colonel Beddome says the T. glabra of Roxburgh only differs in being more glabrous and having the bark nearly smooth, but the pubescence varies much, and is called Tella-maddi by the Teling people, and he is inclined to believe that the Pentaptera crenulata, *Roxb.*, also is only a variety.

TERMITINÆ, a section of Neuropterous insects, in which Latreille includes the genera Mantispa, Raphadia, Termes, and Psoc[illegible]. These genera, however, are usually regard[illegible] constituting three distinct families. The Termitidæ family is distinguished by the following characters:—Wings with few transverse nervures, folding horizontally; tarsi four-jointed; antennæ short and moniliform; body depressed. See Termes.

TERNATE, on the west coast of Gillolo, is a high island, but of small extent, being only about six miles long. Fort Orange is in lat. 0° 49′ N., long. 127° 30′ E. Several of these islands—Ternate, [illegible]bore, Motir, and Makian—are only cones [illegible]ng on the same great fissures of the earth. [illegible] base of Ternate volcano is beneath the ocean. Its circumference around its shores is six miles, and its height is 5400 feet. Severe and destructive eruptions took place from it in 1608, 1635, 1653, 1673, after which the next was on the 26th February 1838, then on the 25th March 1839, on the 2d February 1840. In that of 1673, a considerable quantity of ashes was carried to Amboyna. In that of 2d February 1840, for fifteen hours the solid ground rolled like the sea, but the heaviest ground-wave was at 10 A.M. of the 15th February, and the people then took to their boats. In this interval, great eruptions of ashes and hot stones fell like hail. Lava poured from the crater into the sea. For ten days, clouds of black smoke poured out. About midnight of the 14th, the shocks were more violent, and before 3.30 A.M. every house was levelled. Fissures formed in the earth, out of which hot water rose for a moment, and then the earth closed again, to re-open at another place. Its population in 1865 was 9000.

The lower part of the mountain, behind the town, is covered with fruit trees, and hundreds of men, women, and children go daily to the mountain to bring in the fruit, durian, mango, lansat, and mangosteen. When Drake visited Ternate in A.D. 1579, the Portuguese had been driven out of the island by the sultan. Ternate with Batchian constitutes the ancient Moluccas. Milton sang of

> 'The isles
> Of Ternate and Tidore, whence merchants bring
> Their spicy drugs.'—*Par. Lost, Book II.*

The people are of three well-marked races, the Ternate Malay, the Orang Sirani, and the Dutch. The first are the descendants of the intruding Malay, who drove out the indigenes (who were no doubt the same as those of the adjacent mainland of Gillolo), and established a monarchy; their language is quite unintelligible. The Sirani are the Christian descendants of Portuguese.

Ternate town is at the foot of the mountains.—*Bikmore*, p. 306; *Wallace*, pp. 300-311.

TERNSTRÖMIACEÆ of De Candolle, the Theads, a natural order of plants, chiefly trees or shrubs, forming 28 genera, including 132 species, of which 57 occur in the East Indies, in Java, Ceylon, both the Peninsulas of India, the Khassya mountains, Assam, and Nepal, viz.:—1 Cochlospermum, 9 Ternströmia, 1 Anneslea, 1 Adinandra, 9 Eurya, 4 Cleyera, 12 Saurauja, 9 Gordonia, 7 Camellia, 1 Thea, 2 Schima, ? Pyrenaria, 1 Reinwardtia, Actinidia, Stachyurus. The tea plant, the most remarkable of this order, is a native of Assam.

TERNSTRÖMIA JAPONICA. *Thunb.*

T. gymnanthera, *W. and A.*
Cleyera gymnanthera, *W. and A.*

Shwui muh si, . . CHIN. | Kymone, NEILGHERRIES.

A common tree on the Neilgherries and other elevated mountains on the west side of the Madras Presidency, from an elevation of about 4000 feet upwards, also in Ceylon. The wood is pinkish in colour, and much esteemed; it works well, but requires to be well seasoned; it is used for doors, rafters, and a variety of purposes. Another species of this genus, T. Penangiana, *Choisy*, is an evergreen tree of the Andamans and Tenasserim; and under the Burmese name, Puzzeen zwa, Wallich noticed a large timber tree of Tavoy, used for building.—*Beddome, Fl. Sylv.* p. 91.

TERRA JAPONICA is an old trade misnomer, formerly applied to the catechu, and still retained for gambier, an inspissated vegetable juice obtained from the Uncaria gambir, *Roxb.*

TERRAPIN.

Shwui-kwei-kiah, . CHIN. | Pai-kwei-pan, . . CHIN.

See Reptiles; Tortoise.

TERRIBLES, a dangerous line of rocks and sunken reefs, 10 or 12 miles W. from the N. point of Ramree river. A lighthouse on the S. Terrible was proposed to be in lat. 19° 23′ 30″ N., and long. 93° 18′ E.

TERRIORE, a large tract of woodland country, about 30 miles north of Trichinopoly, held by a Reddi.

TERRY, EDWARD. His voyage to India was published in 1655. It gives an interesting account of Surat and S. Walley, and of Tom Coryates' travels in the east, and death at Surat in 1617.

TESTUDINIDÆ, a family of reptiles of the section A, Cataphracta or shielded reptiles, order Chelonia, and including the genera Testudo and Homopus. In the East Indies are T. elongata, T. Horsfieldii, T. Indica, T. platynotus, T. radiata, and T. stellata. They are land tortoises. See Reptiles; Tortoise.

TETRACEROS QUADRICORNIS. *Jerdon.*

Antilope chickara, *Hard.*	T. iodes, *Hodgson.*
A. sub-quadricornutus, *Ell.*	T. paccerois, *Hodgson.*
T. striaticornis, *Leach.*	
Bhirul . . . of BHILS.	Chousingha, . . . HIND.
Kotri, Kuru of BUSTAR.	Chouka, Jangli bakra, ,,
Kond-guri, . . . CAN.	Bhekra, . . . MAHR.
Bhirkuru (male), GOND.	Bhirki, . . . SAUGOR.
Bhir (female), . . ,,	Konda-gori, . . . TEL.

The four-horned antelope is of the sub-family Antilopinæ. It is of uniform brownish-bay colour

above, beneath lighter. Its length is 40 to 42 inches, height at shoulders 24 to 26 inches, anterior horns up to 1½ inches, and posterior horns 4 to 5 inches. It frequents jungly hills and open glades in the forests, abounds in the Eastern Ghats, occurs at the foot of the Himalayas, is rare in Sind and the Western Panjab, and is unknown in the Malabar forest, Lower Bengal, valley of the Ganges, Ceylon, and Further India. The spurious horns are so small as rarely to be met with in adult individuals, and are situated on two osseous bumps or risings (strongly marked in the cranium), from which they seem to be easily detached. These osseous risings are immediately in front of the true horns, between the orbits, rather in front of a line drawn across the forehead through the centre of the eyes, and become covered with black callous skin after the loss of the corneous tips. The true horns are situated behind the eyes, or between the eyes and the ears, inclining backwards with a scarcely perceptible curve forwards, straight, parallel, round, smooth, thick, and strong at the base, which has a few wrinkles, and tapering to a point; their colour black. Those of very old males were 4¾ inches in length, and had three strong wrinkles, and one imperfect one at the base. The doe has no horns, nor any bony projection above the eyes. The mammæ are four in number. The colour is brown, of various shades, not bright, but sometimes so light as to approach a dull fawn, darker than the cervicapra, but not so bright and deep as in the gazelle. The shade is browner on the hind quarters, and darkest on the middle of the back. It becomes lighter on the sides till it passes gradually into white in the middle of the belly, without the well-defined dark line of separation observable in the other two species. The fore legs, particularly above the knee, the inside of the fetlocks, the nose, and edge of the ears, are very dark. A narrow line between the fore legs, which gradually widens towards the hinder flanks, the inside of the arms and thighs, is white, as is the inside of the ear, in which the hairs are long, and arranged in indistinct ridges. The lachrymatory sinus is long, narrow, and parallel with the line of the nose. In its habits it is monogamous, and is always found in pairs, frequenting the jungles among the undulating hills of the Mulnad. It is never found in the open country, or among the hills on the eastern side of the district, neither does it ever penetrate into the western forests. The droppings are always observed in heaps in particular spots. It is said to be fond of licking the salt efflorescence of the soil, from which habit, it is said, the incisors of old individuals are often found to be much worn, and sometimes wanting altogether.

TETRAGONIACEÆ, a natural order of plants, of which two species, Sesuvium repens and Tetragonia expansa, occur in the East Indies, Sesuvium repens along the sea-shores, and Tetragonia expansa, *Murray*, is the New Zealand spinach, a coast and inland plant of Australia, New Zealand, China, Japan; useful as a vegetable, also as a sand-binding plant.—*F. von Mueller.*

TETRAMELES NUDIFLORA. *R. Br.*

T. Grahamiana, *W. Ic.*; Anictoclea Grahamiana, *Nim.*

Sandugaza, . . . Beng. | Bolur, ... Can.
Thit-pouk, . . . Burm. |

This is a tree of Ceylon, the Western Ghats, Sikkim, Garo Hills, Burma, and Andamans. It is one of the largest trees in the Madras Presidency, is of gigantic growth, and often with very large buttresses; it is not uncommon throughout the western forests of the Peninsula from Bombay down to Cape Comorin, and also in Ceylon; it is very abundant about the foot of the Neilgherries on the western side, and in the dense forests in the plains of South Canara; it sheds its leaves early in January, and flowers when quite leafless in February. The timber is said to be soft and worthless.—*Beddome; Gamble.*

TETRANTHERA, a genus of plants belonging to the order Lauraceæ. T. Gardneri, *Thw.*, is a tree 40 to 50 feet high, of the Central Province of Ceylon, at an elevation of 4000 to 6000 feet. T. glaberrima, *Thw.*, a small Ceylon tree, growing at 4000 feet elevation. T. longifolia, T. ligustrina, T. iteodaphne, T. nemoralis, and T. ovalifolia of Ceylon, the last a tree 30 to 40 feet high, with T. Roxburghii of India and Ceylon, the Bo-mee-gass of the Singhalese. Wight also gives in Icones, T. glabrata, T. [illegible]manja. T. amara, *Nees*, is an evergreen tree of the Eastern Himalaya, Burma, and the Andamans, with a pale-brown wood. T. nitida, *Roxb.*, Kintonijam, Beng., name in the neighbourhood of Sylhet, where it is indigenous, and grows to be a useful timber tree of very great size. In the more remote forests which cover the Garo Hills, it is so large as to admit of being made into canoes of full 50 feet in length, for which purpose this tree is preferred.—*Voigt; Thwaites; Wight, Ic.; Roxb.* iii. p. 818.

TETRANTHERA CALOPHYLLA [illegible]*iquel.*
Cylicodaphne sebifera, *Blume.*

Grows on the Neilgherries and on the Java mountains. A tallow-like fat is, in comparative abundance, pressed from the berries, and is used for the manufacture of candles. T. Japonica, *Spreng*, and T. laurifolia, *Jacq.*, of tropical Asia, are similarly useful.

TETRANTHERA GLAUCA. *Wallich.* An evergreen tree of the Eastern Himalaya and Eastern Bengal. It is the Sempat of Nepal, the Diglilati of the Mechi, and the Diglotti of the Assamese.

TETRANTHERA MONOPETALA. *Roxb.*

Gwa, Harein, . . Beas. | Maida-lakri, . . Hind.
Buro kukur chettu, Beng. | Nara chettu, . . Tel.
Jungli rai am, . . Hind. | Nara mamidi, . . ,,

A middling-sized tree, native of the Peninsula of India, of Bengal, Oudh, the Siwalik, and Burma. Its cinnamon smelling leaves are given to silk-worms. The wood is used for agricultural implements. The bark is used in medicine, being considered stimulant, and after being bruised is applied fresh or dry to contusions, and sometimes mixed with milk or made into plaster. The leaves are used in Assam to feed the muga silk-worm, Antheræa Assama.—*J. L. Stewart; Gamble.*

TETRANTHERA POLYANTHA, *Wall.*, is a small tree of the Eastern Himalaya, Assam, and the Khassya Hills. In Assam, the leaves of this tree are used to feed the Antheræa Assama silk-worm, which produces the muga silk.

TETRANTHERA ROXBURGHII. *Nees.*

T. apetala, *Roxb., Corr.* | Sitsæa sebifera, *Pers.*
T. citrifolia, *Juss.* | Sebifera glutinosa, *Lour.*
Tomex sebifera, *Willde.* |

Kookoor chita, . Beng. | Boo-mee-gass, . Singh.
Meda lakri, . . . Hind. | Meda-sak, . . . Sutlej.
Maida-chob, . . ,, | Nara mamidi, . . Tel.
Chandna, . . . Panj. | Meda, ... ,,

This tree grows in China, in New Holland, throughout India, in Assam, the Panjab, Siwalik tract, the Salt Range, to 2500 feet. Bark mildly astringent, used by the hill people in diarrhœa. It is the meda lakri of Hindustani druggists, and a favourite application to bruises and wounds. It is somewhat fragrant, and slightly balsamic and sweet. Tetranthera Roxburghii is a variable plant. The fruit is globose, black, and about the size of a pea, yielding a kind of greasy exudation, from which the Chinese manufacture candles of a bad quality, and which serves as a basis for salves. —*Cat. Ex.*, 1862; *Thw. En. Pl. Zeyl.* p. 255; *O'Sh.*; *Eng. Cyc.*

TETRANTHERA WIGHTIANA. *Wall.*

Cylicodaphne Wightiana, *Nees, D.C.*

Var. α. T. tomentosa. Leaves densely fulvo or fusco-tomentose beneath.

Var. β. T. glabrescens. Leaves sparingly puberulous or glabrous beneath.

A handsome good-sized or large tree, common in many of the western forests from Canara to Cape Comorin, from about 2000 feet elevation up to about 8000; it is very abundant on the Neilgherries, where it is called Keynjee by the Badaga. The wood is yellowish, with a satiny appearance, and a darker heart; it is used for rafters and various other purposes.—*Beddome, Fl. Sylv.* p. 293.

TETRANYCHUS PAPAVERÆ, *Scott*, the poppy seed mite, swarms in poppy seed granaries and their stores; it multiplies with great rapidity. This, with species of Bruchus, also Calandra sitana and tiptera are the insects of Lower Bengal which attack the poppy seed in the granaries.

TETRAONIDÆ, the grouse, partridge, and quail family of birds, comprising the Perdicinæ and Coturnicinæ. The family belongs to the order Rasores, the gallinaceous or game birds. Naturalists include in this family the grouse, the partridge, American partridges, quails, and guinea-fowl. The grouse are peculiar to the northern portions of both continents. Partridges are found in Europe, Asia, and Africa, disappearing in the Malayan Peninsula except in its extreme west. Quails have the same distribution as the true partridges, but have a tendency to accumulate in the south-eastern portion of the Malayan Peninsula, where, with Turnix of the Tinamidæ, they are the only tropical gallinaceous birds. The guinea-fowl are natives of Africa.

Sub-Fam. Tetraoninæ or true grouse, as yet not observed in India.

Sub-Fam. Perdicinæ or partridges; those occurring in India may be divided into snow cocks and snow partridges, peculiar to the highlands of Central Asia and the Himalaya; ordinary partridges, comprising the francolin and chukor; grey partridges, wood partridges, and bush quail; the true partridges represented by the grey partridge of Europe, with one species from Tibet, and the great group of African partridges.

I. *Snow Cocks and Snow Partridges.*

Tetraogallus Himalayensis, *Gray*, Himalayan snow cock.
T. Tibetanus, *Gould.*
Lerwa nivicola, *Hodgson*, the snow partridge.

II. *Partridges.*

a. Francolins or meadow partridges.

Francolinus vulgaris, *Stephens*, black partridge.
F. pictus, *Jard. and Selby*, painted partridge.
F. Phayrei, *Blyth*, Burma.

b. Rock or sand partridges.

Caccabis chukor, *Gray*, the chukor partridge.
Ammoperdix bonhami, *Gray*, the seesee partridge.
A. Hayi, *Gould*, Arabia.

c. Grey or bush partridges.

Ortygornis Ponticerianus, *Gmelin*, grey partridge.
O. gularis, *Temm.*, the kyah partridge.

d. Wood partridges.

Arboricola torqueola, *Valen.*, black-throated hill partridge.
A. rufogularis, *Blyth*, rufous-throated hill partridge.
A. atrogularis, *Blyth*, Tiperah, Chittagong.
A. intermedia, *Blyth*, Arakan.
A. brunneopectus, *Tickell*, Tenasserim.
A. sphenura, —? China.
Perdix personata, *Horsfield*, Java.
P. Javanica, *Gmelin*, Java.
P. Charltoni, —? Penang.
P. punctulata, *Gray.*
P. oculea, *Temm.*, Malay Peninsula.
P. thoracica, *Temm.*, Philippines.
Rollulus coronatus, —? Malay Peninsula.
R. niger.

e. Bush quails.

Perdicula Cambayensis, *Latham*, jungle bush quail.
P. Asiatica, *Latham*, rock bush quail.
P. erythroryncha, *Sykes*, painted bush quail.

Sub-Fam. Coturnicinæ, Quails.

Coturnix communis, *Bonatere*, the large grey quail.
C. Coromandelica, *Gmelin*, black-breasted quail.
Excalfactoria Chinensis, *Linn.*, blue-breasted quail.
E. Novæ Guineæ, *Gm.*
E. Adamsoni, *Verreaux*, Celebes.
E. minima, *Gould*, Celebes.

Other of the quails are arranged by naturalists under the family Tinamidæ. Tetrao tetrix is the black-cock of Europe and Northern Asia. Mr. Atkinson, in the Altai, says black-cock shooting in September, when the first snow has fallen, is splendid sport. A common sledge, sometimes with one horse, at others with two, is prepared, and nearly filled with straw; upon this the sportsman sits down, and away the man drives into the forest, keeping a good look-out. When he sees the birds, he drives along till within rifle distance, and then stops. The sportsman must shoot the lowest bird; when this one drops, the others look down on their fallen mate, and remain quite still in the trees. I have more than once shot three out of the branches of the same tree, before the brood have taken flight. When the birds are going, the man gathers up the game, throws it into the sledge, and drives on again. In these woods it is not difficult to shoot from fifteen to twenty brace of black-cock in a day. This can only be done with a pea-rifle, which makes a very small report, and is certain in its effect.

The Himalayan snow cock, Tetraogallus Himalayensis, is the Jer monal of the N.W., but keeps to the open hill-sides, is harassed by the ring-tailed eagle, which never attacks it on the wing. It is 29 inches long, and weighs 6½ lbs. Eggs about the size of those of the turkey. T. Tibetanus is of the Snowy Range, and T. Caucasicus, *Pallas*, is of the Persian mountains.

The snow partridge, when rearing its young, if disturbed, exhibits all that distressful anxiety so common to its tribe. It does not counterfeit lameness like some, but walks away before the intruder, and calls out in the most plaintive manner, while the young squat close to the ground or creep beneath the stones.

The black partridge, Francolinus vulgaris, frequents grass meadows. Muhammadans of India compare its call to the words *Subhan teri*

kudrat, Show your power to-morrow! Others describe it as Lahsan, piaz, adrak, Garlic, onions, ginger! It is still abundant, though becoming scarcer.

Early in the morning the call of the male bird of the painted partridge may be heard to a great distance, Chee-kee-kerray, Chee-kee-kerray. The Chukor, HIND., or Atash khor, PERS., is the chukor partridge, Cacabis chukor of Jerdon, fabled by natives to be enamoured of the moon, and at full moon to eat fire. The two Persian words signify fire-eater. The chukor is common in all parts of the valley of the Indus, and throughout Tibet. In winter, when the hills are covered with snow, they are to be found in great numbers close to the rivers, even in the immediate neighbourhood of the villages; in general, when approached, they lie close among the crevices of the stones. Dr. Thomson was invited by the thannadar of Iskardo to be present at a hunting party, which he had arranged for the capture of the chukor, by surrounding a spot of ground, in which these birds are numerous, with a ring of men, who, approaching from all directions, gradually form a dense circle of perhaps a hundred yards in diameter. When the partridges are disturbed by a horseman in this enclosure, they can only fly towards the living wall by which they are surrounded. Loud shouts, and the beating of drums and waving of caps and cloaks, turn them back, and they are driven from side to side, till at last, exhausted with fatigue and stupid from the noise and confusion, they sink to the ground, and allow themselves to be caught by hand. The scene was a very striking one. The spot selected was a deep dell, full of rocks, but without trees. The sport, however, did not seem so successful as usual, six or eight birds only being captured. The hen of the chukor lays from 8 to 15 eggs. The grey partridge, Ortygornis Ponticeriana, is easily tamed, and will follow its owner about like a dog, even in the crowded streets. Muhammadans keep it in small cages, sometimes for fighting, as it is very pugnacious, and fights with great spirit and obstinacy. It readily utters its call, Pateela-pateela-pateela, when spoken to. It is used as a decoy for wild birds. The male bird of the covey, attracted by its call, is easily caught when fighting. The kyah partridge, Or. gularis, are found in wavy, thick grass, and in many places it can only be followed on elephants.—*Thomson's Travels*, p. 2; *Jerdon*.

TETRODON, fishes of the order Plectognathi. Instead of having distinct teeth as usual in the class, these have the jaws provided with a substance resembling ivory, formed somewhat like the beak of a bird, and fitted for crushing crustaceous animals and fuci, upon which they live. The Tetrodons are distinguished by the possession of four large teeth, the jaws being each divided by a central suture. These fishes are confined to the seas of warm climates; some of them, as also the Diodon, are called globe fishes. Species of Tetrodon are capable of inflating the abdomen, and in this state, when taken or handled, they emit a grating sound. They are also remarkable for tenacity of life, which they are capable of sustaining for several hours after having been taken out of their element. They have a peculiar, disagreeable odour, resembling that of Gobioidæ, which continues for several years in specimens preserved in spirits of wine. In the Malayan countries they are considered highly poisonous, and are even objected to as manure. Tetrodon skins are made into lanterns in China.—*Eng. Cyc.*

TEUCRIUM, a genus of unimportant plants of the natural order Labiatæ, of which T. botrys, T. leucosceptrum, and T. stoloniferum occur in the East Indies. T. chamædrys of Europe and some parts of Asia, is an ingredient in the celebrated Theriaca andromachi, or tareaq farooq. The species are pleasantly fragrant. T. monostachyum, *Wallich*, of the Eastern Himalaya, Sylhet, and Khassya Hills, ascends to 7000 feet; coppices well. —*O'Sh.* p. 488; *Voigt*, p. 463.

TEUTHIS. *Linn.* All the species of these mollusca are supposed by the Malays of the Straits to be highly poisonous; they are not eaten, but set aside among offal of fish to be used as manure.

TEWARI is a corruption of Trivedi, and is the tribal title of Brahmans of N. India descended from men learned in their Vedas. They follow agriculture, are soldiers, cudgel-players, and boxers; many of them entered the Indian army.

TEXEIRA, a Spanish author, who translated, as the History of Persia, the first part of Mir Kond's great book in seven volumes, called Rauzat-us-safa. Texeira extracted thence his history, which he presented to the world in Spanish; but it has been since translated into French by Cotolendi. Texeira had travelled into Persia, and made himself acquainted with the language of that country. He finished his first part with an Abridgment of the History of the Khalifs, etc.

TEXTILE ARTS. The east has, from the earliest times of which we have any record, been famous for its textile fabrics; and India, notwithstanding the great mechanical inventions of the western world, is still able to produce her webs of woven air, which a manufacturer of the 18th century attempted to depreciate by calling them the shadow of a commodity, at the same time that his townsmen were doing all they could to imitate the reality, and which they have not yet been able to excel. Though the invention and completion of a loom for weaving would indicate a high degree of ingenuity as well as a considerable advance in some other arts, the Hindus were acquainted with it at a very early period, for in the hymns of the Rig Veda, composed about 1200 years B.C., weavers' threads are alluded to; and in the Institutes of Menu it is directed,—'Let a weaver who has received ten bales of cotton thread, give them back increased to eleven by the rice-water and the like used in weaving.'

That cotton was employed at very early periods, is also evident from the Indian name of cotton, Karpas, occurring in the Book of Esther, i. 6, in the account of the hangings in the court of the Persian palace at Shushan, on the occasion of the great feast given by Ahasuerus, — white, green, and blue hangings; the word corresponding to green is Karpas in the Hebrew. It seems to mean cotton cloth made into curtains, which were striped white and blue. Such may be seen throughout India in the present day, in the form of what are called purdahs. (Vide Essay on Antiquity of Hindu Medicine, p. 145.) The mode in which these are used, and the employment of the same colours in stripes, is still known as Shatranji, or cotton carpets. That the Hindus were in the habit of spinning threads of different materials, appears from another part of

the Institutes of the same lawgiver, where it is directed that the sacrificial threads of a Brahman must be made of cotton, that of a Kshatriya (second caste) of sana (Crotalaria juncea), and that of a Vaisya of woollen thread. The natives of India prepare fabrics not only of cotton, but also of hemp and of jute and other substitutes for flax; also of a variety of silks, and the wool of the sheep, goat, and camel, as well as mixed fabrics of different kinds. But it is for the delicacy of the muslins, especially of those woven at Dacca, that India was so long famous. From a careful examination of the cottons grown in different parts of India, as well as of those of other parts of the world, we find that it is not owing to any excellence in the raw material that the superiority in the manufacture was due, for English spinners say that the Indian cotton is little fit for their purposes, being not only short but coarse in staple. It is owing, therefore, to the infinite care bestowed by the native spinners and weavers on every part of their work, that the beauty of the fabric is due, aided as they are by that matchless delicacy of touch for which the Hindus have long been famous. According to one of their authors, 'the first, the best, and most perfect of instruments is the human hand.' The Hindu weaver has been described as hanging his loom to a tree, and sitting with his feet on the ground. But this is the case only with the coarser fabrics; and a late resident of Dacca has given a minute account of the cotton manufacture of that district, as shown that great care is bestowed on every part of the process. The spinning-wheel is usually considered to be an improvement upon the distaff and spindle, as modern machinery is upon the inexpensive spinning-wheel. In facilitating work and diminishing expense, the spinning-wheel was no doubt a great improvement, and is still employed throughout India for the ordinary and coarser fabrics. But the spindle still holds its place in the hands of the Hindu women, when employed in spinning thread for the fine and delicate muslins to which the names of Shabnam or Dew of Night, Ab-i-Rawan or Running-water, etc., are applied by natives, and which no doubt formed the Tela ventosa of the ancients; and those called Gangitika in the time of Arrian were probably produced in the same locality. Mr. James Taylor, of the Bengal Medical Service, in a report which was sent by the Court of Directors to India, gave much interesting information respecting the cotton manufacture of Dacca. He showed that the Hindu woman first cards her cotton with the jaw-bone of the boalee fish, which is a species of Silurus; she then separates the seeds by means of a small iron roller worked backwards and forwards upon a flat board. A small bow is used for bringing it to the state of a downy fleece, which is made up into small rolls to be held in the hand during the process of spinning. The apparatus required for this consists of a delicate iron spindle, having a small ball of clay attached to it, in order to give it sufficient weight in turning; and imbedded in a little clay there is a piece of hard shell, on which the spindle turns with the least degree of friction. A moist air and a temperature of 80° is found best suited to this fine spinning, and it is therefore practised early in the mornings and in the evening, sometimes over a shallow vessel of water, the evaporation from which imparts the necessary degree of moisture. The spinners of yarn for the Chundeyree muslins in the dry climate of North-Western India are described as working in underground workshops, on account of the greater uniformity in the moisture of the atmosphere. The Indian spinning-wheel is looked upon with contempt by those who look to the polish rather than to the fitness of a tool. Professor Cowper, than whom none was a better judge, observing that the wood-work of some of these spinning-wheels was richly carved, inferred that the strings with which the circumference was formed might have some use, and not have been adopted from poverty or from idleness. In making working models of these instruments, he has found that in no other way could he produce such satisfactory results as by closely imitating the models before him, the strings giving both tension and elasticity to the instrument. The spindles, moreover, being slightly bent or the hand held obliquely, the yarn at every turn of the spindle slips off the end and becomes twisted. The common dimensions of a piece of Dacca muslin are twenty yards in length by one in breadth. There are more threads in the warp than in the woof, the latter being to the former in a piece of muslin weighing twenty tolas or siccas, in the proportion of 9 to 11; one end of the warp is generally fringed, sometimes both. The value of a piece of plain muslin is estimated by its length and the number of threads in the warp, compared with its weight. The greater the length and number of threads, and the less the weight of the piece, the higher is its price. It is seldom, however, that a web is formed entirely of the finest thread which it is possible to spin. The local committee of Dacca having given notice that they would award prizes for the best piece of muslin which could be woven in time for the 1851 Exhibition, the prize of 25 rupees was awarded to Hubeeb Oollah, weaver of Golconda, near Dacca. The piece was ten yards long and one wide, weighed only 3 oz. 2 dwts., and might be passed through a very small ring. Though the cotton manufactures of India seem to have greatly fallen off, from the cheapness of English manufactured goods, the report of the Revenue Board, Madras, shows that up to the year 1871 weavers continued to increase in numbers. In the year 1850, it was stated by Dr. Taylor that, as the finest muslins formed but a small portion of goods formerly exported to England, the decay of the Dacca trade has had comparatively little influence on this manufacture, as these delicate manufactures still maintain their celebrity in the country, and are still considered worthy of being included among the most acceptable gifts that can be offered to her native princes; and he believes that the muslin being then made was superior to the manufacture of 1790, and fully equal to that of the reign of Aurangzeb. Fine muslins have been sent to the Exhibitions in Europe, from Dacca, from Kishengarh in Bengal, from Collar, in the raja of Travancore's dominions, as well as from Chundeyree in the Gwalior territories. Specimens of almost every variety of the cotton manufacture, such as the coarse garrha and guzzee for packing, clothing, and for covering corpses, with dosootee, etc., for tents, canvas for sails, towels, and table-cloths, and every variety of calico, were sent from Nepal and Assam, as well as from along the valley of the Ganges, from

Bengal up to the Jullundhur Doab, in the Sikh territories; also from Cutch, Ahmadabad, Surat, and Dharwar on the western side of India; from the central territories of the Nizam, from Nagpur, and from the islands of the Indian Ocean. Fine pieces of calico and punjum longcloth were sent from Juggiapettah, in the Northern Circars, which was formerly the great seat of this manufacture. Some of the places noted for their manufactures did not grow their own cotton. Dacca no doubt grew most of what it required for its muslins, because the thread did not swell in bleaching, but it also imported cotton formerly from Surat, as well as from Central India. Azimgarh imports its cotton chiefly from the same source to which the Northern Circars was also formerly indebted, while Chundeyree imports its cotton from the distant valley of Nimār. The natives are acquainted with every kind of weaving, from guzzee and gauze, to striped, checkered, and flowered muslins. The last are a branch of art which has been long known in the east, and the mode of making which often puzzled weavers in Great Britain. In manufacturing figured (jamdanee) fabrics, Mr. Taylor informs us, they place the pattern, drawn upon paper, below the warp, and range along the track of the woof a number of cut threads, equal to the flowers or parts of the design intended to be made; and then, with two small, fine-pointed bamboo sticks, they draw each of these threads between as many threads of the warp as may be equal to the width of the figure which is to be formed. When all the threads have been brought between the warp, they are drawn close by a stroke of the ley. The shuttle is then passed, by one of the weavers, through the shed, and the weft having been driven home, it is returned by the other weavers. Most of these flowered muslins are unform in colour, but some are in two colours, and chiefly woven in Bengal. Specimens of double weaving in cotton, and showing considerable skill, with a pleasing arrangement of pattern and colours, were sent from Khyrpur, in Sind. These kinds are also woven in Ganjam. — *Royle on the Arts and Manufactures of India*, p. 487.

TEYAMMUM. ARAB., HIND., PERS. The Muhammadan legal purification with sand, where water is not obtainable. See Bathing; Lustrations.

TEYNGA, in lat. 6° 52′ N., long. 121° 43′ E., is a small low island of the Philippine group, covered with trees, and is the most northern island of the Sulu Archipelago.

TE-YUH. CHIN. Earth's prison. Teen-tang, the heavenly paradise. These correspond to hell and heaven.

TEZAB. HIND., PERS. Acid, lit. biting water.

Gandhak ka-tezab, sulphuric acid.
Nimak ka-tezab, hydrochloric acid.
Shore ka-tezab, nitric acid.
Sirke-ka-tezab, acetic acid, vinegar.

TEZBAL. HIND. Leaves of Xanthoxylon hostile, also of Cinnamomum albiflorum.

TEZIN, a river which rises in the Safed Koh, and after a course of 40 miles falls into the Kābul river at Tarobi. On the 22d October 1841, Brigadier Sale defeated here a body of hostile Afghans. But there fell here, on the 11th January 1842, the remnant of a British force retreating from Kābul, consisting of 4500 men, including followers (out of a total of 16,500 who had left Kābul a few days before). On the 12th and 13th September 1842, General Pollock while advancing was attacked by Afghans here, and repulsed them. —*MacGregor*, pp. 709, 710.

TEZKIRAH. ARAB. A passport; also brief notices of men or things.

TEZPUR, a town in the Durrung district of Lower Assam. Copperplates were found here of supposed date the 10th century, with inscriptions in slightly modified Kutila character. They have invocations to Siva and the Brahmaputra river, and mentioning the boar incarnation and his descendants, also Vishnu, Krishna, and Lakshmi. This inscription records the grant of a village called Abisuravataka, on the west of the Ganges, to a Brahman of the Sandilya race, named Indoka. The donor is Vanamala of the dynasty of Bhagadatta.

THAB BAN. BURM. This Amherst timber is used for boat-building and making carts; timber sometimes 70 feet long. It is a teak, but rather heavier than the usual kind; sp. gr. 0·814.—*Cat. Ex.*, 1851; *Mr. Blundell.*

THA-BEIT. BURM. The alms-bowl of Buddha. See Kasgal-i-Ali; Patra.

THA-BY-KE or Tha-bay-kya. BURM. Described as a kind of oak growing in Amherst, Tavoy, and Mergui, not abundant, but scattered in all forests inland throughout the provinces; of max. girth 1½ cubits, and max. length 16 feet. When seasoned, it floats in water. It is a sufficiently light, yet durable, straight-grained, tough wood; used by Burmese for posts, building purposes generally, and various other objects; likely to prove excellent for helves, and would be unrivalled for shot boxes.—*Captain Dance.*

THADKI. MAHR. With the Mahrattas, a cenotaph of altar-like platform. It supports sometimes a stand for the sacred basil (tulsi-vrindawan), sometimes two feet (padma) in relief; others the linga. These are sometimes protected by a canopy. An instance of the latter is the thadki of the famous Ragonath Rao Bhat (Raghoba Dada), the father of the last Peshwa, whose ashes lie at Hingani, 3 miles up the Ganga from Kopargaon.

THAKUR. An idol, a deity. In Gujerat, a name of the idol Balaji; an individual entitled to reverence or respect. A title applied to the nobles of Rajputana, from Thakura, SANSK., honourable. Thakurani, a lady of rank, from Thakara, a lord. The title is applicable alike to Brahman and Rajput tribes. Thakurbari, HIND., or Thakurwari, also Thakurghar, Hindu place of worship, an idol house; lit. the Lord's house. See Saligramma.

T'HAL. HIND. A desert, sandy tract. See T'hul.

THALA. HIND. A large flat metallic dish.

THALAITI or Talaiti is the term applied to the town at the foot of every hill fortress.

THALAMITA, a tribe of crustacea.

1. *Sub-Gen.* Thalamitæ quadrilaterales.

Thalamita admete, *Edw.*, Red Sea, Indian Ocean.
T. chaptain, *Edw.*, Red Sea.
T. crenata, *Edw.*, Asiatic Seas.
T. prymna, *Edw.*, Australia.

2. *Sub-Gen.* Thalamitæ hexagonales.

Thalamita crucifera, *Edw.*, Indian Ocean.
T. annulata, *Edw.*, Red Sea, Indian Ocean.
T. natator, *Edw.*, Indian Ocean.
T. truncata, *Edw.*, Indian Ocean.
T. cullianassa, *Edw.*, Indian Ocean.
T. erythrosdactyla, *Edw.*, Australia.

THALASSINA SCORPIONIDES, the burrowing lobster of the Fiji Islands; so named from its scorpion-like tail.—*Hartwig.*

THALESAP, a lake on the north of Cambodia, 60 miles in circumference.

THALGHAT or Kasaraghat, a pass in the Syhadri Hills, in the Thana (Tanna) district of Bombay, situated in lat. 19° 43′ N., and long. 73° 30′ E., 65 miles north-east by north of Bombay city. The railway there is the north-eastern branch of the Great Indian Peninsula Railway.—*Imp. Gaz.*

THALICTRUM FOLIOLOSUM. *D. C.*

Meadow rue, . . ENG.	Shuprak, ... HIND.
Pili jari, ... HIND.	Burmoti, . . . PANJAB.
Mamiran, Momira, ,,	

This is found in the Sutlej valley between Rampur and Sungnam, at an elevation of 5000 to 8000 feet; at Mussoori, and generally on the Himalayas. The Makhzan-ul-Adwiah describes three kinds of mamiran, viz. Hindi, blackish-yellow in colour; Chini, dull-yellow; and Khorasani, dark-greenish.

Th. flavum is termed in France and England 'the poor man's rhubarb,' as a substitute for which medicine it is generally employed. The bitter root of the Indian species, in doses of 5 to 10 grains, acts as a tonic and aperient, and is given in the interval of intermittent fevers, and in convalescence from acute diseases. It promises to succeed well as a febrifuge of some power, and an aperient of peculiar value.—*O'Sh.; Cleghorn; Voigt; Ainsl.*

THALICTRUM RUBELLUM. *Smith.* Shing-ma, CHIN., grows in the Chinese provinces of Sze-chuen, Shan-si, and Kan-su. The root-stocks are used medicinally.—*Smith.*

THALLOGENS, a class of plants proposed by Lindley to include those flowerless plants which are distinguished by the absence of an axial stem. It includes all the Cryptogamia, with the exception of ferns and mosses.

Those of the E. Indies comprise the natural orders Confervaceæ, Fucaceæ, Ceramiaceæ, and Hymenomycetes, with the following genera:—

Confervaceæ, Confervids—	Ceramiaceæ, Rose tangles—
ulva.	callithamnion.
porphyra.	ceramium.
Fucaceæ, Sea Wracks—	chondrus.
sargassum. | dictyota.	rhodymenia.
fucus. | chordaria.	Hymenomycetes, Toad-stools—
laminaria. | bryopsis.	Agaricus.
zonaria. | codium.	

THAMAS KOULI KHAN, son of a shepherd of Khorasan, known to the world by his title of Nadir Shah.

THAM KHUAN. SIAM. Certain imposing ceremonies which mark the principal events or eras in the life of a Siamese, such as the shaving his head-tuft, his reception as a bonze, his marriage, the advent of a new sovereign, etc.—*Bowring, Siam*, i. p. 117.

THAMMAI. BURM. A tree native of Amherst; a strong, handsome wood, like Ægiceras, or box-wood.—*Cat. Ex.*, 1862.

THAMNOCALAMUS FALCONERI. *Hooker.* A bamboo growing at 8000 feet elevation in Kamaon and Nepal. Th. spathiflorus, *Munro*, is the small bamboo in the Himalaya from the Sutlej to Bhutan, at 8000 feet.

THAMUD and AD, two tribes of ancient Arabia before the time of Abraham. They are said to have been of gigantic stature.—*Catafago.*

THAN. HIND. A piece of cloth, a web of cloth.

THAN, a village in Kattyawar, to the north of the road from Wadhwan to Rajkot, 12 or 14 miles N.W. of Muli. It is one of the most ancient places in India, and the whole of the neighbourhood is holy ground. It is situated in the part of Surashtra known as the Deva Panchal,—so called, it is said, from having been the native country of Draupadi, the wife of the five Pandava brethren. One of the chapters of the Skanda Purana is devoted to Trineteswara and the neighbourhood. Population, 250,000 souls. Than was visited also by Krishna and his consort Lakshmi, who bathed in the two tanks near the town, whence one has been called Pritam, a contraction from Priyatam, 'the beloved,' after Krishna, so named as being the beloved of the Gopi; and the other Kamala, after Lakshmi. Within a few miles was the shrine of the three-eyed god Trineteswara, one of the appellations of Siva; and close to this, the celebrated kund, by bathing in which pool all sins are washed away. This kund was called therefore the Papnasnu or 'sin-expelling,' as the forest in which it was situated was called the Papapnodnuvana, or the Forest of the Sin-destroyer. Close to Than are the Mandhar Hills, distinguished by this name from the rest of the Tanga range.—*Imp. Gaz.*

THANA or Tanna, chief town of Thana district, Bombay, and a station on the Great Indian Peninsula Railway, 20 miles north-east of Bombay city; lies in lat. 19° 11′ 30″ N., and long. 73° 1′ 30″ E., and contains (1872) a population of 14,299.

Thana or Tanna district, lying between lat. 18° 47′ and 20° 23′ N., and between long. 72° 39′ and 73° 52′ E. Area, 4243 square miles; population (1881), 110,707 persons,—78,582 Hindus, 17,058 Musalman, 542 Jains, 1269 Parsees, 12,689 Christians, and 572 others. The Christians of Salsette and Bassein (about 35,000) are the descendants of the converts of St. Francis Xavier and his successors in the 16th century. The original converts were not obliged to give up caste distinctions, and their descendants have retained many of them, and a Thana Christian can still tell to what caste his family belonged before conversion. Indeed, Christians of the Bhandari, Kumbi, and Koli castes commonly call themselves Christian Bhandari, Kumbi, or Koli, as the case may be; and Christians belonging to different castes do not, as a rule, intermarry, though the restriction in this respect is not so rigid as among Hindus. All of them have Portuguese names, and show their attachment to the Christian religion by contributing very largely to their churches, and to the support of their priests. All Christian villages on the coast, and a good number inland, have their churches; and where a congregation is not large enough to keep a resident priest, one priest serves two or three churches. They live by cultivation, fishing, toddy-drawing, and every other employment open to similar classes of Hindus.—*Imp. Gaz.*

THANAH. HIND. A police station, a military post.

THA-NAT-KHA. BURM. A fragrant yellowish-coloured cosmetic made from the root and bark of the Murraya exotica and M. paniculata.

THA-NAT-THEE. BURM. A timber tree of Amherst, Tavoy, and Mergui, said to be abundant all over the provinces; of max. girth 3½ cubits, and max. length 30 feet. When seasoned, it floats in water. It is a durable, yet light wood, with a very straight grain, and is used for every purpose by the Burmese.—*Captain Dance.*

THANESWAR, a sacred town and place of Hindu pilgrimage in the Umballa district of the Panjab, situated on the bank of the river Saraswati (Sarsuti), in lat. 29° 58′ 30″ N., and long. 76° 52′ E., 25 miles south of Umballa. Population (1868), 7929.

Thaneswar or Sthaneswara is said to be derived either from the Sthana or abode of Iswara, or from the junction of his names of Sthanu and Iswara, or from Sthanu and Sar, a lake. The town is one of the oldest and most celebrated places in India, but the earliest certain notice of it under this name is by the Chinese pilgrim Hiwen Thsang, in A.D. 634, although it is most probably mentioned by Ptolemy as Batan-ka-isara, for which we should perhaps read Satan-aisara for the Sanskrit Sthaneswara. But the place was more famous for its connection with the history of the Pandus, than for its possession of a temple of Mahadeva, whose worship, in India at least, must be of much later date than the heroes of the Mahabharata. All the country immediately around Thaneswar, between the Saraswati and Drishadwati rivers, is known by the name of Kuru-kshetra, that is, the 'field or land of Kuru,' who is said to have become an ascetic on the bank of the great holy lake to the south of the town. This lake is called by various names, as Brahma-sar, Rama-hrad, Vaya, or Vayava-sar, and Pavana-sar. The first name is attributed to Brahma, because he performed a sacrifice on its banks. The second name is derived from Parasu Rama, who is said to have spilt the blood of the Kshatriyas in this place. The last two titles are derived from the names of the god of Wind, on account of the pleasant breezes which blew over the waters of the lake during Kuru's period of asceticism. This lake is the centre of attraction for most pilgrims; but all around it for many miles is holy ground, and the number of holy places connected with the Kaurava and Pandava, and with other heroes of antiquity, is very great indeed; but the list given in the Kuru-kshetra Mahatyma is limited to 180 places, of which one-half, or 91, are to the north along the line of the venerated Saraswati river.

Puranic legends attribute to it an antiquity long anterior even to the Pandus themselves. On its banks, Kuru, the common ancestor of the Kaurava and Pandava, sat in ascetic abstraction; here Parasu Rama slew the Kshatriyas, and here Pururavas, having lost the nymph Urvasi, at length met his celestial bride at Kuru-kshetra, 'sporting with four other nymphs of heaven in a lake beautiful with lotuses.' And a story of the horse-headed Dadhyanch or Dadhicha is perhaps even older than the legend of Pururavas, as it is alluded to in the Rig Veda: 'With his bones Indra slew ninety times nine Vritras.' In A.D. 1011, its temple was sacked by Mahmud.

The sacred lake, a pool of the Saraswati (Sarsuti), forms an oblong sheet of water, 3546 feet in length and 1900 feet in breadth. During eclipses of the moon, the waters of all other tanks are believed to visit this tank at Thaneswar; so that he who then bathes in the assembled water, obtains the consecrated merit of all possible ablutions. The country for many miles around is holy ground, and popular estimate sets down the number of sacred sites connected with the Kaurava and Pandava at 360. At all seasons of the year, a continuous stream of pilgrims pours towards the shrines of Thaneswar and the Kuru-kshetra. The number of visitors at the great festival formerly amounted to 500,000, but had dwindled away in 1872 to 30,000.—*Beng. As. Soc. Journ.* xxii. p. 673; *Cunningham's Geog. India*, pp. 330, 335.

THANNA. HIND. Custom-house, a police station. Thannadar, the chief of police of a station.

THANNA-DAN. BURM. A fruit tree of Amherst. It has a reddish-brown, heavy wood, fit for machinery or other purposes requiring great strength. It is exempt from attacks of insects, but somewhat liable to split.—*Cat. Ex.*, 1851.

THAN-THAT, an Amherst capital wood, used for stocks of various instruments.—*Cat. Ex.*, 1851.

THAN-THAT. BURM. Found inland up the Gyne and Attaran rivers in the Tenasserim Provinces. When seasoned, it floats in water. It is a capital wood, very durable; used by Karens for bows, for shoulder yokes, spear-handles, etc. Excellent for hammer-handles from its tough fibre.—*Captain Dance.*

THAORI. The Choora and Thaori were early in the nineteenth century in castes of robbers; the former from the Lakhi jungle, the latter from Mewar. Most of the chieftains had a few in their pay, entertained for the most desperate services. The Bahaderan chief had expelled all his Rajputs, and retained only Choora and Thaori. The Choora were highly esteemed for fidelity, and the barriers and portals throughout this tract were in their custody. They enjoyed a very singular perquisite, which would go far to prove their being the aborigines of the country, namely, a fee of four copper coins on every dead subject, when the funeral ceremonies are over.

THAR. ARAB. The blood revenge.—*Burton's Pilgrimage*, i. p. 346.

THAR, a typical Nemorhœdus. It much resembles N. bubalina in colour, as well as by its short caprine tail, harsh adpressed hair, and vigorous make, suited to climbing lofty mountains. But the Thar is in structure as much more antelopine as the Takin is more bovine. The Takin is not much, if it all, inferior in size or bulk to the female yak; and, as seen from the front especially, with its lunate horns displayed and its short tail concealed, it would be at once pronounced to belong to the ox kind, close examination alone being likely to suggest any doubts on that head. Its massive form and peculiar proportions are quite bovine.

THAR, the forest goat, is the Nepal name of Nemorhœdus bubalina, called Eimu and Ramu on the Sutlej and Kashmir, and Serow in the hills generally. The other Nemorhœdus, N. goral, is the Gooral, or Himalayan chamois.

THAR and Parkar, a British district in the east of Sind, lying between lat. 24° 13′ and 26° 15′ N., and between long. 68° 51′ and 71° 8′ E. Area, 12,729 square miles; population (1872), 180,761,

or 14 to the square mile. It is bounded on the north by Khairpur state; on the east by the states of Jeysulmir, Malani, Jodhpur, and Palanpur; on the south by the Runn of Cutch; and on the west by Hyderabad. The Pat, or plain, its western part, rises 50 to 100 feet above the Sind plain. The Thar or desert portion consists of a tract of sandhills, which present the appearance of waves running north-east and south-west, and are composed of a fine sand. S.E. of the Thar is the Parkar tract. The peninsula of Parkar in its extreme S.E. juts into the Runn of Cutch. It is level, except in the immediate vicinity of the town of Nagar Parkar, where there are the Karunjhar Hills, composed mostly of syenite rock. It has hilly rocky ranges rising 350 feet above the surrounding level. There are sandhills also in this portion of the district; but towards the east they merge into a large open plain of stiff clay, through which, in places, limestone occasionally crops out.

The number of Musalman is returned as 96,604, and of Hindus, 62,500; the Christian community numbers 35; and Koli, Mengwar, Rahtor, and others, 21,622. The Soda tribe, formerly dominant in Thar and Parkar, are of Rajput origin, and martial in character. The Khosa are fine, robust, martial men, inured to fatigue and [illegible] brave and enterprising, but hard fare. They a[illegible] originally from improvident. The Udejas came [illegible] Sind; they are a fine, athletic race, well-behaved, and have t[illegible]d their attention to agricultural pursuits. [illegible] Bhils rank very low in the social scale, and [illegible] much addicted to theft. The language is a [illegible]ixture of Sindi and Kachi; formerly, when Thar and Parkar was under the administration of the Political Agent at Cutch, all written correspondence was carried on in the Gujerati language.

Travelling in the Thar or desert portion of the district is very tedious and difficult, owing to the sandhills which have constantly to be crossed. The climate of Thar and Parkar is somewhat similar to that of Cutch (Kach), and is subject to great variations of temperature, being excessively hot in the summer, and very cold in the winter, the cold increasing as the sandhills are approached.

Snakes are very common, especially in the hot season. The wild hog, black partridge, and water-fowl are only met with in the Nara tract. The gor-khar or wild ass frequents the Parkar, and the hyæna and lynx, the Thar. The desert ponies are hardy and well made. Camels and horned cattle are bred extensively in the desert; large herds of the latter are annually driven to Gujerat for sale. Thareli, a dialect of Sindi, is spoken in the desert.—*Imp. Gaz.*

THARPANA. SANSK. Amongst the Hindu races, a water oblation, an oblation offered to the gods before eating, and an oblation in honour of the dead. Hindus, at the time of bathing, present water daily to the gods, to the sages, to the yaksha, naga, gandharva, apsarases, asura, vidyadhara, pishacha, siddha, and to their deceased ancestors. The tharpana should be performed three times a day. Brahmans wash the whole body before eating; the Kshatriya, Vaisya, and Sudra, only the hands and feet; they then assume the yellow silk wrapper, which covers them from the waist downwards, and is the sole article of dress worn at meals. In Gujerat, each person has a small oblong wooden stool to sit upon, and the food is placed on a similar stool or short-legged table. The vessels used are brass or copper, —a flat, round dish, containing bread and preserves, or condiments, and two or three cups of pottage and vegetables. The water-vessel, of silver or brass, with a small drinking cup set upon it, stands on one side. The second course is composed of rice and curds, or similar food. On great occasions, however, the fare is more varied and costly. Ablutions after meals are confined to the hands and face.

For the first meal the men of the family eat at the same table, then the women clean the same vessels, and use them for their own breakfast. The servants take their food after the family breakfast is finished, and they use different vessels. The men chew betel-nut after meals. They strive to avoid incurring defilement from the touch of a person of lower caste. Such pollution, however, when it occurs, is remediable by the use of 'panch gavya,' or the five articles derived from the cow, and by fasting for the remainder of the day. The second meal, which is a lighter one, is eaten at about eight in the evening.

A Brahman traveller preparing for dinner makes a 'choko,' the floor of which he spreads with cow-dung and earth, moistened with water. When at home, his own 'rusodo' or cooking-room is the place employed; but if necessary, [illegible] under the shade of a hedge the choko may be made [illegible] ient place. by the wayside, or in any other conven[illegible] Upon the choko he raises a little temporary stone, which he smears in like manner with cow-dung, and thereupon he cooks his food. The Purbeea, or eastern Brahmans, carry their exclusive notions upon this point to such a length, that brothers even are forbidden to use the same choko, nor may one take fire from the stone of another. Hence the saying, 'Twelve Purbeea and thirteen choko,' because with that number of Brahmans an extra stone would be required for the fire alone.

The Brahman, when his food is ready, before eating, performs the tharpana; that is to say, he fills a copper cup with water, and puts therein a few grains of barley, some sesamum, leaves of the sacred basil tree, sandal, etc.; then, holding some sacrificial grass, he fills his joined hands with water, which he pours back again into the cup, saying, 'I offer (make tharpan of) this water to all the Dev.' He proceeds to make similar offerings of water to men, animals, trees, rivers, seas, to the bhoot, pret, rishi, progenitors, and others. Then he mentions the names, as many as he can recollect, of his father's ancestors, his mother's ancestors, and his own deceased friends. He now performs the homa, or fire-sacrifice, by throwing a portion of rice and clarified butter into a little copper or earthen vessel containing fire, repeating, while so employed, the names of the Deva. The Brahman sets aside five portions of food, for cows, beggars, dogs, ants, and sparrows. He then takes a little of each dish, and offers it to the Deo, in a vessel containing five divisions. He now sits down to his breakfast; but before commencing repeats the gayatri over a handful of water, with which he sprinkles his own food, and three portions which he sets apart for Brahma, Vishnu, and Siva. The

first five mouthfuls he swallows are for the 'Panchpran,' or five airs supposed to be in the body and necessary to existence. At the conclusion of his repast, he deposits upon the ground a little of what remains, as an offering on behalf of the spirits residing in hell. Long practice enables the Brahman to acquit himself of the performance of this very elaborate and painful ceremonial in less time than is occupied in the description.

Brahmans observe practices of peculiar difficulty in order to maintain their superiority over the other castes. Of these the most strict is an observance of the Nagar Brahmans, called 'Nuven,' or purity in regard to food. The Brahman, having bathed, dresses himself in silk or woollen clothes, or if he require to use cotton garments, these must be dipped in water, wrung out, and dried in some place where nothing impure can touch them. Thus habited, he sits down to dinner; but he must preserve himself from numerous accidents which would render him impure, and compel him to desist from his meal. If he touch an earthen vessel he is defiled, unless the vessel have never contained water. The touch of a piece of cotton cloth, or of a piece of leather or paper, which he may accidentally have sat down upon, renders him impure; but if Hindu letters have been written on the paper they preserve him from defilement, because they represent Saraswati, the goddess of learning, the sakti of Brahma. If, however, letters be written [illegible] these remai[illegible] on cloth or leather, oth[illegible] impure. Thus, if the Gita, or any other portion of scripture, be required for use at the time, it must be bound with silk, and not with cotton; leather must be avoided, and instead of common paste of flour and water, the bookbinder must employ paste of pounded tamarind seed. A printed book will not answer the Brahman's purpose, because printing ink contains impure water. Some think that the touch of deerskin does not defile. Raw cotton does not render the Brahman impure, but if it have been twisted for the wick of a lamp by a person not in the state of 'Nuven,' it does; and again, if it have been dipped [illegible] oil or clarified butter it does not. Bones defile, but women's ivory armlets do not, except in those parts of the country where they are not usually worn, and then they do. The touch of the child of the same caste who has not learned how to eat grain does not defile, but if the child have eaten grain it does. The touch of a donkey, a dog, or a pig defiles; some say that the touch of a cat also defiles; others are inclined to think that it does not, because, in truth, it is not easy to keep the cat out. If a Brahman who is in 'Nuven' be eating, or if he have risen from eating, the touch of his person defiles another Brahman who is in 'Nuven,' but has not begun his dinner.—*Forbes' Rasamala or Hindu Annals*, ii. pp. 256-259.

THARU appear to have been at one time a Gangetic tribe, dominant in Gorakhpur, and Buchanan Hamilton appears to connect them with the Tibetan invasion in the 7th century. The Tharu inhabit the forests; they are a wild, uncultivated, and extremely superstitious race, and assign to themselves a mythological beginning. Their villages are divided into certain circuits, marked off by the bhurra of Bheonhar, a self-created superior, whom these people believe to be inspired by Bhowani, and to whom they submit in every occurrence of their domestic lives. A bhurra is indispensable at every birth, marriage, and death, directs all religious ceremonies, and has supreme influence in the circuit to which he belongs. He has, however, to prove his inspiration before the assembled villagers by one of two methods, either by drawing seven times the flame from a lighted to an unlighted wick without bringing the two in contact, or by calling upon Bhowani, who is supposed to descend upon him, when the bhurra begins to dance and jump about violently, and convince the assembled crowds of superhuman powers by his movements and gesticulations. The bodies of the Tharu that die in advanced years are burned, but those of the young are buried; also, though their widows are allowed to remarry, a man may not marry the widow of his younger brother.

THATCH. In the S. of the Peninsula of India, the thatch in use with the people is made of palmyra leaves. It is the best thatch for houses, and the most durable. Next to it, in Madras, ranks in value the Cyperus textilis, which grows on the banks of rivulets in the low country, and is called Koary. The leaf of the cocoanut is a very perishable material, and only employed by the very poor. In the Dekhan a long grass is chiefly used. The Karen in Burma use the large palmated leaf of a tall wild pal[illegible] stonia, but the [illegible], a species of Livi- the [illegible] Europeans and Burmese there use [illegible] atap, leaves of the Nipa fruticans. The Karen in Amherst province e[illegible]y the tall grasses, Imperata cylindrica, Sac[illegible]um cylindricum, and S. spontaneum. Lo[illegible]asses and sedges (Arundo, Saccharum, and S[illegible]ria) are cut and stacked along the water's edge of the Brahmaputra in huge brown piles, for export and thatching. In S. India, for thatch, the natives also use the straw of the common grains, called in Tamil Vakel or Vagghil straw (A. muricatum), and the spice grass (Andropogon schœnanthus), also the cocoanut leaves made into a kind of coarse matting called Tennam kittu. The Gabagaba, the midrib of palm leaves, particularly of the leaf of the sago palm, is much used throughout the Moluccas for building and fencing. The Bhare of Northern India is a jungle grass about 9 feet high, used for thatch and tatties. Its canes are called Nunre. Through almost all Arabia species of Panicum or Scirpus are used for covering the roofs of the houses,—slender coverings, but sufficient in countries where rains are unfrequent.—*Birdwood; Royle; Niebuhr's Travels*, ii. p. 34; *Hook. H. J.* ii. p. 373; *Ains.*

THATCHANAGANTHAM. SANSK. The southern solstice. See Avani Avattam.

THA-THANA-BAIN. BURM. Defender of the Faith. The title of the high priest or patriarch of all the Phoungye or Buddhist priests of Burma. —*Yule*, p. 165.

THATHERA, metal workers in Benares, distinct from the Kasera, although, to some extent, they work in the same metals,—iron, tin, zinc, brass, copper, and kasa or bell-metal.

THATUN, 40 miles N. of Martaban, on the Salwin river, supposed to be the Suverna Bhumi or Golden Chersonese. It was sacked by Anaratha, king of Pegu, A.D. 1080.

THATYAL, meaning the maimed, a wandering Gond tribe; also called Pendabarya, or minstrels of God; also Matyal, because their songs are

chiefly in honour of the goddess Mata. They make baskets.

THAU, the Tauutic emblem of the Egyptians, the hieroglyphic of the god Toth, was originally expressed, according to Kircher, by the simple figure of a cross, like the Greek T and the Coptic *dau*. The Hebrew *tau* is supposed to have been derived from it, though it has deviated from its shape. It is frequently found on the Egyptian obelisks, and was always regarded as a talisman of extraordinary potency. The original in Ezekiel is, 'Set a *tau* upon their foreheads,' instead of 'mark;' which sense the Vulgate preserves, 'Mark with the letter *tau* the foreheads,' etc.; upon which Louth observes that in the parallel passage in the Septuagint, το ημιον, a mark, should be *Tau* ημιον, the mark Tau. It is worthy of note that in the Samaritan character, in which Ezekiel wrote, it is agreed among the learned that the *tau* was formerly cruciform, corresponding in shape with the Tauutic cross and the English letter T. From this we learn that the crucifix was a sacred sign among the Jews, as well as the Egyptians, a hieroglyphic marking, the property of the deity. In this sense the language of Job is beautiful and appropriate:

> 'Behold, here is my Thau!
> Let the Almighty answer me.
> Surely I would take it upon my shoulder,
> And bind it as a crown to me.'

Count de Gebelin observes that in France, in the early ages of [illegible]stianity, during the ceremony of baptism, the [illegible]ciating priest said, 'Crucis thaumate notar[illegible]hence the Jews themselves, in the later perio[illegible] their history, fell into the error, as also did the early Christians; and even in modern times the potency of the wizard's charm and the fortune-teller's crawl is an article of vulgar belief. The phylacteries of the Jews, mentioned by our Lord, were strips of parchment inscribed with paragraphs of the law, which were worn on their caps and arms, and inscribed on their door-posts, to prevent the intrusion of evil agencies, as the root in the Greek, from whence the name is derived, signifying to guard or preserve, plainly shows. The Christian heretics of the second century, especially the Gnostics, used gems, inscribed with the word Abraxas, for a similar purpose; but the 'curious arts' which the Ephesians abandoned, still maintain their hold upon the popular mind; and the Greek imprint the crucifix as a resistless spell. The all-potent word Abraxas, variously written Abrasax and Ias, occurs, referring to the Supreme Deity and Jesus. The 'curious arts' of the early Christians were condemned in the council of Laodicea, A.D. 364, can. 36; the fathers declaring that such phylacteries or charms were bonds and fetters to the soul, and ordering those who wore them to be cast out of the church. In the east, the Vaishnava and Saiva Hindu affix marks to their foreheads; Muhammadans defend their houses and persons with tawiz, passages from the Koran. It is a general custom amongst the Muhammadans of India of the present day to carry holy texts of the Koran on their arms and in their turbands, and to place charms on their door-posts.—*Du Cange, Glossar.; Voces Ligaturæ, Legationes, in Milner's Church History.*

THAVAN, meaning god, is the tribal title of the Maravar race of the S. of India.

THAWA, a lowland tribe mentioned by Dr. Campbell as inhabiting similar tracts to their neighbours the Mechi.—*Campbell*, pp. 50, 149.

T'HAY. The T'hay stock, the people of Siam. See India; Siam.

THAYETMYO, a military station in Pegu, near the British frontier. It gives its name to a district, of which it is the chief civil station, in lat. 19° 18′ 43″ N., and long. 95° 15′ 40″ E., on the right bank of the Irawadi. Thayetmyo signifies 'Mango city;' but this is said to be a corruption of 'That-yet-myo,' or 'City of Slaughter,' so called, as tradition alleges, from one of its early rulers, who killed his sons in order that they might not rebel against him when they grew to manhood. The district is 2397 square miles; pop. (1881), 169,560 souls. On the east and west are the Pegu and Arakan Yoma ranges respectively; and the face of the country, where it does not rise into mountains, is everywhere broken by low ranges of hills, many of which are barren and destitute of all vegetation.

Several salt and hot springs occur in Thayet district. 9½ miles north-north-west from Ka-ma is situated the spot where the curious manifestation known as the 'Spirit Fire' takes place. This is caused by the ignition by some unknown means of the gas which is stored up in subterranean cracks. Petroleum is found near Pa-douk-beng, 7 miles north-north-west from Thayetmyo; also at Bhan-byeng, about 9 miles from the same town.

The cotton of Thayet is perhaps the best in Burma. It is grown entirely in toungya clearings, and is generally sown with rice or sesamum. The cotton-cleaning machine consists of a framework of four posts, a bamboo pedal, a fly-wheel, and two cylinders placed close to one another, the upper one being of thin iron, and the lower somewhat larger and of wood. The bamboo pedal is attached by a string to the fly-wheel, and the wooden cylinder has a handle at the end opposite to the fly-wheel. With this apparatus, one operator will clean about 12 viss (43 lbs.) of raw cotton in a day, turning out about 4½ viss (16 lbs.) of cleaned cotton. It is also the largest tobacco-growing district in Burma. The plant is grown chiefly on sandbanks in the Irawadi, which are submerged during the rains.

Prome and Thayetmyo supply the greater portion of the catechu manufactured in British Burma. The mulberry tree is extensively cultivated for the rearing of silk-worms. The price of raw silk varies from £1, 10s. to £2 per viss (3·65 lbs.).—*Imp. Gaz.; Census* 1881.

THEA CHINENSIS. SIAM. The celebrated tea plant, one of the Ternstrœmiaceæ, a native of China, of Assam, and the regions south to the borders of Cochin-China. It has three varieties—T. Assamica, T. Bohea, *Linn.*, and T. viridis. It is the Camellia thea of Linklater. In China, so famed for its production, it is only known under cultivation. It must have been used in China from very early times. It is differently named in different parts of China, as Tcha or Cha, also Tha, whence we have Tsia, The, and Tea. In Persian works in use in India, tea is called Cha-i-Khatai, or tea of Cathay.

THEATRICAL REPRESENTATIONS are common among the Tamils, the Burmans, the Chinese, and the Malayanesians, but are of comparatively rare occurrence amongst the Northern

Hindus. In ancient Hindu times, plays were written for representation on lunar holidays, royal coronations, at fairs and religious festivals, marriages, taking possession of a house or town, and the birth of a son. Specimens of these dramatic writings were given in the translation of Sakuntala, by Sir W. Jones; in that of Prabodha Chandrodaya, or Rise of the Moon of Intellect, by Dr. Taylor of Bombay; in Professor Wilson's Hindu Theatre, and Professor Monier Williams' Nala and Damayanti. They seem to have been written for one performance, lasting for 4 or 6 hours, and to have been represented only once. With the Burmese, a dramatic representation lasts a whole day or more, and with the Chinese, even for ten days. Amongst the Athenians a piece was never performed a second time, at least under the same form. The ancient Hindu drama is in Sanskrit. The Burmese representations are stated by Mr. Oldham to be indelicate, but Colonel Phayre's opinion is not in accordance with that. In India, amongst the Hindus, traces of an inferior order of the drama are to be found in the dramatized stories of the Bhand (HIND.) or professional buffoons; in the Jatra of the Bengali people, and the Rasa of the Western Provinces. The *Bhaur* is a representation of some ludicrous adventure by two or three persons, carried on in an extempore dialogue, usually of a very coarse kind, and enlivened by practical jokes not always very decent. The *Jatra* is generally the exhibition of some of the incidents in the youthful life of Krishna, maintained also in extempore dialogue, but interspersed with popular songs. Radha, the mistress of Krishna, his father, mother, and the Gopi, are the ordinary dramatis personæ, and Nareda acts as buffo. The *Rasa* partakes more of the ballet, but it is accompanied also with songs; whilst the adventures of Krishna or Rama are represented in appropriate costume by measured gesticulations. The most recent dramatic Hindu writings are of a mythological and sectarial character.

During the 7th decade of the 19th century, there were frequent revivals of the Tamil drama at Madras. In China, companies of actors travel about the country, and engage themselves to committees of temples or guilds, or to wealthy individuals, for a week or more at a time. Admission is gratis; the play is carried on night and day, with intermissions for food. The female parts are taken by men. These representations resemble the Pooay of Burma.—*Wilson's Hindu Theatre.* See Drama; Literature.

THEBES, a ruined city in the valley of the Nile, the capital of an ancient dynasty of a people now forgotten; but here science and art once flourished.—*Catafago.*

THEGAI CHETTOO. TEL. A creeper of Ganjam, which is soaked and then beaten to extract its fibres.

THEIN. BURM. A chapel for the consecration of the Burmese priesthood, constructed on holy ground; an open pavilion, supported on four pillars, built over the large sitting gilt images of Gautama. The Albert Memorial in shape is similar to a thein.—*Yule*, p. 12.

THEINE. The properties of tea depend chiefly on the presence of tannin, of a volatile oil, and of a principle called theine ($C_8H_5N_2O_2$), which has been found to be identical with caffeine, and is a salifiable base. It may be obtained in white silky needles; has a mild, bitter taste; is soluble in hot, but sparingly so in cold water and alcohol. It has astringent and moderately excitant properties, chiefly affecting the nervous system, producing some degree of exhilaration, and of refreshment after fatigue. Its effects are well seen in the wakefulness produced. But it is thought by some writers to act as a sedative on the heart and blood-vessels; or, as Dr. Billing explains it, tea and coffee are sedatives, and relieve the stupor produced by stimulants or the drowsiness of fatigue, or other plethora, only by counteracting the plethoric state of the brain, induced by the continued stimulation of action,—thus merely restoring the brain to its normal state. Liebig (Anim. Chem. p. 179) has suggested that theine, as an ingredient of diet, may be useful in contributing to the formation of taurine, a compound peculiar to bile. Besides being useful as a diluent, it may often be prescribed as an agreeable and refreshing beverage; in some cases, especially when made strong, acting as an excitant, and at other times producing sedative and calming effects. Tea is very extensively cultivated in Kangra valley and Kullu, in Assam, and on the Neilgherries. Coffee leaves are infused in the same manner as the tea leaf, and the beverage coffee-tea is said to be in common use in Sumatra. The coffee decoction or new tea are valuable in opium-poisoning.

THELPHEUSA, a genus of crustacea, comprising—

Thelpheusa Indica, *Edws.*, Coro[illegible]el coast.
T. chaperon arrondi, *Q. and G.*
T. perlata, *Edws.*, Cape of Good H[illegible]
T. Leschenaultii, *Edws.*, Pondiche[illegible]

THENG-BAN-SHA. BURM. A bast of Arakan, coarse looking, and of a reddish-brown colour, but divisible into a number of very thin layers, with a good deal of flexibility and some toughness.—*Royle.*

THENG-GAN. BURM. This wood, a native of Amherst, is employed for house-posts, carts, boat-building, paddles, and oars. It is an excellent compact wood, fit for gun-carriages. It is the wood in most general use for almost all purposes, but principally for large canoes, which form the bottoms of the native trading crafts; this is owing to its being more plentiful than most of the others, easily worked, and by killing the tree before felling, as with teak, is rendered capable of floating. This process, however, is rarely observed; the tree selected for working is felled and hollowed on the spot, and the canoe removed to the neighbourhood of the water to undergo the process of widening by fire; some trees producing by this rude process, canoes of 60 to 70 feet long, by 6 to 8 feet in breadth across the centre.—*Cat. Ex.*, 1851.

THEOBROMA CACAO. *Linn.*

Cacao sativus, *Lam.* | C. minus, *Gærtn.*

The smooth-leaved chocolate-nut tree, a native of Central and South America, now cultivated in several parts of India and the E. Archipelago, and extensively in the West India islands. Its large oval yellow cucumber-like capsules, about 5 inches long, hang from the sides of the trunk and branches. These are divided into 5 cells, each filled with 8 to 10 ovoid seeds, piled one upon another, and covered by a membranous and succulent aril. There are several varieties of these seeds or nibs, which are more or less

esteemed. The kernels of the seeds yield by pressure about one-half their weight of a fatty oil, commonly called butter of cacao, at one time much lauded for its medicinal properties. The seeds, pounded, digested, and boiled with water, with the oil skimmed off, and sweetened with sugar and milk, afford a wholesome and agreeable beverage. A tree in full bearing is said to yield annually 150 lbs. of seeds. Dried, roasted, and ground, they constitute cocoa; mixed with starch and finely ground, soluble cocoa. The cocoa as sold in the retail shops, however, consists either of the roasted kernels and husks, or of the husks only, ground to powder; it is sometimes made from the cake left after expressing the oil from the beans. Much of the cheap stuff sold under this name is very inferior, being made with damaged nuts that have been pressed for the oil, mixed with potato-flour, mutton suet, etc. Flake cocoa is cocoa ground, compressed, and flaked by machinery. Chocolate (from the Indian name chocolalt) is made by triturating in a heated mortar the roasted seeds, without the husks, 10 lbs. with an equal quantity of sugar, and about 1½ oz. of vanilla and 1 oz. of cinnamon, into a paste, which is put up in various forms. The mass of the common chocolate sold in England is prepared from the cake left after the expression of the oil, and this is frequently mixed with the roasted seeds of ground peas and maize, or potato-flour, to which a sufficient quantity of inferior brown sug[illegible] treacle and mutton suet is added to make it [illegible]here together. The chocolate-nut tree is s[illegible]n Tavoy gardens, and it brings its fruit to p[illegible]tion. This tree has been *introduced* into Travancore, where it thrives well; the fruit is round, but smaller than that produced in South America. It thrives well in the Calcutta Garden. The nutritive properties of chocolate depend on a concrete oil or butter, of most agreeable flavour, of which 1000 parts of the seed yield 386.—*Drs. Royle, Mason, Riddell, and O'Shaughnessy*, p. 227.

THEOPHRASTUS, the contemporary of Aristotle, B.C. 300, mentions fishes (De piscibus) found in the Euphrates, which, in the dry seasons, leave the vacant channels, and crawl over the ground in search of water, moving along by fins and tail. He wrote also on plants, 'Peri phuton istorias,' and notices 500 plants useful in medicine.

THEOPHYLACTUS SIMOCATTA, a Byzantine writer of the early part of the 7th century. He describes the Taugas as a people and state very famous over the east, originally a colony of the Turkish race, then forming a nation scarcely to be paralleled on the face of the whole earth for power and population,—evidently the rulers of China.—*Yule.*

THEOS, Θεος, GREEK, God, Zeus, is merely deus in one syllable. Deus is Theos. Zeu in Pelasgic Greek is Jupiter; Seu, Su, or Zu, probably Spartan of Theus. The tri-glyph letters of the ancient Pali alphabet, 3 yods; in Arabic, 3 strokes.

THERAI or Terai, a forest or jungle tract at the foot of the Himalaya, varying from ten to thirty miles in breadth. No two climates and locations can be more dissimilar than those of the hills and terai, and no races are more distinct in their habits, manners, and aptitudes than the people of the hills and those of this jungle belt below. There is little or no terai or forest belt north-west of the Saharunpur district and the Dehra Doon; but thence eastwards this belt stretches along the foot of the hills through Rohilkhand, Oudh, and the Bengal frontier, up to Assam. A great part of the Oudh terai was transferred to the Nepalese. Dr. Campbell describes the people of the Nepal terai as a vast assemblage of bastard Hindus.—*Campbell*, p. 47. See Terai.

THERMOMETER. The subjoined table shows the boiling points of distilled water at different elevations, up to 17,455 feet:—

Therm.		Elevation.	Therm.		Elevation.
212°	=	0 feet.	195°	=	8,953 feet.
211°	=	529 ,,	194°	=	9,502 ,,
210°	=	1021 ,,	193°	=	10,053 ,,
209°	=	1534 ,,	192°	=	10,606 ,,
208°	=	2049 ,,	191°	=	11,161 ,,
207°	=	2566 ,,	190°	=	11,719 ,,
206°	=	3085 ,,	189°	=	12,280 ,,
205°	=	3607 ,,	188°	=	12,843 ,,
204°	=	4131 ,,	187°	=	13,408 ,,
203°	=	4675 ,,	186°	=	13,977 ,,
202°	=	5185 ,,	185°	=	14,543 ,,
201°	=	5718 ,,	184°	=	15,124 ,,
200°	=	6250 ,,	183°	=	15,702 ,,
199°	=	6786 ,,	182°	=	16,234 ,,
198°	=	7324 ,,	181°	=	16,868 ,,
197°	=	7864 ,,	180°	=	17,455 ,,
196°	=	8407 ,,			

—*O'Shaughnessy*, p. 37.

THERO. SANSK. A presbyter.

THESAURUS ZEYLANICUS, a botanical work by John, or the elder, Burmann, published in 1737, with 110 plates, containing figures of 155 plants, which are generally very characteristic and well executed. Burmann's work appears to have been principally drawn up from specimens collected by Dr. Paul Hermann, who was sent out to Ceylon in 1670, and remained till 1677, at the expense of the Dutch East India Company, for the purpose of describing all the plants and spices growing in that island. Hermann's Museum Zeylanicum was first published in 1717, although it appears to have been written many years before. Besides the plants of Ceylon, it contains many species collected at the Cape of Good Hope, unfortunately not distinguished from the others, a circumstance which afterwards led Linnæus into the error of considering them all natives of the east. Hermann's herbarium had been lost upwards of half a century, until chance threw it into the hands of M. Gunther (apothecary to the king of Denmark), who sent it to Linnæus, requesting him to examine it, and affix the names to the plants throughout the collection. Its great value, from the collector having been so eminent a man, induced Linnæus to examine the whole with much attention, and he was thereby enabled to form many new genera and settle many doubtful species. He published the result of his labours under the title of Flora Zeylanica, sistens plantas Indicas Zeylonæ insulæ, quæ olim 1670–1677, lectæ fuere a Paulo Hermanno, Professore Botanico, Leydensi; demum post 70 annos ab A. Gunthero, Pharmacopæo Hafniensi, orbi redittæ (Holm. 1747, 8vo, pp. 254, tab. 4). In an appendix, the new genera are concisely given by themselves, copied from an academical dissertation published under Linnæus' presidency, by C. M. Dassow.—*Wight's Prodromus*, i. p. 9.

THESPESIA POPULNEA. *Lam.*

Hibiscus populneus, *Roxb.*		Malaviscus populneus, *Gær.*	
Poresh,	Beng.	Bendi,	Mahr.
Poo-arasoo,	Can.	Bapariti,	Maleal.
Paras pipal,	Dukh.	Supara shavaka,	Sansk.
Tulip tree,	Eng.	Surya-gass,	Singh.
Portia tree,	,,	Pursa maram,	Tam.
Pahari pipal,	Hind.	Puvarasa maram,	,,
Imli Khorasani,	,,	Gangaravi,	Tel.

This handsome tree is generally met with in Ceylon and in Southern India, in avenues or lining roads, but is in most abundance near the sea. It is of quick growth, and yields a good shade, but is inconvenient on road-sides and in gardens, from the quantities of leaves it sheds, and the numerous large flowers which fall. It is commonly planted from cuttings, from which cause, perhaps, the tree is often hollow in the centre. It yields, when ripe, a very strong, hard, and durable timber, with a colour like mahogany, but its use is limited from the difficulty of getting it of large size. It is used for chairs in Madras. On the Bombay side, where it is found only near the coasts, it is much used in the construction of cart-wheel spokes, and for the timbers of native boats. The shoots are also in extensive use there as rafters for houses, and at all times fetch a good price when sold for this purpose. The Bombay Government formed plantations of this tree at Sakuria in Alibagh, at Sat Tar, and in Colaba. The increasing scarcity of this tree is such, that wheel-spokes were at one time being paid for by the Gun-Carriage Department at 12 annas each. There are a pretty large number of these trees within the village precincts of many of the cultivators in the Konkan, but these are mostly reserved for the supply of choice rafters, afforded by the straight shoots of the tree, while the stem is most frequently hollow; and therefore the ripe wood, or such of it as remains, is worthless for ordnance purposes. Though of rapid growth, its wood is not in much use. Some Ceylon caterpillars sting; a greenish one, which occupies the Thespesia populnea at a certain stage in its growth, descends by a silken thread, and hurries away. The moth of this is supposed to be a Bombyx, near Cnethocampa. The capsules yield a yellow dye, which is used as a wash for cutaneous diseases, as is also the bark boiled in water, and the latter is given internally as an alterative.—*Stephens; Drs. Voigt, Wight, Thwaites, Gibson, Cleghorn; Captain Beddome.*

THEVENOT, the younger, was a great traveller. He was born at Paris, and died at Miana in Persia, about eight days' journey from Tauris, November 18, 1667. He was Monsieur Petis de la Croix's friend, so he took care to revise his Memoirs, and had them printed in three volumes in 1689? The first contains his travels into Turkey, the second his travels to Persia, and the third to India. An edition in five volumes was printed in Amsterdam in 1727. Monsieur Petis de la Croix, jun., the oriental interpreter to the king of France, being at Miana afterwards, disinterred his bones near the caravansary where they had been buried, and had them interred at Tauris, under the altar of the Capuchins Church there, in 1676. Mouri and other French writers confounded the two Thevenots, as appears from the Dictionnaire Historique of Ladvocat (Par. 1760), and the Nouvelle Bibliotheque d'un Homme de gout, tome iii. p. 454 (Par. 1777), styling him indifferently Fager, or the nephew, or the traveller. In Thevenot's journey through India, he sailed from Bosra on the 6th November 1665, and arrived at Surat 10th January 1666. He proceeded via Baroach to Ahmadabad, Cambay, Agra, Dehli, Allahabad, Burhampur, Goa, Golconda, Hyderabad, Masulipatam, Surat, Bandar Abbas, Shiraz, Kum Farsank, and died at Miana. Mordechin is noticed by Thevenot.—*History of Chengiz Khan*, p. 446.

THEVETIA NERIIFOLIA. *Juss.*

Cerbera Thevetii, *Linn.* | C. thevetis, *Don.*

The exile tree, is a common ornamental shrub in the gardens of the Peninsula and in Calcutta; grows to the height of 10 or 12 feet, with long tapering leaves, and blossoms throughout the year. Its juice is acrid. Two grains of its bark have been affirmed to be equal to an ordinary dose of cinchona. Wood worthless.—*M. E. J. R. Cat.; Madras Gardens; Riddell; Ind. Ann.*

THIAN SHAN or Tien-Shan, a mountain range in Central Asia. Semiretchinsk, or seven-streamed, is the southernmost of the three provinces that make up now the general government of the steppe. In the east are rich valleys of fertile black earth, and mountain gorges lying deep in forest recesses; but the most remarkable portion is the southern mountainous region of the Thian Shan, which, after the Himalayas, contains some of the most gigantic mountains in the world. The entire length of the Thian Shan is about 1660 miles, and its highest peaks everywhere exceed the limit of perpetual snow. It has plenty of peaks from 16,000 feet to 18,000 feet high, and one of them is said to exceed 21,000 feet. The glaciers of the Thian Shan are computed at not less than 8000; and there are numerous snow bridges, some of them a mile and a third in length, and 100 feet in thickness. General Kolpakofsky reports that he discovered the perpetual fires in the Thian Shan range of mountains; that the mountain Bai Shan has been found 12 miles north-east of the city of Kuldja, in a basin surrounded by the massive Ailak mountains, and that the fires which have been burning there from time immemorial are not volcanic, but proceed from burning coal. On the sides of the mountain there are caves emitting smoke and sulphurous gas. Mr. Schuyler also, in his Turkestan, mentions that these perpetual fires in the mountains referred to by Chinese historians were considered by Severtzoff, a Russian who explored the region, as being caused by the ignition of the seams of coal or the carburetted hydrogen gas in the seams. The same author further mentions that Captain Tosnofskey, another Russian explorer, was told of a place in the neighbourhood from which steam constantly rose, and that near this crevice there had existed from ancient times three pits, where persons afflicted with rheumatism or skin diseases were in the habit of bathing. Flames are also said to issue from Mount Hote Kesu, near Turfan, 420 miles further eastward. See Tien.

THILACUM. Tam. The sectarial mark placed by Hindus on their foreheads to indicate the sect to which they belong. The Smartta Brahmans and Saiva sect draw horizontal lines with ashes (vibudi) and sandal-wood powder, with a round spot of saffron in the middle.

The Madhava sect of the Vaishnava have perpendicular marks, with sandal-wood paste

and burnt incense, with a round spot in the centre.

The followers of Ramanuja, another Vaishnava sect, usually mark a trident with white and saffron-coloured perpendicular lines. See Tilaka.

THIRST. The Eastern Arabs allay thirst by a spoonful of clarified butter, carried on journeys in a leathern bottle. Every European traveller has some recipe of his own. One chews a musket bullet or a small stone; a second smears his legs with butter; another eats a crust of dry bread, which exacerbates the torments, and afterwards brings relief; a fourth throws water over his face and hands, or his legs and feet; a fifth smokes. But to conquer the craving, be patient and do not talk. The more you drink, the more you require to drink—water or strong waters. But after the first two hours' abstinence you have mastered the overpowering feeling of thirst, and then to refrain is easy.—*Burton's Pilgrimage*, iii. p. 19.

THIRTANKARA, a sainted Jain teacher.

THITSEE, BURM., is the celebrated Burmese black varnish, obtained from Melanorrhæa usitatissima. In varnishing an article, the Burmese first give it a coat of the coarser kind. When this is dry, they lay a coat of a better quality over it, and finish with a coat of the best over all. Price, Rs. 120 for first quality, Rs. 80 for second, and Rs. 60 for third quality, for 365 lbs.—*Local Committee, Rangoon.*

THLEN. In the neighbourhood of Cherrapunji, in [illegible]m, the people believe in Thlens. The origi[illegible] Thlen was a gigantic snake, a monstrou[illegible]rm, which lived in a cave near Cherrapun[illegible] and ate men and animals. One day, however, a local hero addressed himself to the task of overcoming the Thlen by guile. He drove a herd of goats to the mouth of the cave, and offered them one by one to be eaten. By degrees the monster became friendly, and learned to open his mouth at a word from the man, to receive a lump of flesh, which was then thrown in. These relations being established, the dragon-slayer heated a lump of iron red-hot, and heaved it into the Thlen's open mouth. This killed the Thlen, whose body the man then cut up, and sent the pieces to different people in various directions, with orders that each piece was to be carefully eaten. Wherever this was done, the people were troubled with no more Thlens; but one small piece, which nobody would eat, was left, and from this sprang a brood of serpents which still infest Cherrapunji. Now, when a Thlen takes up his abode in a house, there is no turning him out; he only leaves when he pleases, which is mostly when any of the property of the family is sold or given away. The Thlen brings wealth to a family, but on the understanding that he is supplied with blood. The people know when the Thlen is thirsty, by the appearance of some sickness or misfortune in the house. To satisfy his craving, a human being must be murdered. The victim's hair and fingers, and a quantity of his blood, are put in a bamboo tube, and it is believed that the Thlen appears in the form of a snake, and devours the body of the murdered person, which is materialized from the portions thus offered. After this the affairs of the household prosper. Many families in the hills are suspected to be Ri thlen, or keepers of a Thlen. In 1881 it is believed that three murders were committed with the object of appeasing a Thlen. One of the victims was an old woman, another a boy. In each case one or two persons were convicted; one man was hanged, and the rest were sentenced to imprisonment for life, or a term of years.

THODIKAN and Cicilly, in Southern India, are two towns on tributaries of the Puiswany and Netravatty. The priests of the Hindu temples there have a legend that their god (Eswara) performed a journey from Kailasa to Thodikan on the back of a mahseer. These fish are therefore protected by the priests, and pilgrims feed them. They are exceedingly tame and numerous. Round the temple steps fish of all sizes, from 8 lbs. downwards, are thickly packed, scrambling over each other's backs into the air, and up the stone steps, and taking food out of the hand.

THO-JI-CHAN-MO, a plain in Ladakh covered with natron. In its centre is the Tsho-kar or White Lake, called by the Hindus of Chamba and Bisahar, Khari Talao, or the Salt Lake, in lat. 33° 15′ N., and long. 77° 50′ E., at an elevation of 15,684 feet. To the south of the Tsho-kar is a small fresh-water lake that supplies the salt-water lake. It is a favourite haunt of the Kyang or wild horse.

THOMAS. Edward Thomas, a Bengal Civil Servant, editor of Prinsep's Antiquities, joint editor of Sir Henry Elliot's posthumous History of India. He wrote On the Coins of the Patan Sultans of Hindustan; On the Coins of the Kings of Ghazni, A.D. 961-1171; The Epoch of the Sah Kings of Surashtra; On the Numismatic History of the Early Muhammadan Arabs in Persia; On the Explanation of Oriental Legends to be found on certain Arsacidian and Partho-Persian Coins; The Initial Coinage of Bengal, introduced by the Muhammadans A.H. 600 to 800 (A.D. 1203-1397); the same, with a Supplementary Part, embracing the preliminary period between A.H. 614-634; also Comments on Recent Pehlavi Decipherments, with Contributions to the Early History of Tabaristan. 'Towards the end of August 1863, an unusually large hoard of coins, numbering in all no less than 13,500 pieces of silver, was found in the protected state of Koch-Bahar, in Northern Bengal. This accumulation, so singular in its numerical amount, is not the less remarkable in the details of its component elements. . . . It may be said to embrace compactly the records of ten kings, ten mint cities, and to represent 107 years of the annals of the country.'

George Thomas, a native of Tipperary in Ireland, who came to India as quarter-master of a ship of war. He deserted, and in 1787 he took service with the Begum Samru, and rose into high favour. He carved out for himself an independent principality at Hansi, where, to use his own words, 'I established a mint and coined my own rupees, which I made current in my army and country; . . . cast my own artillery, commenced making muskets, matchlocks, and powder; . . . till at length, having gained a capital and country bordering on the Sikh territories, I wished to put myself in a capacity, when a favourable opportunity should offer, of attempting the conquest of the Panjab, and aspired to the honour of placing the British standard on the banks of the Attock.' Thomas at this time had a revenue of four or five lakhs of

rupees. At one time he seems to have entered the service of Apa Kunda Rao, a principal officer of Sindia. In S. 1857 (A.D. 1801), for the sum of three lakhs of rupees, he put the Bhatti race into the possession of Bhatnair, but the succeeding year the Rahtor Rajputs again wrested it from them. After twice defeating Perron's troops, he accepted Lord Lake's terms at Hansi, 1st January 1802, and proceeded towards Calcutta with about one lakh of rupees, but he died near Berhampur, August 1802, and was buried in its churchyard.

St. Thomas the Apostle is generally believed to have proceeded to Arabia, and some say to India, and to be buried at St. Thomé or Mylapur, a suburb of Madras, where his tomb is shown in the Portuguese Roman Catholic cathedral. But there is much doubt both as to the places in which he laboured, and as to the place and circumstances of his demise. Even in the same cathedral at St. Thomé is a bone relic, sent from a former pope of Rome, and older traditions in the west assert positively that Thomas was buried at Edessa. There is a hill ten miles from Madras, called St. Thomas' Mount, to which, from unknown times, Syrian and Roman Christian pilgrims from all Asia repair; and at the Little Mount, at the Marmalong Bridge, six miles from Madras, is shown a cave where St. Thomas is said to have been killed. There are numerous native Christians in Madras and its neighbourhood, mostly the fishermen, but no tradition exists as to their conversion. Those near the Triplicane temple of Vishnu have houses built over temple ground, on the stipulation of pulling the idol car. Nicephorus declares St. Thomas to be the apostle of the Indians; and Gaudentius says, like Sophronius, that he died in India at the town of Calamina, which is no other than Mylapur, a place at a short distance from Madras. Marco Polo relates that St. Thomas was accidentally killed when at prayer in a wood, by a low caste man, who was shooting at peacocks, and that, as a consequence of this mischance, none of the poor man's tribe could ever enter the place where the saint lay buried. Gibbon says that 'Marco Polo was told on the spot that he (St. Thomas) suffered martyrdom in the city of Mylapur.' Dr. Fryer, who visited India about 1680, says that 'about this mount live a caste of people, one of whose legs are as big as elephants', which gives occasion for the divulging it to be a judgment on them, as the generation of the assassins and murderers of the blessed apostle St. Thomas, one of whom I saw at Fort St. George.' Some of the doubts as to St. Thomas the Apostle seem to have arisen from the martyrdom of a Christian named Mar Thomas. It is on record that Alfred the Great despatched from Britain an embassy under Sighelm, Bishop of Shireburn, to the shrine of the saint at Madras. This was in 883, and it seems little likely that if the legend of the death and burial of St. Thomas in the neighbourhood of Madras really arose out of the fact of the death and burial of Mar Thomas, —an event which took place only about half a century before Alfred's embassy,—there should have been at that time, either in Egypt or Great Britain, any confusion of an incident which occurred fifty years before with one that was at least eight centuries old. It is surmised by Gibbon and other writers, that the pilgrims were despatched from Great Britain, but never proceeded farther than Alexandria, where they 'collected their cargo of legend.' The Christians on the coast of Malabar trace their paternity to the Apostle Paul, who 'went through Syria and Cilicia confirming the churches.' They looked to Syria as their spiritual home. They owned the supremacy of the patriarch of Babylon. It appears that while the Indian bishoprics were under the authority of the Christian patriarch of Seleucia, an Armenian Christian named Thomas Cana took up his abode at Malabar, and some suppose that his name has led to the belief that Thomas the disciple visited India. Thomas is said to have founded seven churches in Malabar. According to Eusebius, it was Bartholomew who visited India. The Eastern churches believe that St. Thomas preached in Arabia Felix and Socotra, on his way to India, about A.D. 50, where he suffered martyrdom. And it is said that the rudiments of the religion of the cross were first implanted amongst the Himyarites by St. Bartholomew. It is also recorded that St. Pantenus was sent by Demetrius, Bishop of Alexandria, to preach in Arabia Felix, and that there he found traces of St. Bartholomew, amongst others a copy of St. Matthew's Gospel, written in the Hebrew character, which he brought away with him to Alexandria. In the reign of Tobba, son of Hasan, from A.D. 297 to 320, Christianity became more generally known in Arabia, and extended to Abyssinia, where the people, though surrounded by Muhammadan and Pagan tribes, continue Christians till the present day. Subsequently, in A.D. 326, Frumentius was elected by Athanasius bishop of the Indians, and he contributed much to the propagation of the Christian religion; but whether Arabia or Abyssinia was the scene of his labours, is disputed. In A.D. 342, Theophilus Indus, a native of Diu, obtained permission to build churches in Yemen, one of which was located in Aden.—*Playfair; Kaye's Christianity in India; P. Vincenzo Maria, Viaggi*, p. 132; *Yule, Cathay*, ii. p. 378; *Huc's Christianity*, i. p. 2; *Growse.*

THOMSON, DR. THOMAS, a medical officer of the Bengal army, an eminent scientific botanist and traveller; author of Travels in the N.W. Himalayas, and, with Dr. Hooker, joint author of the Flora Indica. Dr. Thomson's botanical collections, made in the plains of N.W. India between 1842 and 1847, chiefly in Rohilkhand, Ludhiana, and the Panjab, amount to about 1000 species. His Himalayan collections were partly collected in Kamaon and Garhwal during short visits to these provinces in 1844 and 1845, but mainly consist of the herbarium collected during a Government mission in the N.W. Himalaya and Tibet, in 1847, 1848, 1849, in the course of which he visited, in 1847, Simla, Kanawar, Piti; and in 1848, Kashmir and the Panjab, Himalaya, Ladakh, and the Kara-korum pass. The summer of 1849 he spent at Simla and Ladakh. These amount to rather more than 2500 species.

THOR, of the Scandinavians, is the same as Sor or Sol, the sun, Surya. The ancient people of the north pronounced ss as th. Thor's battle-axe is the cross. Pattee is the Swastika of the Buddhist, and the monogram of Vishnu and Siva. Thor's symbol of governance was the last letter of the Samaritan alphabet, the tau or tao in its decussated form. It is the mark which the

prophet Ezekiel (ix. 4) was ordered to place on the foreheads of the faithful in Judah, and Indian women still place it on their stores of grain. It is placed on the jars of water from the Ganges and Indus, and in the south of India is used as the emblem of disembodied Jain saints. It is the mystical Tao Sze of the Buddhists, is the chief ornament on the sceptre of the Bon-pa deities of Tibet, and is expressed on the Artee or musical bell borne by Bal Govind. See Basant.

T'HORI, Tawari, or Tori, dwelt in the t'huls of Daudputra, Bijnote, Noke, Naokote, and Oodur. They own and hire out camels, but, like the Bawuri and Khengar, were great thieves, and were called bhoot or evil spirits, and sons of the devil.—*Tod.*

THORN, of Proverbs xxiv. 31, is supposed by Sprengel to be the Alhagi maurorum. The 'thorns' of Proverbs xv. 19 is a species of Solanum.

THORN APPLE, Datura, *sp.*

Jouz-mazil, . . . ARAB.	Umana, . . . MALEAL.
Datura, BENG., GUJ., HIND.	Gaoz-giah, . . . PERS.
Kechubuh, . . . EGYPT.	Banjdashti, . . . ,,
Pomme spineuse, . . FR.	Dutro, ... PORT.
Stechapfel, . . . GER.	Krishna dhatura, SANSK.
Datura stramonium, LAT.	Kalu-attana, . . SINGH.
Kachu-bong, . MALAY.	Karu-umate, . . TAM.
Rotikubung, . . ,,	Nalla ummetta, . TEL.
Humatu, . . MALEAL.	Tatura, ... TURK.

There are several species of Datura. The whole plant of D. fastuosa has a rank odour, which may be detected at a distance. All parts possess medicinal properties. The seeds are brownish or black, flattened, kidney-shaped, without [illegible] except when bruised, and have a bitter taste. For the purpose of facilitating theft and other criminal designs, the seeds are frequently given in India with sweetmeats, to stupefy merely, but not with the intention of killing, although there is no doubt that for the latter purpose it has also been used. The root, dried leaves, capsules, and seeds are recommended by European medical practitioners in India, to be smoked in cases of spasmodic asthma. The white-flowered thorn apple is D. alba, *Rumph.*; D. fastuosa, *Willd.*, is the purple-flowered variety. —*Faulkner; O'Shaughnessy.* See Datura.

THORNTON, EDWARD, author of a Gazetteer of the Countries adjacent to India on the North-West, including Sind, Afghanistan, etc., London 1844.

THOUSAND ISLANDS, a group of about 60 small islands in the passage from Batavia to Banca. The most northern is in lat. 5° 26′ S., long. 106° 32′ E.

THREE. This number in China is expressive of honour.—*Dr. Edkins.*

THRESHING. With the Hindus, when the harvest begins, a level spot is chosen for a threshing-floor, and made dry and hard. A pole 5 feet high is fixed in the centre, the grains are heaped round the floor, and the women break off the ears and throw them in. Oxen are then tied to each other and to the post, and driven round to beat out the corn.

THRUSH. The thrushes are birds of the family Merulidæ, which Dr. Jerdon arranges into wrens, short wings, ground thrushes, whistling thrushes, short-legged thrushes, babbling thrushes, true thrushes, and wren thrushes. The blue rock-thrush, Petrocincla cyanea (P. pandoo, *Col. Sykes*), is distributed over S.E. Europe and the temperate and torrid parts of Asia. By some it is supposed to be the bird alluded to in Scripture, 'the sparrow that sitteth alone upon the house-top.' P. longirostris, a long-billed variety, is common among the rocks of the N.W. Himalayas. It would seem that this is a permanent race of P. cyanea, and peculiar to the more northern regions. All Dr. Adams procured in Ladakh and Kashmir belonged to this variety. The hill blackbird or blue water-thrush (Myiophonus Temminckii) is one of the most beautiful and common tenants of the Himalayan streams. It builds its nest on the cliff over the mountain torrent. During incubation the male may be seen sallying forth, sporting from cliff to cliff; his melodious note, sounding sweetly among the roaring of the troubled waters, has a resemblance to that of the blackbird, but is softer. The blue of the body is more intense on the breast, and forms a gaudy halo across the forehead.

The pagoda thrush, Acridotheres pagodarum, is probably the bird referred to in Lalla Rookh—

> 'Mecca's blue sacred pigeon, and the thrush
> Of Hindustan, whose holy warblings gush
> At evening from the tall pagoda's top.'

The missel thrush, Turdus viscivorus, performs an up-and-down migration on the western ranges of the Himalayas, being found at high elevations in summer, and in the more sheltered situations of the valleys during winter. The black-throated thrush (Turdus atrogularis) is generally distributed over the woods and cultivated tracts of these ranges. The black throat is wanting in some varieties, and there are several well-marked similarities to what has been called the red-necked thrush (Turdus ruficollis), which Mr. Hodgson considers a distinct species.—*Adams' Sportsman in India; Jerdon.* See Birds, p. 377.

THRYSSA. This genus has the general aspect of the anchovy Engraulis, but the body is broader, the mouth enormous, and opening almost vertically. A species that inhabits Tenasserim waters may be denominated the Thryssa anchovy.—*Mason.*

THSUN or Tsun, a Chinese long measure nearly 1¼ inches.—*Simmonds' Dict.*

THUG, a class of murderers and robbers who sprang up under the first Muhammadan dynasties. 500 were executed in Etawa in the reign of Akbar. Thevenot, describing the dangers of the road between Dehli and Agra, advises travellers not to allow any stranger to come near, as the cunning robbers cast a running noose round the victim's neck and strangle him. Thuggee is, however, said by Colonel Meadows Taylor to be represented in the bas-reliefs of the temple of Ellora; but they seem to have become known to the British after the fall of Seringapatam (1799); and, on the discovery of thirty dead bodies in different wells of the Doab, Thuggeeism again came to the knowledge of the Calcutta Council, in 1810.

Dr. Sherrard of the Madras Presidency wrote about them in 1816. It was, however, on the reports of Captain Sleeman, about the year 1830, it became known that no part of the whole of India was free from these murderers, and a department was formed by the British Indian Government, empowered to suppress them. This was effected by the officers of the Thuggee Department tracing out the members of the gangs by inducing prisoners to become approvers, and reformatories were established to reclaim both the

children and the adult. By the year 1860 the gangs had become almost wholly destroyed. In nine years more than 2000 were arrested, 1467 were tried and convicted for the murder of 947 persons. Of these, 382 were hanged, 909 transported, 77 imprisoned for life, 92 for yarying periods, and 21 acquitted; 11 escaped, 31 died while under trial, and 250 were admitted to be king's evidence (As. Journ., 1836). Between 1826 and 1835, 1562 prisoners were tried for the crime of Thuggee, of whom 1404 were hanged or transported for life; some of them confessed to over 200 murders. The Bhurtote or strangler was invariably hanged.

Many were kept at Jubbulpur in a central jail, where they were employed as wool and cotton weavers, and as tent-makers and carpet-makers.

It was a hereditary pursuit of families alike of Hindus and Muhammadans, both of whom practised it with the same conditions, ceremonies, and superstitious observances.

They had a slang language. The parties or gangs had fixed duties allotted to the members, as leader, persuader, strangler, gravedigger, and scout,—bold, resolute, active men, who received higher shares of the booty.

Their accomplices pursued every avocation, and gave information to those who more openly followed the profession. They usually travelled in considerable bands, sometimes numbering 200 or 300, but in such case they were broken up in parties of ten or more, who kept up communication, adopting all sorts of deceits, as merchants, travellers, etc., or in boats on the Ganges, and certain duties were allotted to each. The inveigler was called Sotha.

Thugs insinuated themselves into the society of travellers, and accompanied them until an opportunity occurred to murder them by strangling them with a handkerchief. The Hindu Thugs invoked the goddess Bhawani, but Muhammadans formed the largest number of the Thugs. As pirates and banditti of Europe made vows to Madonna, the pickaxe used for interments was devoted to Kali or Devi with much ceremony, and after each murder a solemn sacrifice (Tapooni or Tuponee) was made, in which sugar was offered to Devi.

Thug means deceiver. In some parts they are styled Phansigar, stranglers or hangers, from Phansi, HIND., a noose. In Tamil they are known as Ari Tulukar or Muhammadan noosers; in Canarese or Karnatica as Tanti Calleru, thieves who use a wire or catgut noose; and in Telugu, Warlu Wanlu or Warlu Vayshay Wanlu, people who use the noose. In Bengal the river Thugs were called Pungoo.

Thugs as a rule abstained from the murder of women, carriers of Ganges water, or of poets, of low castes, as washermen, musicians, dancers, artisans, oilmen, sweepers, fakirs, Sikhs.

Thugs worshipped the pickaxe which they carried for interring the dead.

The belonging to a Thug association is now an offence punishable with penal servitude for life, and Thugs may be tried in any sessions court without reference to locality. In practice, however, there was a good deal of speciality in the procedure. The Thuggee officers had the powers both of police-officers and of magistrates, for the apprehension of criminals and their committal for trial, but when committed, the accused were publicly tried in the ordinary way. There were special lockups and jails, so that both before trial and after conviction Thugs were kept apart from other prisoners. The proceedings were not subject to the control of the ordinary supervising officers, and in the early stages of the inquiry they were kept secret, statements being privately recorded, as by a procurator-fiscal in Scotland. The essence of the whole system was the conditional or partial pardon of some, in consideration of the disclosures which they made. A man must always be convicted and sentenced first; then he had a promise of reprieve and partial pardon on condition that he made a free and full disclosure of all he knew; he was still to remain under police supervision, and was liable to be remanded to imprisonment for life if he failed to fulfil the terms. This system was so worked, that once a beginning was made the information in the hands of the authorities was rapidly enlarged, a general distrust of one another was engendered among the criminals, the Thug jail at Jubbulpur, and the approvers living about it, became a great repertoire of information for all India, and in the course of a few years the crime was almost wholly extirpated. It would be a great mistake to suppose that when the system was properly managed the evidence upon which action was taken was scant or doubtful; on the contrary, in these cases there was a nearer approach to a quasi-mathematical certainty than in almost any others. The statements of one man were checked by those of others hundreds of miles off, without a possibility of communication, and the evidence made to prove itself by the discovery of the bodies in the places indicated, the verification of the facts and circumstances of murders previously unknown, the recovery of the property, and in many other ways. At the same time, it must be admitted that such a system could only be worked by extraordinarily skilful and discreet men, such as arise on special occasions of great necessity, and that if there was any laxness or want of the utmost exactitude and care, it was liable to the greatest abuse. Even such relaxation as always attends the long existence of any special machinery was fatal to its full efficiency. Such a system is and should necessarily be a temporary one to meet an emergency. The time came when there was not wanting reason to suppose that the keenness of the weapon had led to its abuse, and that in consequence of an exaggerated belief in the power of the informers they were in some instances enabled to levy a sort of blackmail. Still, the cure was effected, and India has been enabled to lay aside the machinery.

Colonel Sleeman, the head and mainspring of the Thuggee Department, published an account of the system of crime and the machinery used for its suppression.—*People of India; Saunders' Magazine*, 1852; *Tr. of Hind.* i. p. 373.

THUJA, a genus of plants belonging to the natural order Pinaceæ, of the section Cupresseæ. T. orientalis, *Linn.*, the Chinese arbor-vitæ, grows in Siberia, Nepal, China, and Japan; and T. excelsa, *Bong.*, also grows in Japan, along with T. pendula, *Lamb*, the weeping arbor-vitæ of Tartary. See Evergreens.

THUJA ORIENTALIS. *Linn.*

Biota orientalis. | Peh-shu, ... CHIN.

This tree and the Cupressus thyoides furnish the cypress woods so largely used by Chinese

upholsterers; and these, with other trees, Chinese gardeners delight to dwarf and train into all sorts of animal shapes. The leaves of T. orientalis are used as decorations and garnitures of presents, and as medicines. Its oily fruits are eaten.—*Smith.*

THUJOPSIS DOLABRATA, *S. and Z.*, a tree of Japan, called by the Japanese Asnero, is a very beautiful tree, growing to the height of 90 or 100 feet, very straight, and singularly regular in its tapering form.

T'HUL. HIND.

T'hur, ... CHALD.	Sos, ... GR.
Taarn, ... DAN.	Tur, GR., PERS., WELSH.
Thurm, ... GER.	Tor, ... SAX.

T'hul is the general term by which the sand ridges of the Rajasthan deserts are designated. The term is identical with the tor, thur, and tull of other languages; thus the Coptic t'hul has the same meaning. T'hul in Hindustan is from the Sanskrit St'hala, meaning ground, a tract, a district, and t'hul is the term by which the people designate the sandy desert tracts. The desert running to the Indus is marked with t'hul, rooe, and sand ridges, or T'hul-ka-tiba, some of them being very lofty. T'hul means an arid, bare desert; rooe is equally expressive of desert, but implies the presence of natural vegetation, in fact, the jungle of the desert. The word Maroost'hali is compounded of the Sanskrit Mri, to die, and St'hali, arid or dry land; which last, in the corrupted dialect of those countries, becomes t'hul, denoting tracts particularly sterile, the converse of the Greek oasis. Each t'hul has a distinct denomination, as the t'hul of Kawar, the t'hul of Goga, etc.

T'hul are numerous in Western Marwar, which is a corruption of Maroo-war, classically Maroo-t'hali or Maroost'han, the region of death. It is also called Maroo-desa, the country of death, which is synonymous with Mor-d'hur used by the bards; and though the term Marwar is now restricted to the country subject to the Rahtor race, its ancient application was to the entire desert between the Sutlej and the ocean.

The *t'hul of the Looni* embraces the tracts on both sides of the river forming Jhalore and its dependencies. Jhalore is one of the most important divisions of Marwar, but the region south of the river cannot be included in the t'hul. When the Pramara race held paramount rule in Maroost'hali, Jhalore was one of the nine castles of Maroo. Jhalore has only the desert plants, the jhal, babul, and karil.

The *t'hul of Tirruroe* intervenes between that of Gogadeo and the frontier of Jeysulmir. The name is from Tar, moist, and Rooe. The t'hul of Khawur lies between Jeysulmir and Barmair, and abutting at Giraup into the desert of Dhat, is in the most remote angle of Marwar. The Sahrai find pasture for flocks of sheep and herds of buffaloes in this t'hul.

The *Malli-nat'h t'hul* is also called Barmair, formerly occupied by the Malli or Mallani, of Chauhan, or, as some declare, of Rahtor origin; great numbers of camels, the best in India, are reared here.

Kherd'hur, the land of Kher, from the kher plant, and from it also called Kherala and Kheraloo, the home of the Kher, was formerly occupied by the Gohil race, who robbed the caravans or kafila as they crossed the desert. The Rahtor race drove out the Gohil, who became the lords of Goga and Bhownaggar near the Gulf of Cambay, and till lately swept the ocean as far as Sofala or the Gold Coast, as pirates and slave-hunters. Junah and Chotun are two ancient towns. Between Barmair and Nuggur Goorah is one immense rooe, containing deep jungles of khyr or kher, kaijri, karil, keip, p'hok.

Gogadeo-ka-t'hul, the t'hul of Goga, a name celebrated in the heroic history of the Chauhans, is immediately north of Eendovati, and one description will suit both. The sand ridges (t'hul-ka-tiba) are very lofty in all this tract; very thinly inhabited; few villages; water far from the surface, and having considerable jungles.

The T'hul or desert of drift sand in the Sind-Sagar Doab, has Leia, Muzaffarnagar, Dehra Ghazi Khan, Jampore, and Dhoondoo on its skirts. The sand lies in huge wreaths and hillocks, the latter often reaching the height of 40 or 50 feet above the general level of the country, which is for the most part destitute of vegetation; a few of the leafless pogh bushes, with some jhund and bur or peeloo, also occur, and there are occasional oases. There are small patches of ground free from sand, like little valleys surrounded by low hills. The soil is everywhere strongly impregnated with kullur (impure nitrate of soda).—*Tod's Rajasthan*, ii. pp. 296-300; *Annals*, ii. p. 289; *Captain Dias in P. P.* 265 *of* 1861.

T'HUL. MAHR. A place or spot; but amongst agriculturists a place where the holder has dug a well, built a bund, or planted trees, or made such improvements as entitled him to the uninterrupted possession of such field.

THUL-i-TAUBA, ARAB., the hill of repentance, is on the Tigris, and is so named because of the tradition that when Jonah threatened the Ninevites, they went to this hill and vowed repentance. The Gaelic Tillee Beltein, *i.e.* the hillock of the fire of Baal, is a town in Perthshire, where the Beltane festival was held on old May-day.

THUNBERG, C. P., a Swedish botanist who visited Ceylon in 1777, author of the Flora Japonica, Lipsiæ 1784. He also resided in Java.

THUNBERGIA, a genus of climbing plants of the natural order Acanthaceæ, called after Thunberg. Amongst the species are T. alata of Zanzibar, T. angulata of Madagascar, T. fragrans of Hindustan and ghats of the Peninsula, T. grandiflora of all India, and T. coccinea, *Roxb.*, of Darjeeling. T. grandiflora has large flowers with no inner calyx; the leaves are angular, cordate; the anthers bearded and spurred. It hangs in beautiful blue racemes, and is adapted for covering trellis-work. T. fragrans has a climbing stem, with cordate acuminate leaves, somewhat angular at the base. A large beautiful creeper, N'way h'myo, BURM., with azure flowers, belonging to this genus Thunbergia, is a conspicuous plant in the forests of Burma. The species are handsome climbing plants, with a fragrant odour, with white, yellow, and blue flowers; they require a free, rich, sandy soil, and plenty of drainage. The large varieties with blue flowers should be planted out and trained upon pillars, trellises, or trees. Natives of the tropics; raised from seeds, cuttings, layers, and suckers.—*Rid.*; *Eng. Cyc.*; *Mas.*

THUOC, the Chinese Chih, cubit, or foot, and the generic name for the measure of length in Cochin-China, which varies according to circumstances. Those more commonly employed are—

	Metre.	Eng. Inches.
1. That used for measuring ships for the service of ports, ...	0·405	= 15·945255
2. That used for wood at Turon, ...	0·425	= 16·732675
3. That mentioned by Taberd in his valuable Anamitic Dictionary, ...	0·48726	= 19·18391346
4. That used by the king for measuring silks and other cloths in his transactions with foreigners, . . .	0·594	= 23·386374
5. That used by the natives in the Turon market, . .	0·61	= 24·01631
6. That used according to Morrison, ...	0·64968	= 25·57855128

—*Simmonds' Dictionary.*

THUPAWANSA; a Singhalese work containing an account of the death of Gautama Buddha, and of the manner in which his relics were disposed of.—*Hardy's Eastern Monachism*, p. 442.

THUYOPSIS DOLABRATA. *Sieb. and Zucc.* A majestic tree of Japan, attaining a height of 50 feet, with a stem 3 feet in diameter. It is of conical shape and drooping habit, delights in shaded and rather moist situations, and is used in China and Japan for avenues. It furnishes an excellent hard timber of a red colour.—*Von Mueller.*

THWAITES, JOHN, LL.D., an eminent botanist, long resident in Ceylon. He wrote a work on the plants of Ceylon. He was a doctor of medicine, and a fellow of many colleges. He died 17th June 1876, at Radcliffe House, Slave Island, Ceylon.

THYA, wife of Amenhotep III., on his demise succeeded to the regency of Egypt, during the minority of her son Amenhotep IV. He was the 9th king of the 18th dynasty, which began to reign about B.C. 1700. Amenhotep and Shoo-en-Aten, or slave of the disc, are supposed to be the same person, and he is figured at Tel-ul-Amarna. In him the line became extinct.

THYATIRA, now Ak Hissar. There is here a large sarcophagus just outside the town, with a long inscription to Scipio.

THYKA EUCHARIS, with species of cassida (tortoise beetles or ladybirds), species of aphis, coccinella, haltica, and locusta, are insects which attack the cold-weather or rabi crops in Lower Bengal.

THYMELACEÆ. *Lindl.* The Mezereum tribe of plants. The genera occurring in India are—Daphne, Linostoma, and Cansjera. Daphne viridiflora, *Wall.*, occurs in China; D. cannabina, *Lour.*, grows in Nepal and Cochin-China, and a soft, smooth, and tough paper, the celebrated Nepal paper, is made from its inner bark. This order of plants is very uniform in character, and is formed of shrubs or herbs with simple and alternate leaves, axillary or terminal flowers. An acrid stimulant principle abounds in most of the species hitherto examined, which possesses very valuable medicinal properties, though not devoid of dangerous powers, if taken in excessive doses. A crystalline substance named daphnine has also been separated from the bark of some species of daphne.—*O'Shaughnessy*, p. 599; *Voigt.*

THYMUS VULGARIS. *Linn.* Garden thyme.

Hasha, ... ARAB. | Ipar, ... HIND.

An erect plant, sometimes procumbent at the base, or clothed with a hoary pubescence. It is a native of the S.W. parts of Europe, in dry plains and on hills and uncultivated places free from woods. It has a pungent aromatic odour and taste, is cultivated for culinary purposes, used in soups, etc., and many varieties of it are met with in gardens. It is a delicate plant to rear; best by seed, grown in pots, but it may be increased by slips and dividing the root. It requires a sandy soil and free drainage.—*Riddell; Jaffrey.*

THYRSUS of Bacchus was brought by him from the east.

TIAGAR or Tiyagar Drug, a village and old fort in the South Arcot district of Madras, situated in lat. 11° 44′ 20″ N., and long. 79° 7′ 15″ E., 30 miles south of Trinomalai. Population (1871), 419. Between 1757 and 1780 it was regularly invested five times, and blockaded once; and although never carried by assault, it repeatedly changed hands between the British, French, and Mysore rulers. In 1790, Captain Flint, the defender of Wandiwash, beat off Tipu in two assaults on this town.—*Imp. Gaz.*

TIARIDIUM INDICUM. *Schm.*

Heliotropium Indicum, *L.*	H. cordifolium, *Mœnch.*
Hati shuru, . . . BENG.	Srihastini, . . . SANSK.
Indian turnsol, . ENG.	Bhurumdi, . . . ,,
Siriari, ... HIND.	Tel koduku, . . . TAM.
Benja patsja, . MALEAL.	Tal mani, ... TEL.

This annual plant grows in Chittagong and Travancore amongst rubbish in rich and rank soils. The juice of the leaves is applied to painful gum-boils and to repel pimples on the face; also used in inflamed or excoriated tars[illegible] Jamaica it is used with castor-oil to relieve the pain of scorpion stings, and in the treatment of hydrophobia.—*O'Sh.* p. 497.

TIAU. CHIN. A string of copper coins varying in number from 160 to 1000.

TIBA, in the Panjab, inferior, sandy, dry soil. Tiba means hillock, and the term is especially applied to uneven sandy ground of a somewhat high level. See Bhur; T'hul.

TIBABAT, also Tibb. ARAB. The science of medicine. Tabib, a physician.

TIBBOO, a language of Northern Africa, spoken as far west as Fezzan and as far north as the oases of Angila and Siwah. The Tibboo of Lyon and Hodgson seems to belong to the Nubian class, and to be Libyan or Lybes.—*Latham, Rep. Brit. Ass.*, 1847.

TIBERIAS, a lake in Palestine, called the Sea of Galilee, from its situation on the western borders of that division of Palestine; the Lake of Gennesareth, from the neighbouring land of the same name; and Sea of Tiberias, from the contiguous city of Tiberias, now known by the name of Tabaria, the only large city existing on its shores. The lake is about 15 miles in length, and 6 to 9 in breadth. Lake Tiberias was the scene of one of Jesus Christ's miracles, Luke viii. 23, 24. The town of Tiberias is situated on its western shore. About a mile from the town, and close to the edge of the lake, are some hot springs enclosed by a small square stone building surmounted by a dome. Their waters consist of a strong solution of muriate of soda with a considerable intermixture of iron and sulphur. There are several other springs in the immediate neighbourhood, but they are not turned to account. The

place is known by the name of El Hamam, the baths. Its ancient Hebrew name, Emmaus, has a similar signification. The extreme depth of this lake, about 250 metres, is at its northern extremity, near where the Jordan enters it. The surface is 212 metres below the level of the Mediterranean, but the sides afford evidence that it must formerly have been level with that sea. Fishes of the genus chromis swarm in the lake (seven species were met with). The male of this fish is known to hatch its eggs by keeping them in the mouth and gills, and the young remain there some time after hatching.—*Robinson's Travels*, i. p. 124.

TIBET, a region in Central Asia, lying between lat. 27° and 37° N., and long. 72° and 105° E.; extends from Badakhshan in the N.W. to Sze-chuen in the S.E. The Gobi desert on the N. separates it from the eastern portion of Chinese Turkestan; it has the territory of the Eluths of Koko Nor on the N.E., the territory of the Si-fan or Tu-fan and Sze-chuen on the E., Yunnan is on the S.E., on the S. is the valley of Assam, Burma, Bhutan, Nepal, and British India, and on the W. is Little Tibet.

Tibet was reckoned by Gutzlaff in his Life of the Emperor Taou Kwang, p. 227, to comprise an area of 30,200 square miles, and to have a population of about six millions. Its table-land in the E. is about 4000 feet above the sea, but in Little Tibet it is between 11,000 and 12,000 feet.

Tibet is called by the Chinese Tsang or Si Tang, the word Tibet being from Tu-peh-teh (Tu-Bod). The Tibetans also designate their country Bod-Yul, as the Chinese likewise name it Fu-Kwoh, the land of Buddha. Mr. Trelawney Saunders explains that the Indian name is Bhot. Its native name is pronounced Pot, but properly Bod, which denotes both the nation and the country; but for distinction the country is called Bod-yul (Bod-land), a man of the country Bod-pa, and a woman Bod-mo.

The Tibetans, however, apply the name Pot or Bod to Middle Tibet, or to the two provinces U and Tsang (Duus-Otsang, pronounced U-tsang), the capitals of which are H'lassa and Zhikatse; hence a native of these two provinces is called by them especially Pot-pa.

The eastern part of Tibet is called K'ham or K'ham Yul, also Great Tibet.

The N.W. part, towards Ladakh, is called Nari.

Bhutan is, however, known to the Tibetans by several names, — Lho-pa-to, Lho-mon-k'ha-zhi, and Lho-bruk-pe-yul, or simply Lho, the south.

According to these divisions, Pot-pa or U-tsang-pa means a native of Middle Tibet; Kham-pa or Kham-ba, one of Eastern Tibet; Nari-pa, one of Western Tibet; and Lho-pa, a native of Bhutan.

The Chinese Government divides Tibet into two provinces, Anterior Tibet and Ulterior Tibet; but their maps retain the three divisions above mentioned.

U and K'ham are now styled Tsien Tsang, while Tsang and Nari (or Ari) are called Hall-Tsang, *i.e.* Ulterior Tibet.

Nari (Mnahris) is the most elevated, and gives rise to the sources of the Indus, Sutlej, Gogra, and Brahmaputra.

The Turk and Mongol races on the north of Tibet are called by the Tibetans Hor and Sok-Po (Hor-Sok). China (Gyanak, TIB.) is on the east; India (Gyagar, TIB.) is on the south. The hill people of India who dwell next to the Tibetans, are called by them by the general name of Mon, their country Mon Yul, a man Mon-pa or simply Mon, and a woman Mon-mo.

U-tsang is Tibet proper, and lies north of Assam, Bhutan, and Nepal, and has about 130,000 families. Its capital is H'lassa.

K'ham-Yul (K'hams-Yul), called also Pot-ch'hen or Great Tibet, has China on its east. Its people are called Pon or Bon.

The northern part from Tsang to Ladakh is called Nari. The people are said to number 10,000 families.

Its four territorial provinces are—

Tsien Tsang, or Anterior Tibet, also known as Kham and Kham-do. It is nearest to the Chinese frontier.

Wei or *Chung Tsang*, Central Tibet, containing the seat of government, Lhassa, and the residence of the Dalai Lama, the great monastery of Potala.

How Tsang, Ulterior Tibet, or simply Tsang, containing the seat of government of the Panshen Lama, at Teshilumbo or Chashilumbo.

Gnari, Western Tibet.

Tibet is now governed by China through the Buddhist hierarch, the Dalai Lama, and in this manner it is a dependency of China.

Its present limits comprise only a part of the ancient region of T'u Fan, the people of which, the Si Fan and Tang-ku-teh (Tangut) were for many centuries the dreaded enemies of the Chinese. Legends attribute to the Sakya the civilising of the races, but their first historic king was Srongtsau Gampo, the seventh of the Sakya rulers, who introduced Buddhism, and brought all Tibet under his sway. He married a daughter of the Nepal sovereign (Pai-pu or Pa-pu-leh Kwoh, *i.e.* the Parbattiah kingdom), and also in A.D. 641 the princess Wen-Cheng, daughter of the emperor Tai Tsung of the Tang dynasty in China. For many centuries his descendants, with the title of Gialbo (in Chinese Tsan-pu) ruled over Tibet, but the Buddhist hierarchy gradually encroached, and in the 11th century the Sakya religionists began to usurp the exclusive power of the state. From that period the Sakya priesthood have been known as the Brug-pa, though also now designated Hung Kiao or the Red Church. The Sakya priesthood introduced marriage; but in the 15th century, Tsong-kha-ba, born A.D. 1417 at Si King, preached the celibate views of Sakya Muni, and insisted on the adoption of yellow robes. Before his death (A.D. 1478) he was the recognised spiritual leader of the Lamaist majority, and was acknowledged by the Ming emperor, who gladly welcomed him, as the Red Hierarchy had favoured supporters of the descendants of Kublai. The reformer left behind him two eminent disciples, on whom he laid commands, enjoining upon them that they should be born again generation after generation, as hubil'han, to practise the doctrines of the Great Conveyance (Ta-ch'eng, in Sanskrit Mahayana, the esoteric form of Buddhism). Hubil'han, in Chinese Hwa-shen, means transformed body, transformation, re-embodiment. The two disciples were designated respectively Dalai Lama and Panshen Lama. From that time the spiritual and a large portion of the temporal authority in Tibet, which had previously been engrossed by the Red Hierarchy, has been wielded by the suc-

cessive re-embodiments of Tsong-kha-ba's disciples, whose identity, on their reappearance in human form, has been merged, according to the legends that have subsequently arisen, in the personality of the two most exalted and revered of the divinities proceeding from the essence of Buddha himself. In the senior of the two, the Dalai Lama, the Bodhisattwa Avalokiteswara (the Chinese Kwan Yin) is believed to appear on earth; and in the person of the second, the Bodhisattwa Manchusri is recognised, this deity having preliminarily occupied the form, it is also fabled, of Tsong-kha-ba himself. The second in succession of the Dalai Lamas, in the course of a long career, laid the foundation of the existing hierarchical system in Tibet, establishing his seat of ecclesiastical rule at Lhassa, and organizing a body of lesser spiritual dignitaries, under the designation Hut-ukht'u, who, like the two supreme religious chiefs, were to be continued by a series of re-embodiments. Like the Dalai and Panshen Lamas, these spiritual chiefs of the Tibetan priesthood became popularly known as 'living Buddhas,' in Chinese Hwoh Fu, a term by which they are at present commonly designated. During the latter half of the 17th century, the authority of the Dalai Lama gained entire predominance in the greater portion of Tibet; the Gialbo or descendants of the ancient kings appear to have gradually faded into insignificance, whilst the authority of the Mongol princes grew more and more direct. Already, at a somewhat earlier period, Gushi Khan, the reigning prince of the Khoshot Mongols, had supported the Dalai Lama of the period against the claims of the reigning sovereign, and had been rewarded with the title of Nomen 'Han, or Prince (khan) of the Religious Law, an equivalent to the Sanskrit Dharma Raja. By the influence of Gushi Khan, the Dalai and Panshen Lamas, in A.D. 1642, were induced to despatch an embassy with tenders of allegiance to the Manchu sovereign, whose forces were then on the eve of effecting the overthrow of the Ming dynasty in China; and from this period relations of intimacy took their rise, developing themselves in time into the assumption, on the part of the Chinese emperors, of the sovereign tutelage of the Buddhist papacy in Tibet. This consummation was hastened by the wars undertaken towards the close of the 17th and in the early part of the 18th centuries by the Sungar chieftains, for the subversion of the authority of the Dalai Lama. The temporal administrator who, as regent under the Dalai Lama, had long conducted the government of Tibet, with the title of Deba, ruler or chief, was invested by Kang Hi in A.D. 1694 with the title of Tu-peh-teh-kwoh-wang or king of Tibet. But the authority thus established was ere long attacked by an invasion of the Sungars, and the Chinese armies which were despatched hereupon for the liberation of Tibet remained as conquerors of the country. For a time the Government remained in the hands of puppet nominees of the Chinese emperor, but in 1725 an outbreak directed against one of these gave a pretext for the appointment of two High Commissioners to control the affairs of Tibet on behalf of the Chinese Government. Further attempts at revolt led, in 1750, to the entire suppression of the temporal sovereignty in Tibet, and the government of the country was placed, thenceforward, in the hands of the Dalai and Panshen Lamas, aided by a council of four laymen, entitled Kalon or Kablon, *i.e.* Ministers of State, under the direction in chief of the two Imperial Commissioners or Residents appointed from Pekin. The government there, from that time forward, continued to be conducted on this basis, the authority of the Chinese administration being rendered the more complete by the long minorities which are entailed at each successive re-embodiment of the two supreme ecclesiastical dignitaries.

Yul-Sung or Lhassa, the residence of the Grand Lama, is the capital of Bhutan or Northern or Upper Tibet, also called Eastern Tibet and Tibet Proper.

Leh or Ladakh is the chief town of that part called Middle Tibet, called also Western Tibet; and Iskardo is the principal place in Little Tibet or Balti. The natives of Little Tibet describe Ladakh, Iskardo, Khaybalu, Purik, Nagyr, Gilghit, and Astor as distinct Tibets. Balti includes Hasora, Rongdo, Rong-yul, Shagar, Iskardo, Balti, Parkuta, Tolti, Khartaksho, Kiris, Khaybalu, and Chorbat. Ladakh includes Spiti, Zangskar, Purik, Suru, Hembako (Dras), Ladakh proper or Leh, Nubra, Rong, Rupshu, and Hanle.

Balti and Rongdo are on the Indus; Khartaksho, Tolti, and Parkuta are on the Sing-ge-chu; Shagar is on the Shagar; and Khaybalu, Chorbat, and Kiris on the Shayok.

Tibet includes the mountain valleys of the Indus and Brahmaputra, together with the whole axis of the Himalayas, and the heads of many of the valleys which descend on the Indian side and which are situated beyond the line of snow throughout a great part of the year. Beyond the Indus and Brahmaputra are the southern slopes of the Kouen Lun.

The Tibetans do not recognise a continuous chain of mountains running parallel to the Himalaya; nor are they acquainted with Kouen Lun as the name of any mountain range. They are familiar with the Himalaya on the one hand, and call it Kangri, which simply means snowy region, and they know that the country of the Mongols or Mongolia lies parallel to it on the other hand.

Western Tibet is a country of such general elevation, that only in the province of Balti are villages to be found below a height of 6000 feet.

In 1845, a great earthquake was experienced in the province of Kham north-east of Lhassa. It was most severe in the district of the Dirgi Raja. About 3000 men were killed and a Gumba destroyed by the opening of the earth. About the year 1820, the district of Komp in the province of Kham was visited by a severe shock; one village was destroyed by the opening of the ground.

The routes from British India to Tibet are the Nilanghat pass at the eastern corner of Native Garhwal (Tehri), the Mana pass and Niti pass in British Garhwal, the Johar pass in Kamaon, and the Darma and Byans passes in Kamaon and at the extreme east of the Kamaon-Tibet frontier. The great Tibet road from India to Central Asia runs in the gorge through which the Sutlej passes.

Tibet is mentioned by Abu Zaid-ul-Hasan in A.D. 915, by Ibn Haukal in A.D. 950, by Abu Rahan in A.D. 1030, and by Edrisi in A.D. 1154.

Also the Jesuit fathers Grueber and Dorville returned from China by that route in A.D. 1661, just 400 years after Marco Polo's journey westward. They were the first Christians of Europe who are known to have penetrated into the populous parts of Tibet.

Fathers Andrada, Desideri, Horace de la Peuna (1742), the monk Cassiano, Father Giorgi (1762). In 1774 Mr. George Bogle, and in 1783 Captain Turner, were sent on embassies, and in 1828 Father Hyacinth published in St. Petersburg a Chinese account of it.

In the 18th century China took the Ba-thang and Ly-thang provinces and added them to Sze-chuen, and added those of A-ten-tze and Tcong-tien to Yunnan. Since then Ladakh has been annexed to British India. On the other hand, in 1863–64, Tibet annexed the De-gné country.

During the progress of the first war with Bhutan in 1772, the British, having defeated their army with loss at the battle of Chichakotta, and driven the main body of the Bhutanese into the mountains, was threatening the capital Tassisudon. In these straits the Deb raja of Bhutan appealed to the Teshu Lama of Tibet for assistance. The Teshu admitted that the raja of Bhutan had deserved all punishment, 'as he is of a rude and ignorant race; and past times are not destitute of instances of his faults, which his avarice has tempted him to commit.' 'The Lama had reprimanded and admonished him to be submissive in the future [illegible] as he has been thoroughly beaten, and is a d[illegible]ndent of the Lama's, the Teshu intercedes, [illegible]uring that further punishment would irritate [illegible]he Lama and all his subjects.' 'As to my pa[illegible]m but a poor fakir; and it is the custom of my sect, with the rosary in our hands, to pray for the welfare of all mankind. . . . And I do now, with my head uncovered, entreat that you will desist from all hostilities.' Hastings did desist, and it gave him a pretext for sending Mr. Bogle on a mission by way of reply. Mr. Bogle so won the friendship of the Teshu Lama, that when, a year or two afterwards, the latter, at the urgent request of the emperor of China, went to pay him a visit, and was received with all the honours of a divine person, he twice recommended the British to the gracious notice of the Brother of the Sun.

Csoma de Koros resided for many years in the country, engaged in philological inquiries. Drs. Thomson and Hooker and Lieutenant Strachey added largely to the knowledge of the country; and a convention agreed to at Chefoo by Sir Thomas Wade makes express provision for a British embassy to proceed to Lhassa, the capital of Tibet.

Races.—The inhabitants all belong to the Mongolian family. As a general rule, the Himalaya divide Hindustan from Bhotland, but there are Bhot in several parts south of the crest of those mighty mountains, in Garhwal and Kamaon. M'hon is the name given in Tibet to all the hill people between the plains of India and Tibet. The Tibetans and Nepalese are Mongols, and have all the characteristics of the Mongol race. The people of Leh, the Eastern Tibetans, call themselves Bhotia, or inhabitants of Bhot. They are not so tall and are stouter made than the Tibetans of Balti or Little Tibet. The Bhot of Ladakh is strong, hardy, short, and square, with a decidedly Mongol physiognomy,—by which is meant a flat face, broad cheek, depressed nose, very large ears, oblique and narrow eye curtained at the corners, black hair, and low stature, their average height being 5 feet 6·1 inches; the skulls are less Mongolian, having a capacity of 72 cubic inches, 80 cubic inches being a fair capacity for a European.

The Thorpa tribe dwell in Kara Tibet, S. of the Gobi. They are supposed to be descendants of the Uigur tribe.

The Hor or Hor-pa are a branch of the Eluth, dwelling to the north of Kara Nor, and are called by the Mongols, Saraïgol or Karagol, and by the Tibetans, Sogh-po or nomades.

Mr. Brian Hodgson furnished vocabularies of the Si-fan and Hor-sok, and of the languages of Northern and South-Eastern Tibet, the Tho-chu, Lok-pa, Gyami, Gyarong, Hor-pa, Tak-pa, and Man-yak.

Trade.—All the inhabitants of the snow valleys trade; they reside from March until November in the valleys just under the ghats, where a scanty cultivation is carried on by their women, and whence the men take flour, rice, cotton, sugar, etc., into Tibet, bringing back borax, salt, and wool. But from November to March they abandon the Snowy Ranges for the banks of the Alaknanda about Kurupryag, Nandpryag, etc., and carry on interchanges with the traders at Najibabad. They use the Chour-gai or yak for transport; it carries 150 to 200 lbs. It is purchased at from 10 to 15 rupees. Gold, like all else of a yellow colour in Tibet, is sacred to the Grand Lama. The gravel of the northern steppes of Tibet yields gold in grains, but the value of the crude borax of the lakes surpasses, as an article of trade, that of the precious metal. Gold is found on the banks of the Basha stream in Little Tibet. Vigne had no doubt that the drun or marmot of Little Tibet are the 'ants as big as foxes,' noticed by Herodotus as throwing up gold. Nagyr is celebrated for its gold washings. Tavernier tells us (p. 156) that 'toward the Tibet, which is the ancient Caucasus, in the territories of a raja beyond the kingdom of Kashmir, there are three mountains close one by another, one of which produces excellent gold, the other granite, and the third lapis-lazuli.' Thokjalung, in latitude 32°, is the chief gold field of Western Tibet. It is a large desolate plain about 16,000 feet above the level of the sea; and in 1868 the pandit sent by Captain Montgomerie saw a nugget weighing 75 tolas, over 2 lbs. In Tibet the gold fields are said to extend from Rudok to Lhassa, or eleven degrees of longitude =700 miles. They also extend northerly to between Aksu and Ili. Numerous parts of Central Russia and China also contain gold.

Rank.—In Tibet, civil and military appointments are made by the Dalai Lama and the resident Chinese minister of Anterior Tibet. Their grades are five, the highest being equivalent to the Chinese third, but the button which declares a rank in China is worn only by the Tangut, who appear to succeed only to hereditary offices; the Lama wear no button, by reason of the peculiarity of their head-dress. In Anterior Tibet are 10 ying, cantonments, or encampments classed as great, 43 as middle-sized, 25 as small, and 14 as frontier posts. In Ulterior Tibet are

14 middle-class and 15 small ying. The tsan-tsan are supported by a contingent of 646 luh-ying from Sze-chuen under a yukih, a tusze, three captains, and six subalterns, who are distributed through both provinces; the native soldiery are but 3000,—1000 in Anterior, 1000 in Ulterior Tibet, 500 at Pingjih, and 500 at Dziang. They are divided into small sections of 25 under a ting-fung; five of these make three tai-fungs' command; two of these, a yu-fung's; two of these, a tai-fung's; there are six of the last in Tibet.

Clothes.—Tibetans of the higher class wear Chinese satins in the warmer seasons, and the same lined with fur in the cold; all others wear woollens in the warm, furs and sheep-skins in the cold weather, and never go about without boots. The common people never wash during the cold season; very sparingly at other times. The reason given for this being that the skin of the face cracks and ulcerates from the cold, if water is applied to it. The people of towns, who do not go much outside the house, wash occasionally, but the prejudice is strong against ablutions of the person, and it is equally extended to their clothing, which is worn in a filthy and greasy state. Soap is high priced, but little used in Tibet. There is in the country a plant resembling grass, the root of which, pounded with water, makes a lather, and is used for washing clothes.

The tea trade of Tibet is carried on in the form of blocks, weighing about 8 lbs., and which sell at from 12 to 48 shillings each.

Population in Tibet is sparse, the greater portion of the inhabitants living at heights varying between 9000 and 11,000 feet. Leh, the capital of Ladakh, and one of the most important commercial places of Western Tibet, lies 11,527 feet above the level of the sea. Gartok, on the Indus, is at a height of 15,090 feet. Every year, in August, a large fair is held there by several thousands of natives from almost every part of the Himalaya and Central Asia. The people encamp in the black or coloured cloth tents. This is certainly the greatest height at which man is known to congregate for mercantile purposes. Some of the other Tibetan summer villages, as Norbu (15,946 feet) and Puga (15,264 feet), are built on sites near which salt and borax are found, and serve only as occasional sheltering-places to shepherds.

Tibet has long been famous throughout Asia, and even in Europe, for its numerous herds of sheep, and the superior quality of the wool which they provide; with the rearing of these herds many of its inhabitants are exclusively occupied. In summer, the flocks are driven to pasture grounds, some of which reach an elevation of 15,000 to 16,349 feet, beyond which the Tibetan shepherds never venture.

In the Kouen Lun, even the foot of its southern (Tibetan) slopes is so elevated, that no villages or pasture grounds exist at all. On its northern slopes, 9400 feet is the limit of permanently inhabited villages (Bushia, 9310 feet); summer villages reach about 10,200 feet; and pasture grounds do not occur above 13,000 feet.

Religions.—Buddhism is the prevailing form. The people of Ladakh are Buddhists; those of Little Tibet are Shiah Muhammadans. Lama is the title of the monastic priesthood. In Tibet there are two ruling Lamas, the Dalai and the Teshu Lama. The former is the chief, and resides at Lhassa; the latter, the inferior, in the lamasery of Teshu Lumbo, near the town of Shigatze, on the river Sanpu or Brahmaputra, in the south of Tibet. The ordinary monk or priest in Tibet is the Gylong, above whom are the Lama or presidents, and below whom are the Tohba and Tuppa. The Tuppa is a probationer who is admitted into the establishment, to which he would attach himself at the age of 8 or 10, and receives instruction accordingly. At 15 he becomes a Tohba, and at 24 a Gylong, provided his acquirements be satisfactory. There are two sects, the Gyllupka, who dress in yellow, and the Shammar in red, the Shammar Gylong being allowed to marry.

Besides their Lamas, the Tibetan Buddhists have large numbers of nuns among them, who are not, however, subjected to restraint, but work actively in the fields, and one of them took service for a short distance as a coolie with Captain Knight's party. Slavery is a Tibetan institution. Polyandry is common.

Language.—Brother H. A. Jaschke of Herrnhuth finished the Tibetan-English Dictionary, on which he was engaged on behalf of the India Office for a period of eight years. Alexander Csoma de Koros dwelt for many years in Tibet, writing a dictionary. The sacred books of Tibet are in 100 to 108 vols. folio.

In Tibet, the cycle of Jupiter Vrihaspati Chakra, is used. Their epoch o[illegible]s in A.D. 1025. Csoma de Koros mentions [illegible]t in the Tibetan sacred books, three periods [illegible]eir compilation are expressly stated, first [illegible]er Sakya (B.C. 638 to 543); then under Asoka, king of Pataliputra, 110 years after the decease of Sakya; lastly by Kanishka, upwards of 400 years after Sakya. Boom, a Tibetan work in 12 volumes, contains tracts of the Elupka section.

Fairs.—There are twelve great annual festivals, viz. Bumteung, Kansupecha, Chushupecha, Gesupecha, Nesupecha, Gosungpecha, Gyajipecha, Lallupecha, Chindupecha, Dudupecha, Kagyurpecha, Lukphopecha. On the anniversary of the death of a chief Lama of a Gumba, there is a great festival and illumination. At Teshu Lumbu, three such are held annually. The Lhassea Morun festival of M. Huc is properly called the Lha-sa Meuhlum. It is the anniversary of the first proclamation of the religion of Buddha by Sakya at Lhassa.

Burials.—The Ch'hod-ten is a Buddhist temple. There are numerous Ch'hod-ten in Tibet, consecrated to the celestial Buddha, in contradistinction to the Dungten, which are built in honour of the deceased holy men, as a bone or relic receptacle.

In Tibet, where the dead are not burned or buried, but are exposed on high places to be devoured by vultures, there is a class of men who make removal of the dead their sole avocation. They are called Raga Tongden; they are a low race, held in dislike, and shunned, but they are generally rich. They go about to the living, begging and extorting money. When refused or ill-treated, they retaliate with abuse, which is often successful. 'Very good,' say they, 'you won't give us alms now: you will come into our hands some day, and we will put a rope round your neck, drag your body through

the streets, and throw it to the dogs;' and the latter part is the frequent fate of the poor man's body, as these men keep numerous dogs to devour the bodies. The bodies of the wealthy are carefully disposed of: they are carried in a litter to the top of a hill set apart for the purpose, the flesh cut in pieces, the skull and bones pounded in a mortar; and when all is ready a smoke is raised to attract the vultures, who collect in thousands to eat it up. The sovereign Lamas are, however, deposited entire in shrines prepared for their remains, which are ever afterwards regarded as sacred, and visited with religious awe. The bodies of the inferior Lamas are usually burned, and their ashes preserved in little metallic idols, to which places are assigned in their sacred cabinets. Ordinary persons are treated with less ceremony: some are carried to lofty eminences, where they are left to be devoured by ravens, kites, and other carnivorous animals. But they also have places surrounded by walls where the dead are placed. The Mongols sometimes bury their dead; often they leave them exposed in their coffins, or cover the[illegible] with stones, paying regard to the sign under which the deceased was born, his age, the day and hour of his death, which determine the mode in which he is to be interred. For this purpose they consult some books, which are explained to them by the Lamas. Sometimes they burn the corpse, or leave it exposed to the birds and wild beasts. Children who die suddenly are left by their parents on the road. In Spiti, in the N.W. Himalaya, when a person dies, the body is sometimes buried, or burned, or thrown into the river, or cut into small pieces and burned. Admonitions are made over the body to the departed spirit, such as, Do not trouble yourself, you cannot enter it (meaning the dead body); in summer it quickly becomes corrupt, in winter it freezes and is too cold for you.

Marco Polo, writing in the 13th century, related that in Tibet they eat raw meat and worship images, and have no shame respecting their wives. In ancient times, according to Herodotus (Prinsep, p. 1), the Tibetans at the Persian court stated that they ate their dead. According to Dr. Scott (Asiatic Researches xv.), when the Bhoti of Upper Tibet fought with a Deb raja or governor, or with Pilos, if any one be killed, both parties rushed to obtain the body, and the successful party took out the liver and ate it with butter and sugar. They also mixed the fat and blood with turpentine, and made candles, which they burned before their idols. The bones of persons killed in war were used for musical pipes. They made beads from the skulls, or set them in silver as water cups to be used in their religious ceremonials. These are doubtless fables.

The Chinese have spacious burial-grounds at Lhassa and Digarchi, and there, as in their own country and wherever they reside, they are well cared for and ornamented. The Lhassa one is said to contain 100,000 tombs. In the time of Wangh, a celebrated raja of Lhassa, there was an insurrection against the Chinese, which ended for the time in the annihilation of the whole army, and the massacre, by the Tibetans, of the whole Chinese population. The funerals of the Chinese at that time were estimated at 400. This massacre was punished by the emperor, and since that time the Chinese supremacy has been finally established all over Tibet. There was a petty insurrection in 1843, in which many Chinese were killed.—*Hooker*, i. p. 118; *Moorcroft's Travels; Cunningham's Sikhs; Journ. Ind. Arch.; Dr. Thomson's Tr.; Campbell; Timkowski; H. and Th. Flora Indica; A. Cunningham in J. A. S. of Bengal*, 1855; *Prin. Indian Antiq.; Rennell's Memoir; Trelawney Saunders' Geog. Mag.*, 1877; *Mayer, Chin. Govt.; Wade's Chinese Army*, 71, 72.

TIBIT, the term in use among the Uzbak of Yarkand for the pashm or wool of the shawl goat. Lieut. Henry Strachey supposed it to be the source of the geographical term Tibet, introduced to Europe by Marco Polo.

TICHODROMUS MURURIA, the wall creeper of S. Europe, is very common in the Himalaya, Afghanistan, etc., in rocky situations, and on the scarped sides of mountain roads. At a distance it looks like a very large grey and scarlet butterfly, as with expanded wings it noiselessly creeps over the rock, poking its long awl-shaped bill into every little nook and crevice.—*Adams.*

TICK, species of Ixodes.

TICKEL, COLONEL, 31st B.N.I., wrote on the Birds of Borabhum and Dhalbum in Bl. As. Trans., 1833, ii. p. 569, and contributed largely to the stock of knowledge regarding the ornithology of Central India and Burma.

TIC-POLONGA, a name given in Ceylon to a poisonous snake about three or four feet long.

TID. HIND. A beggar's fiddle, a musical instrument.

TIDES. The usual vertical rise and fall of the tides along the shores of the Peninsula of India is small. In the Straits of Malacca and at Singapore it is from 12 to 14 feet; while in other parts of the world, in the same latitude, there is scarcely any variation. Upon the coast of Cochin-China it varies from 6 to 14 feet, and the periods and duration of the ebb and flood are by no means regular. In lat. 12°, on the same shore, there is but one tide in the course of 24 hours. At the head of the Gulf of Cambay, in lat. 22°, Horsburgh states that the perpendicular depth of the rise and fall of the tides is from 36 feet at the full and change of the moon. Also, in Surat road, it is from 20 to 21 feet, and from 15 to 17 in Bombay harbour; again, in the Gulf of Martaban, which is far within the tropics, the rise and fall of the tide, at the full and change of the moon, is 23 and 24 feet, and of Rangoon bar about 20 or 21 feet. In Gasper Straits, within 2½° of the equator, there is occasionally, from local causes, a rise and fall of 16 or 17 feet on the spring-tide, but this is rare in other places so near the equator. These instances show that very considerable tides occur within the tropics.

The range of the tides, however, greatly varies, from 1½ feet in the open ocean at the Mauritius to 20 feet at Rangoon, 21 feet at Mergui and Martaban, and 30 feet at Surat.

	lat.	long.	ft.
Balasore,	21° 28′ N.	87° 0′	10
Basein,	19° 18′	,, 72° 49′	17
Bombay,	18° 54′	,, 72° 48′	12
Beyt,	22° 28½′	,, 69° 9′	14
Chittagong,	22° 20′	,, 91° 48′	15
Daman Bay,	20° 22′	,, 72° 49′	17
Kishm Is.,	26° 57′	,, 56° 17′	12
Makemba,	15° 42′ S.	45° 58′	17
Martaban,	16° 32′ N.	97° 35′	21
Malinda,	3° 13′ S.	40° 11′	11
Rajapur,	16° 16′ N.	73° 0′	12
Rangoon,	16° 47′	,, 96° 10′	20
Surat,	21° 12′	,, 72° 47′	30
Tavoy Is.,	13° 6′	,, 98° 14′	17
Versava,	19° 7′	,, 72° 46′	16
Zanzibar,	6° 9′ S.	39° 14′	10

—*American Exped.* p. 148; *Horsburgh.*

TIEFFENTALLER, JOSEPH, a native of Bolzano, in the Austrian Tyrol, who arrived in India A.D. 1743, as a Jesuit missionary. He travelled extensively, and wrote, in Latin, accounts of the country. He died at Lucknow, July 1785, but was buried at Agra, at the back of the old Catholic church built by Walter Reinhardt. —*Growse.*

TIEH-FAN. CHIN. A ferruginous alum, also alum earth.—*Smith.*

TIELLA, in Malayala and Tamil, a tree which grows from eight to twelve inches in diameter. Its strong, durable wood is used by the natives in the frames of country boats.—*Edye, Ceylon.*

TIEN-CHU, or Celestial Kingdom, a Chinese designation of China proper. Tien-Shan-hu, CHIN., means the lake of the celestial hills. Tien-tsin, CHIN., means celestial harbour.

TIEN-CHUNG-CHING-SIT, the Chinese feast of the middle heaven.

TIEN-DZA. CHIN. A title of the emperor of China.

TIEN-HOU-SHENG-MU, the Chinese queen of heaven, is the patron of seafarers. Previous to the first trip of the fishing season, or when new nets are made or old ones mended, the nets are spread out, candles are lighted, joss paper and incense are burnt, and sacrifices offered to propitiate the goddess. Tien-Hou was a native of the province of Foh-kien, and a member of the clan Lum. Her four brothers were merchants, and it is fabled that when absent at sea, their ship met with a severe storm, and their sister in a tra[illegible] dragged it into a place of safety. On the return of the ship, the youngest son said the eldest brother had been drowned at sea, but a lady had appeared in mid-heaven and by means of a rope dragged the ship into a safe position. She died at the age of twenty, and her relatives declared that her spirit returned to the house once a month, and they concluded she had become a goddess, and erected a temple to her. Her fame soon spread, and she is worshipped at all times by numerous votaries, especially by fishermen and sailors. Her natal day, the 3d of the 3d month, is her festival.—*Gray*, p. 161.

TIEN-I is the Chinese celestial cure, a star supposed to have a beneficial influence upon invalids.

TIEN-PAK or Tien-pe-Hien is the principal place on the south coast of China where salt is produced, and several hundred junks are annually employed in transporting it to Canton. —*Horsb.*

TIEN-SHAN, according to Russian explorers, is a great alpine region, extending far to the south of Lake Issyk Kul, and forming with the Pamir and the Himalayas the mountain centre of the whole Asiatic continent. The axis of this Tien-Shan alpine region is apparently from N.E. to S.W., the elevation gradually rising to the S. and E., and sinking on the side of Kashgar much more rapidly. Lake Issyk Kul is 5300 feet above the sea-level; Lake Son Kul, 9430 feet; and the Tchatyr Kul, 11,210 feet. The main ranges run from N.E. to S.W., but are cut by other smaller ones running from N.W. to S.E. The centre is not the highest; the highest part of the whole region is the plateau or range of Ak-Shiiraik. There are many peaks between 14,000 and 20,000 feet high. Khantengri, S.E. of the E. extremity of Issyk Kul, is estimated at over 24,000 feet.

The Tien-Shan or Celestial Mountains separate the Tarim from the Issyk Kul and Ili basins south and north, and stretch thence eastwards to about 120 miles east of Hami (Khamil), in long. 95° E. At this point the Tien-Shan consists of a single wedge, but expands westwards, and in the extreme west ramifies into several distinct branches, which spread out like a fan far into the Turkestan lowlands. Of these branches, the south-westernmost are the Alai and Trans-Alai, which stretch in parallel lines for 200 miles along the northern edge of the Pamir down to the Turkestan plains.

North of Khokand (Farghana), the most important western branch of the Tien-Shan are the Alexander mountains, 15,000 feet from the closed basin of Lake Issyk Kul.—*E. Schuyler, Turkestan*, ii. pp. 132, 133; *P. Arminius Vambery of Bokhara*, p. 13.

TIER, Teer, Teyar, a race in Malabar who form the mass of the field labourers, but their chief avocation is to collect and make coarse sugar from the juice of the palm. Their women are exceedingly pretty, with masses of long hair. They follow polyandric customs. Both men and women are generally handsome, with strong muscular frames; able to undergo much fatigue, and talkatively inclined. They do not encumber themselves with large wardrobes, a white cotton cloth wound round the waist, and reaching to the knees, being only necessary for their full costume. The women sometimes carry a piece of muslin over the shoulder, and draw across the breast when a European approaches. But as white faces are not rare now-a-days, this habit is wearing out, and semi-nudity is the rule. A woman of easy virtue wears more decent apparel as a token of the laxity of her morals. Till lately Tyatti or females of the Tier caste did not lose caste by forming connections with rich and respectable foreigners. Since two or three have risen in the Government service to position they have put a stop to this practice.—*Markham*, 346.

TIFFIN. ANGLO-ARAB. Lunch, from Arabic Taffannun, refreshment.

TIFLIS, in lat. 41° 41′ 4″ N., and long. 44° 50′ 39″ E., is 6385 feet above the sea. It is the capital of the Russian Government of Georgia, and on both banks of the Kur river. The population of Tiflis is quite kaleidoscopic in the variety of its elements. Out of 104,024 inhabitants, 37,308 are Armenians, 20,390 Georgians, 10,574 Russians, 2186 Tartars, 2005 Germans, 1692 Persians, 1592 Poles, 1145 Jews, 388 Greeks, 293 Ossetes, 263 French, 227 Aissors, 163 Italians, 123 Turks, 123 Mingrelians, 81 English, Scotch, and Irish, 52 Lesghians, 37 Checs, 32 Gourians, 28 Swedes, 15 Lithuanians, 10 Latiches (?), 10 Roumanians, 9 Slovacs, and 8 Mordoins, Chouvaches, Kurds, and Circassians. The sexes are as unequally distributed; there are only 37,877 women to 66,147 men.—*MacGregor.*

TIGER.

Nimr, ...	ARAB.	Matcham, . . .	JAV.
Ch'ung, ...	CHIN.	Pilli, ...	TAM.
Bag, ...	HIND.		

Tigers occur throughout India, in the Malay Peninsula, Chinese Tartary, and Eastern Russia, but are unknown in China. The tiger uses its

fore-paw in self-defence and in fighting, but uses its teeth in catching its prey, grasping the neck. After killing, it frequently lets its prey remain till nightfall, when it returns to feed upon it.

The tiger ranges on the mountains of India up to 6000 and 7000 feet. In hot weather, it harbours near rivers, in thickets of long grass, brushwood, or amongst the tamarisk bushes of river islets. The tigers of Lower Bengal and Central India are particularly savage and ferocious. The average size of a full-grown male tiger is from 9 to 9½ feet, but occasionally in India a tiger is killed measuring 10 feet in length. On this point Lieut. Rice says (p. 50), 'This was the finest tiger we had yet killed; he measured 11 feet 11 inches, counting from the end of his nose, between the ears, to the tip of his tail. The largest tiger of all measured 12 feet 7½ inches long, and was stout in proportion, a perfect monster (p. 207); another measured 12 feet 2 inches, and was stout in proportion (p. 60); the largest tigress, 11½ feet [!] From the extraordinary amount of trouble she gave us before being killed, as well as from her great size, we all thought it must be a male tiger' (p. 213); another tigress is mentioned as 11 feet 1 or 2 inches (p. 216). Undoubtedly very extraordinary dimensions for tigresses to attain! The footprints of a very large tiger are noticed as 6 inches long by 5 wide. 'One tiger measured a few inches over 11 feet, and was exceedingly stout, with an extraordinary quantity of long hair about the face, and [illegible]en had long curly locks down the back of his neck, much more so than in any we have before or since killed; this greatly added to his personal appearance.'

In 1881 (16th to 26th March), the Durbhungah shooting party shot for ten days, in Nepal and in North Bhagulpur, 12 tigers, 57 deer, 83 pigs, 7 hares, 7 floricans, besides smaller game, such as duck, partridge, snipe, and quail. The largest tiger measured 10 feet 5½ inches in length,—he was truly a monster animal. The largest tigress measured 9 feet 4 inches,—a very handsome and beautifully-marked animal.

Tigers catch the wild hog, the sambur and the spotted deer, and they often prey on cattle and seize villagers. They always retreat from opposition unless wounded or provoked. A herd of cattle will attack a tiger, and compel it to relinquish its prey. On one occasion, a herd of buffaloes rushed on a tiger that had seized their herd-boy, and compelled it to drop him. The wild boar sometimes kills a tiger. Tigers eat frogs, animals that die of disease, and also their own kind. They are partial to particular localities, and to old ruins, old temples, and three or four may be seen lying together on the tops of the walls. An old tiger will kill a cow about once a week, remaining near the carcase for two or three days, and sometimes longer, gnawing the bones before returning to its retreat.

Lieut. Rice mentions that, on skinning a dead tiger, 'we discovered a number of porcupine-quills in his feet, arms, and even face. These broken pieces of quill we had also met with on other occasions when skinning tigers, which proves that they must be fond of such food. The porcupine only feeds at night, when, doubtless, the tiger often meets him, and with a tap of his paw destroys him, in spite of his armour of quills.'

Tigers that have killed a man generally continue to take that food. In the Mandla district east from Jubbulpur, in 1856 and previous years, on an average between two or three hundred villagers were killed annually, and Jerdon found several villages of the Bastar country deserted owing to the ravages of tigers. Colonel Fraser thinks that Bastar is the great tiger nursery. The tiger is often hunted down by the wild dogs of India.

The Bhils declare that an old male tiger would certainly kill a young male if he caught him unawares at any time. Capt. M—— was once long kept awake at night at the town of Nundwass, by the terrible roaring of two large tigers, fighting over the body of a bullock one of them had just killed, close to the walls of the small town. Next morning a tiger was found dead by the bullock's side, and on following up some tracks a short distance, the inhabitants found another tiger also dead. Both were large males, covered with marks from each other's claws and teeth.

On one occasion, when following up a tiger's tracks, Lieut. Rice and his companions came upon a dead cheeta (or hunting leopard) that had just been killed by the tiger; he having, no doubt, surprised the cheeta asleep, for the marks of the tiger's claws, from which blood still was flowing, were quite plain on the body. On another occasion they found a hyæna that had been murdered by a tiger. The paw alone had been used to kill these victims, for there were no teeth-marks.

The tiger's presence is well known by the familiar yell of the kole balloo, or superannuated jackal; but it is at night mostly that his hideous voice is heard. The kole balloo is an aged, mangy, worn-out jackal, that has either left or been expelled his pack. Being perhaps prevented by his infirmities from any longer being able to get his own living by hunting in company with his fellows, he devotes himself to the service of some tiger. It is his business to discover and give warning of the whereabouts of any stray cattle or other animal he may find that will afford his royal master a meal, the remains of which, after the tiger has dined, he of course hopes will fall to his share.

Captain M—— says—'On one occasion we distinctly saw a large tiger by the clear moonlight several times pass and repass, within a score of paces from where we were sleeping out; in spite even, too, of the large fires kept burning around us, greatly to the terror of our servants, horses, and dogs. The old jackal howled frightfully all the while close at hand, and no doubt wondered when his meat would be got ready. We did not like to fire at this tiger, for fear, being but slightly wounded, he might charge among us; yet several times in the night he caused us to turn out and show a front. At last, towards dawn, he and the jackal took themselves off, to our great delight.' Jules Gerard, the famous French lion-slayer of North Africa, refers familiarly to the screech of the jackal, who generally follows the lion to eat the remnants of his meals.

A tigress has from two to four cubs at a birth, which remain with her till they are able to kill for themselves. A writer on this subject says—'I have shot seventeen tigresses enceinte, and have invariably found four cubs inside the mother.

I think my experience includes six or seven instances of this. But I have never seen more than three alive, and that number only at the stage of extreme babyhood, before they were old enough to begin hunting with their mother. In every instance that I have met with or heard of a tigress going about with half-grown cubs, the number of cubs has never exceeded two. From this you will see that my experience (small as it is) points to four as the normal number, of whom one or two are still-born, and to the number of cubs that survive extreme childhood being limited to two. The natives say that the father always eats one of his progeny.'

The clavicle of the tiger lies loosely imbedded among the muscles near the shoulder-joint, and is considered of great virtue by the natives of India. The whiskers are supposed to constitute a deadly poison, and are carefully burned off the instant the animal is killed; but in some parts of the south of India they are supposed to endow their possessor with unlimited power over the opposite sex; the claws are mounted in silver, and set as bracelets. The bones of the tiger, of the Leopardus brachyurus, and of the lynx, are sold in China, to form an ingredient in certain invigorating jellies, made of hartshorn and the plastron of the terrapin. Burmese and Malays eat the flesh of the tiger, for which they pay from 9d. to 1s. a lb., because they believe that by eating it they acquire the courage and sagacity of the tiger. The aborigines of Central India reverence, in a mild, inoffensive way, the sun, the moon, the tiger, and the bhoot or household spirits. They use tigers' claws as charms, and the most solemn oath of a Santal is on a tiger's skin.

In 1881 there were 647 persons killed by tigers in India, and how to destroy the tigers has been a subject of anxious thought in India. It is very difficult sometimes to make out a tiger when concealed in grass or bushes, for they will often lie very close, their skin being of the same colour as the dry grass and reeds around, while the stripes, even if seen, are easily mistaken for shadows cast by the strong glare of the sun.

Captain F. Nelson, of Siddapore and Peddacheroo, recommended poisoning tigers. Buffaloes or bullocks should be picketed in the most likely cross-paths in the jungle. As soon as one is killed, and any part eaten, a teaspoonful of strychnine should be inserted under the flap of the skin next the part eaten. The skin should be raised with a bamboo knife like a paper-cutter. No human hand should touch the carcase, and one person only should approach to insert the poison. A watcher in a tree would keep the vultures off till sunset, when he should quit the place. A writer says—'Australia has for years past most thoroughly dealt with the dingo or native dog,—I mean by the systematic use of strychnine. An Australian stockman troubled with the wild dog finishes his day's work by riding across-country over which the dingo roams, trailing a paunch in an advanced state of decomposition, and he hangs at intervals upon the trees a bit of meat with a little strychnine enclosed in a slit cut in it. By these means over thousands of miles the wild dog has been absolutely extirpated, and many of the more recent settlers have scarcely ever seen one, in districts in which they were once abundant and most annoying.'

In Cochin-China, Malays obtain their livelihood by tiger-catching, the skin of this animal being valuable. Two Malays generally go in company, and travel over many parts of the country. Those who follow this business regularly, have chops or permits from the quong of Saigon, allowing them to build a hut for their use in any place they think fit. The hut is built on the top of four bamboos, from 15 to 20 feet high; and as the tiger cannot climb these, the two men can remain in it and watch their snares in safety. The snare consists of large leaves, or sometimes pieces of paper about six inches square, covered on one side with a substance of the same nature as bird-lime, and containing a poison, the smallest particle of which, getting into the animal's eyes, is said to cause instant and total blindness. They are laid about thickly, with the bird-limed side upwards, in the track of a tiger; and as surely as the animal puts his paw on one of the treacherous leaves, he becomes a victim; for, finding it stick to his foot, he shakes it, by which means other leaves adhere to it; he then probably rubs his paw over his head, in the attempt to rid himself of these leafy encumbrances, but they stick to his head and face; he then perhaps rolls himself on the ground, when he becomes fairly covered; and, while scratching and rubbing himself to get free, some of the poisonous bird-lime gets into his eyes, and blinds him. He growls and roars in agony, and this is the signal for his captors to come and despatch him. The Malays then skin the animal, and take away the parts of his body that may be valuable. They leave the carcase, well strewn with more leaves, as a bait for other tigers; they also ensnare other animals and birds in the same manner.—*Brown's Cochin-China; Jerdon; Blyth; Rice.*

TIGRIDIA CONCHIFLORA, the beautiful tiger flowers, open in the morning, and are of short duration; a second blossom appears on the same stem about the third day after the first has withered.—*Riddell.*

TIGRIS has two principal sources in Central Armenia, both of which spring from the southern slope of the Anti-Taurus, near those of the Araxes and Euphrates, and not very distant from that of the Halys. It was called Dijla by the Chaldæans; and the designation applied to it in the Scriptures is Hiddekel, a name which it bears at the present day among a large portion of the people living near its banks. The western branch rises at a spot which is about 20 miles westward of Arghani Maden; its course is north-eastward along the deep valley at the foot of the elevated ground of Kizan (4568 feet above the Black Sea), and, after having continued in the same direction towards the heart of Kurdistan, when a little more than 25 miles from the spring, it makes a sweep so as to take the direction of Arghani Maden, or nearly south.

Below Diyar Bekr the Tigris contains several islands. Its banks are thinly peopled, and the country about them is only partially cultivated; but the pasture grounds are rich, and well suited for the visits of the nomadic tribes which come occasionally to the river from the neighbouring countries. The windings of the Diyar Bekr river thus far have a length of rather more than 150 miles, whilst those of the tributary by Myafarekin are less than 100 miles. The Lesser Zab, or

Altun Su, is augmented by a considerable stream coming from Koh-i-Sanjak, a town of 1000 houses, and distant about 40 miles north, 35 miles east; from thence it becomes navigable by rafts. At their junction, the Tigris is about 500 yards broad, and a little below there is a kind of cataract, called Kelah, where the descent is so rapid that the river appears as it were to run down-hill. This place is much dreaded by the people when descending in boats; but it does not seem in reality to offer any serious impediment to the rafts so frequently passing between Mosul and Baghdad. After the Tigris has succeeded in forcing its way through the Hamrin Hills, at a spot called El-Fattha, on the left bank, there is an abundant supply of sulphur; and, directly opposite, naphtha rises in great quantities from the bed of the river. The Tigris may be considered as having an average width of 200 yards from Mosul to Baghdad, with a current in the high season of about 4¼ miles per hour. The country is highly cultivated from Mosul to Nimrud on both sides of the river; but from the latter place to Tekrit all cultivation nearly ceases; and it is but partially found in the tract along the river between Tekrit and Baghdad. The Tigris is navigable for rafts at certain seasons from the bridge of Diyar Bekr to Mosul, a distance of about 296 miles. Below the latter place it is more or less so throughout the year, and the descent to Baghdad is performed with ease and speed. Large rafts, supported by 200 or even 300 inflated skins, are much in use for the transport of goods, and when the merchants are on board, a small room is raised on the raft in order to give shelter from the sun and rain. During the flood season the voyage is performed in three or four days, whereas at another time it requires about fifteen days. The *Euphrates* steamer, under Lieutenant Lynch, went as high as the bund of Nimrud in 1838, and this officer made a map of the river, from Baghdad to Mosul, by trigonometrical operations between points which were determined by astronomical observations. The raft constructed to carry the Right Honourable John Sullivan from Mosul to Baghdad in 1781, was supported by 200 skins, and had on it a small cabin. Below the Tak-i-Kesra, or arch of Chosroes, and which marks the site of the ancient Ctesiphon, and a little lower down the remains of the ancient Seleucia, the continuations of the Tigris bear the well-known appellation of Shatt-ul-Dijla as far as Kut-ul-Amara, a small town on the left bank, nearly midway between Baghdad and Kurna, being about 178 miles by water from the former city, and 97½ miles directly S.S.E. from the latter. Lower down, after passing for about 40 miles through marshes and coming near the tomb of Ezra, the river resumes its former size and character, as it winds in the general southern direction to Kurna, which place is 232 miles from Kut-ul-Amara by the windings, and 144½ in direct distance. The whole course, thus briefly described, may be estimated at 1146 miles, which is little more than half the length of the sister stream, the Euphrates, from the sources of the latter to their junction at Kurna, but it discharges more water, owing to the numerous tributaries which it receives on its eastern side, among which may be particularly noticed the two Zab rivers, and the river Diyala. There are, however, only two feeders of any moment on the western side throughout the long distance from Diyar Bekr to Kurna. A considerable increase of the river Tigris takes place during the rains of November; subsequently it decreases, and swells irregularly at intervals, till the different feeders are bound up by the frost and snow of January in the Kurdistan mountains. This serious check retards for a time the swelling of the river, therefore its permanent rise, like that of the Euphrates, does not usually begin till the middle of March. There is an active commerce along the Tigris, between Basra and Baghdad, by means of large country boats, which go in fleets, and above the latter city it takes place chiefly by means of rafts from Mosul.

The regions through which the Tigris and Euphrates rivers run, and the countries intervening, have, since remote ages, been occupied by races who have taken a prominent place in history. Aram-Naharain is the Syria between the rivers of Genesis xxiv. 10 and Deuteronomy xxiii. 4. The greater part of what was called Mesopotamia in later times, constituted the territory of ancient Babel, and was the Aram-Naharain of Scripture. The same territory in Genesis xxviii. 2 is called Padan-aram, or Champagne Syria, both of which designations agree with the description of the country given by Strabo. He says that the Tigris washes the eastern side of Mesopotamia, and the river Euphrates its southern and western; whilst the Taurus separates it from Armenia on the north. Pliny is still more distinct: he says that Mesopotamia has the Tigris to the east, the Euphrates west, the Persian Gulf south, and the Taurus north, with a length of 800 miles and a breadth of 360 miles, the city of Charax being at the extremity of the gulf (lib. vi. c. xxvii). Mesopotamia extends above 10 degrees in longitude from Balis, in long. 38° 7′ 10″ E., to the estuary of the old Karun, in long. 48° 45′ 16″ E., and from the shores of the Persian Gulf, in 30°, to Sumeisat, in lat. 37° 31′ 5″ N.; its greatest width being about 170 miles from Jaber Castle to Husn Keifa, on the Tigris, and its extreme length nearly 735 miles. The irregular triangle thus formed has a superficies of nearly 76,117 square miles, including the shores of the gulf from the Pallacopas to the old Karun. The principal towns of Mesopotamia are Diyar Bekr, Husn Keifa, Jazireh, Mosul, Tekrit, Sammara, and Kut-ul-Amara along the Tigris; and along the Euphrates, Erzingan, Kemakh, Egin, Kebban Maden, Malatiya, Rum, Kal'ah, Bir, Rakka, Deir, Rawd, Anah, Hadisa-el-Uzz, Jibba, Diwaniya, Lamlun, Sheikh-ul-Shuyuk, and Kurna; in addition to Suverek, O'fa, Haran, Seroug, Ras-el-Ain, Mardin, Nisibis, Sinjar, El Hadhr, Kerbela, Mesjid Ali, Samawa, Zobeid, and many other villages, both in the mountains and along the streams, between the two great rivers. Grane or Quade, Mohammara, and Basra are the ports; and the last, being the principal, is next in importance to Baghdad, the capital.

Races.—The races that have ruled here from the most remote times have been many, and remnants are still to be traced of former dominant peoples in the varied languages still spoken. The inhabitants of the region at present consist of

Arabs, Osmanli Turks, Kurds, Turkomans, Syrians, Jews, and Christians. Arabic is the general language; Turkish, Kurdish, Chaldee, Syriac, and Syro-Chaldæan dialects being the exceptions. The Sunni Muhammadan religion is prevalent; but in Upper Mesopotamia there are many Nestorian Christians, some of whom have become Roman Catholics, and Jacobite as well as Roman Catholic Syrians.—*Rawlinson; Bunsen; Rich; Chesney.*

TIGULAR or Tigalar, a term by which the Canarese people designate the Tamil-speaking race.

TIKA. HIND. A round piece of clay, paint, or tissue on the forehead of a Hindu. The application of the tika is a royal rite, and Rajput chiefs claim it as the symbol of investiture; but amongst Hindus generally, it means the circular mark made with coloured earths or unguents upon the forehead. The rana of Udaipur, the raja of Jeypore, and raja of Bilaspur, have it applied to their foreheads as a token of supremacy.

TIKA. MAHR. A parcel of ground, a field.

TIKA. SANSK. A commentary. Most of the Siddhantas which have been written by modern Hindu authors, such as the Arya, Parasara, and other treatises known by that designation, as well as the tikas of Bhaskara Charya, Varaha Mihira, and others, may be considered as commentaries on the four principal Siddhantas of the Hindu religion.

TIKAL, a Chinese weight, also money of account. As a weight, about 4¼ oz., or the 16th of the catty; as a money, reckoned at the third of a pound sterling. It is also called a lyang; another name in Burma for the kyat, a weight which consists of 252 grains. In Siam the tikal coin and weight is 236 troy grains, and its value in England is about 2s. 6d. sterling. Major Phayre believes the Burma name to be derived from Ta-kyat, one kyat. The tikal or kyat in Burmese weights is equal to 14 tolas, or 100 tikals are equal to 1400 tolas.—*Simmonds' Dict.*

TILA. HIND. Strips of the bark or sheaths of the moonj grass used by Dosalis. Tili of Muzaffargarh, the pith of the culm of sirki, Saccharum moonja.

TILA. BENG. A word commonly applied in Eastern Bengal to low and often isolated hills starting up from the plain. At the town of Sylhet there are several such, on which the houses of the European officials are built.—*Yule, Cathay*, ii. p. 516.

TILA. HIND. Gold, gold wire, gold thread. Tila-bat, the twister or maker of gold embroidery thread (gold on silk), or Kalabatun. Tila-kar, gold work of embroidery fabrics.

TILA, a gold coin of Bokhara, value 12s. 6d. Padshahi Tilasi, the gold tila of Bokhara. The Central Asia coin has three different values. There are the tila of Bokhara, of Khokand, and of Khiva. The last-named State, indeed, has one or two kinds. It is made of gold, the purity of which varies greatly, and in consequence its value fluctuates to a greater extent than even the changes of the money market would warrant. Of the three, the Bokharan tila is the most valuable, averaging from 11s. to 13s.; the Khokandian coming next, at about 8s. 9d.; and the Khivan last, at about 8s. 4d. The smaller Khivan tila is half the value of the larger. The result of an analysis by the Mining Department at St. Petersburg of the Bokharan tila showed that it contained rather more than 4½ grammes of pure gold, while the Khokandian had less than 3½ grammes of the metal. This analysis made it clear that the coin of Bokhara was fully entitled to the first place among the moneys of Turkestan. The tila has always been the legal tender in that part of the world.

TILAK. HIND. A kind of tunic worn by Meo women.

TILAKA or Viseshaka. SANSK. A mark with some coloured substance in the middle of the forehead. The sectarian mark on the forehead of a Hindu, but most of the non-Aryan races also use it.—*Hind. Th.* See Tika.

TILAK CHANDRA, a tribe of Bais Rajputs at Dundhia khera.

TILES.

Tuiles, ... FR.	Ubin, Jobin, . . MALAY.
Dachziegel, . . . GER.	Tscherepiza, . . . RUS.
Kaprail, . GUJ., HIND.	Tejas, ... SP.
Tegole, Embrici, . . IT.	Odugal, ... TAM.
Ganteng, Gandeng, MALAY.	Penkalu, ... TEL.

Tiles are made of clay, and baked in an oven or in the open air to harden them. They are of various shapes and sizes, and are used chiefly for covering roofs, and occasionally also for paving floors and making drains.—*Faulkner.*

TILE-TEA, a kind of flat brick tea, of much solidity, made in China, and taken to Kiachta, where it is sold to the Armenians and Tartars, who distribute it through the Caucasian provinces and Eastern Siberia. The Kalmuk, Kirghiz, and Buratria nations consume the greater part of it. It is prepared in a different manner from common tea, being stewed with milk, butter, salt, and herbs, constituting rather an article of food than a dietetic beverage.—*Simmonds' Dict.*

TILIACEÆ. *Juss.* The Linden tribe of useful plants, consisting, in India, of the genera Corchorus, Triumfetta, Grewia, Berrya, and Brownlowia. The general properties are mucilaginous and emollient. Corchorus olitorius, the pat of Bengal, and C. capsularis, the ghi-nalita-pat, are cultivated for the fibre of their bark, which is employed to form cordage for agricultural purposes and boats, also to form gunny, a coarse cloth, and likewise to form paper. Triumfetta angulata is the bun okra of Bengal; several species of Grewia yield useful products, and Berrya ammonilla yields the valuable Trincomalee wood of commerce.—*Voigt.*

TILING, the race speaking the Telugu language. Tiling and Canarese people are almost of similar physical frame—have tall, graceful figures, but, as a rule, the Tiling are fairer than the Canarese. The great similarity of the two languages, Canarese and Telugu, supports the impression that they are of the same stock, who have separated in more recent times, and that circumstances have modified their characters and personal appearance. The inland tract of table-land country occupied by the Canarese, from the southern part of the Mysore country through Bellary in the Ceded Districts, up to Bijapur and Beder, is arid, and the soil yields as food crops, small millet grains, Eleusine coracana, Setaria Italica and Germanica, Panicum, and Penicillaria spicata, which even the humbler labourers of the south of India only use on pressure, when scarcity or dearth prevails; and a hot, arid climate, with a less nourishing food may have led to their darker complexions.

The Tiling people dwell from the shores of the Coromandel coast westwards to Beder, and three languages, Telugu, Mahrati, and Canarese, there commingle. In 1881, the number speaking Canarese was 8,336,008, and those speaking Telugu, 17,000,358.

TILSIM, pl. Tilasim. ARAB. A talisman or magical image, upon which, under a certain horoscope, are engraved mystical characters, on seals, images, etc., as charms against enchantment or fascination. They are often buried with treasure, to ward off discovery; or by being rubbed, command the presence and services of the Jin.

TIMAH. MALAY. Tin. Also Timah-putih and Timah-sari, called also Talagh. The Malay and Javanese term for tin, timah, is a word used in the Archipelago as a generic term for both tin and lead; the epithet white or flowery, putih and sari, being given to tin itself, and that of black, itam, to lead, a metal with which, being entirely a foreign product, the Malayan nations are but little acquainted.

TIMALIA, a genus of birds of the sub-family Timalinæ. T. pileata, *Horsf.*, the red-capped wren babbler, occurs from Northern India to the Eastern Archipelago; T. nigricollis, *T.*, T. erythroptera, *Bl.*, T. maculata, *T.*, and others, occur in the Malay Peninsula and E. Archipelago. T. pileata is not unfrequent in the groves and small woods which abound throughout Java. It often approaches villages and plantations, constructing its nest in the hedges. It is one of the social birds that delight to dwell in the vicinity of cultivation. Its flight is low and interrupted; and wherever it resides it is a welcome neighbour, in consequence of its peculiar pleasant note, which consists of a slow repetition of the five tones of the diatonic scale (C, D, E, F, G), which it chants with perfect regularity, several times in succession, and at small intervals of time. Dr. Horsfield remarked that the sixth tone was sometimes added; but as this required apparently an extraordinary effort, it was by no means so agreeable to a musical ear as the simple repetition of the five notes, which appear to be the natural compass of the bird's organs.—*Jerdon; Eng. Cyc.; Horsfield's Java.*

TIMBER and Fancy Woods.

Khashab, . . . ARAB.	Aruneya, . . . MAHR.
Arunyavu, . . . CAN.	Arunuyum, MALEAL., SAN.
Nath'h, . . . DUKH.	Hez'm, Chob, . . PERS.
Timmerhout, . . DUT.	Cembrowina, . . POL.
Bois de charpente, . . FR.	Stroewoi gess, . . RUS.
Bois à batir, ... ,,	Davou, ... SANSK.
Bauholz, Zimmer, . GER.	Madera de construccion, SP.
Lakaru, ... GUJ.	Kadu kambu, . . TAM.
Lakra, . HIND., MAHR.	Karra, Koia, . . . TEL.
Legname da fabbricare, IT.	

In contradistinction to dye-woods, woods for engraving, ornamental woods, etc., wood felled and seasoned, and fit for building purposes, is called timber, from Saxon, Timbrian, to build. Wood is a term commonly applied to those portions of the vegetable axis that are sufficiently hard to offer considerable resistance and solidity, so as to be used for purposes requiring various degrees of firmness and strength. Every flowering plant is composed of an axis and appendages of the axis; the former consisting of the stem and root, the latter of the leaves and flowers. In trees, shrubs, and undershrubs, the axis is said to be woody; in herbs it is termed herbaceous. In the former, stems are permanent, and do not die to the ground annually, as is the habit of the latter. A shrub, a tree, an undershrub, a bush are merely gradations of magnitude in perennial plants; woods valuable for purposes of art and manufactures are derived from all of them. But bulk and dimensions are necessary to make timber available for extensive use.

The trunk of a tree, with or without boughs or branches undressed, is termed round timber; when hewn into logs, square timber; when quartered, billets; when split, staves and lathwood; when sawn, deals, battens, planks, boards, and scantling. The stems or trunks of several kinds of young trees are called spars, poles, and rickers, also prop-wood and post-wood.

In the south of India, the stem of the palmyra palm, cut longitudinally in four, is called reeper, and nat'h is applied to squared timber.

Sap-wood is that part of the wood next the bark, and heart-wood, near the centre of the bole or stem. Sap-wood is softer and generally lighter-coloured than heart-wood; it decays more rapidly, and is more subject to attacks of insects. The proportion of sap-wood varies much in different trees. In many trees, such as those that produce the ebonies of commerce, the line of demarcation between the heart-wood and sap-wood is so strongly defined as to permit the application of those two parts of the timber to different economic purposes, and the sap-woods and heart-woods in such cases, though the products of the same tree, receive in commerce distinct names. In other trees the change from the sap-wood to the heart-wood is gradual; but in all cases the sap-wood preponderates in young trees, and the heart-wood in the old. Also, in trees that have not arrived at maturity, the hardness and solidity of the wood are greatest at the heart, and decrease towards the sap-wood. But in the mature tree the heart-wood is nearly uniform, while that of a tree on the decline is softer at the centre than it is next the sap-wood.

As with the animal world, so with the vegetable creation, trees have the three stages of infancy, maturity, and old age; and Tredgold (p. 196) tells us that the oak and chesnut trees, under favourable circumstances, sometimes attain an age of about 1000 years; beech, ash, and sycamore, of half that age. The plane tree, the Chinar of N.W. India, is said to live to a great age. If felled too young, there is much sap-wood, and even the heart-wood has not acquired a proper degree of hardness, and such timber cannot be durable. On the other hand, if the tree be not felled till on the decline, the wood is brittle and devoid of elasticity, is tainted and discoloured, and soon decays. The rule therefore is to fell the mature tree when the quantity of sap-wood is small, and the heart-wood nearly uniform, hard, compact, and durable; but too early is worse than too late. Therefore, for S.E. Asia, a tabular statement showing the ages at which its various timber trees reach maturity is very necessary, though still a desideratum. Dr. Brandis tells us that in British Burma, a full-grown teak tree of 9 feet in girth cannot be supposed to be less than 160 years old. And a writer has mentioned that teak should not be cut for timber under 80 years of age. In England, Tredgold tells us (p. 198) oak is never cut for timber under 50 nor above 200 years of age.

The vast extent of the regions of the East Indies,

their various climates and physical conditions, render it impossible that the same tree can produce the identical quality of timber in every locality where it grows. As an instance of this may be cited the majestic teak, which grows to an immense height in Malabar, on the Godavery, in Pegu and Tenasserim, and may be seen in the mountains of Bundelkhand, but is there only in the form of a moderate-sized shrub; and even where it presents the same form of a gigantic tree, as in Malabar and Pegu, the quality of the timber it yields is dissimilar. The timber of trees which grow in moist and shady places is not so close, substantial, or durable as that which comes from a more exposed situation.

The *preservation* of timber naturally arranges itself into the preservation of growing timber, and that of timber when felled. The preservation of growing timber is an art of considerable importance, and is cultivated in countries where timber is comparatively scarce.

The practice of thinning out plantations is of value, not only as affording a supply of wood, but, by admitting an increased supply of air and light to the remaining trees, their growth is greatly promoted.

Since the close of the 18th century, it has been an increasing belief that the climate of a country is greatly modified by the scarcity or abundance of its trees and forests. Forty years ago, in 1845, Assistant-Surgeon Balfour furnished the Madras Government with a memorandum of all existing information on this subject; it then became a matter of inquiry by a committee of the British Association; and it is now generally recognised that trees exercise a powerful influence on the climate of the region or district in which they grow. In a tropical country like India, therefore, the preservation of existing trees, and their extension in arid districts, is a matter of much importance. Dr. Cleghorn, in a report for 1860, suggested that the high wooded mountain tops overhanging the low country (such as Hoolicul) should be preserved with rigid care, and the forest there not be given over to the axe, lest the supplies of water be diminished. In order that the course of the rivulets should be overshadowed with trees, the hills should be left clothed to the extent of about half of their height from the top, leaving half of the slope and all the valley below for cultivation.

Teak is a ship-building wood; teak, sal, padouk, etc., are recognised ordnance woods; Trincomalee, Chittagong, and Coromandel rosewood, redwood, satin-wood, sandal-wood, snake-wood, mahogany, ebony, kyaboca, zebra, and tulip are furniture or fancy woods.

By far the greater part of the ornamental woods are derived from trees. There are, however, some remarkable exceptions. The wood of roots is different in structure from the wood of stems, and the same tree may furnish two very different kinds of ornamental wood, according as they are derived from its ascending or its descending axis. The wood of the inner portions of a stem may be of very different colour and quality from that of its outer parts. In the immediate neighbourhood of the origin of branches, it may exhibit varieties of pattern, such as to render it greatly more ornamental than elsewhere, and in some cases, when under the influence of morbid growth, reveals additional beauties, so as to be prized for qualities which in nature are defects. If a cross-cutting of teak, or oak, or mango be compared with a like portion of palmyra wood, the differences between them will be seen strongly contrasted. In the former, the layers of wood are ranged in concentric circles round the central pith, and are encased externally in a binding of bark, itself composed of distinct and differently organized portions. In the latter there is a uniform appearance throughout the section, the substance not being disposed in concentric rings, but appearing as if a bed or ground of one kind was studded with specks of another order of tissue. These dissimilarities indicate differences of the greatest structural importance in the economy of the respective trees. Corresponding with them are peculiar modifications of every portion of the plant's organization. Also the external aspect of the plants of either type is altogether unlike that of the other. The appearance styled silver-grain in wood is dependent on the cellular tissue of the medullary rays, and is therefore exhibited by exogenous woods only. It gives the streaks the glancing satiny lustre so ornamental in many kinds of woods. In the oak and beech this appearance is conspicuous. The inner layers of wood, after the tree has become aged, often become compact, and frequently different in colour from the new wood. They are then styled the heart-wood. Botanists term them the duramen, and apply the name alburnum to the outer layers or sap-wood. In the former the tissues have become dry and dense, and charged with solidifying deposits, so as to prevent them aiding in the ascent of the sap. Often, too, they become more or less deeply coloured, so as conspicuously to contrast with pale sap-wood. This difference is especially conspicuous in the ebony tree, the black portion of which is the duramen or heart-wood. In the oak they resemble ebony.

The main economic value of timber, apart from considerations of strength, durability, texture, and colour, will depend on the quantity in which it can be produced for the many purposes for which timber is indispensable; and in countries destitute of coal, the supply of fuel for manufactories, railways, and steam flotillas, as well as its domestic consumption, is an important item in the consideration of timber resources. The most important application of wood is in the building and repairing of houses and ships, and in the construction of machinery. For these purposes the larger trees which come under the denomination of timber are employed. In the moist climates of Southern and Eastern Asia, trees grow to a majestic height, but others are so destitute of verdure that even the castor-oil plant is valued for construction.

For all practical purposes, those woods appear to be best in which the cells are lined with resinous matter; those filled with hygroscopic gummy matter are for the most part of less value; they are seasoned with difficulty, and are always more liable to decay. The best woods are those having a strong fibre, protected from all external influences by a coat of resinous matter, or at least of a matter insoluble in water, and one which does not attract atmospheric moisture.

Some trees, while growing, secrete large quantities of silica, which is deposited in hollows or in the interstices of the woods. The tabashir of the hollow bamboos is a well-known example; the tamarind tree has so many portions of silica in its

stem, that the carpenters of the E. Indies object to work it; and masses of silica, of considerable size, have been got from the teak logs.

Teak.—In the years 1880-81 to 1882-83, the value of the teak exported from India ranged from 50 to 61 lakhs. That of other timber, with ebony and sandal-wood and other kinds, was 4½ lakhs, sandal-wood in 1883 being Rs. 4,02,931.

In the years 1880 to 1882, the timbers and woods of kinds imported into Great Britain under the designations hewn, sawn, split, planed, dressed, staves, and mahogany, ranged in value from ten to twenty millions sterling; those from British North America, Germany, Norway, Russia, Sweden, and other countries, ranged in value from £14,956,547 to £17,168,300.

Teak when young grows very rapidly. Trees ten years old have usually a girth of eighteen inches, measured at six feet from the ground; at twenty-two years, a girth of three feet is attained; but full-grown trees of nine feet in girth cannot be supposed to be less than 160 years old.

The strength and density of teak timber vary exceedingly, according to the locality where the tree is grown. The extremes observed in preliminary experiments were 40 and 50 lbs. per cubic foot, and 190 to 289 lbs. breaking weight. Malabar teak is by common consent ranked higher for naval purposes than Tenasserim or Pegu timber. The cause of its greater durability and power of resisting dry-rot, appears to depend chiefly on its more oily or resinous quality, and the greater density arising from its slow growth on the sides of hills. In Burma, the best teak-growing districts are Pegu on the Irawadi and Sitang rivers and in the Thoungyen valley, comprising 7312 square miles of forest. Tenasserim and Martaban include 520 square miles of jungle on the Salwin river banks. But even these forests are poor compared with the extensive tracts covered with teak to the north of the British boundary, especially on the feeders of the Sitang and Salwin rivers, and some of the tributaries of the Meinam or Bankok river. The trees also are, as a rule, much larger, and the shape of the stem more regular, in the forests of the Burmese empire, the Siamese kingdom, and the Karennee country. The tallest teak tree measured in Pegu was 106 feet high to the first branch.

Sal.—In Central India, on the Nerbadda river, extensive sal or saul forests begin to take the place of teak, which does not occur farther north than Jhansi. Along the whole Sub-Himalayan range up to 3000 feet elevation, and in a belt range from five to twenty miles wide at the foot of the hills, and over 1500 miles long, dense forest is found. Wherever the soil is elevated and dry, this is pure sal forest. In Kamaon, Oudh, and many other of the Nepal jungles, as many as seventy first-class trees per acre have been found, besides young trees from seed, at 200 or 300 per acre, growing up with the old. The ferry-boats used on the Gogra and other affluents of the Ganges are formed of single logs hollowed out and floated down from Nepal, one of which holds ten to fifteen men, with cattle and horses, costing £5 to £10, purchased from the Nepal boat-makers. Sal timber (Shorea robusta) is close-grained and heavy, but does not appear to be very durable, and on that account is inferior to teak; but in strength it surpasses the latter, and deserves to be considered the second best timber tree in India. The British sal forests may roughly be computed as follows:—Central Province, 2000 square miles; Kamaon and Garhwal, 600; Dehra Doon and Binjore, 400; Oudh, 250; Gorakhpur, 300. Both sal and teak trees take 100 years to grow.

Pine.—There are some excellent coniferous woods in the British hill provinces of Kamaon and Garhwal and the Panjab Himalayas. The Cedrus deodara is there of immense age and size, 40 feet girth and 250 feet high; its timber is nearly imperishable. Pinus longifolia occurs over all the lower Himalaya hills, covering an area of several thousand square miles. Its timber is equal to Norway pine. The Lagerstræmia reginæ is abundant throughout British Burma, and is used more extensively than any other, except teak, for the fittings of boats, sometimes for the hulls of canoes, in Rangoon for the knees of ships, and also now for ordnance purposes.

The padouk of the Tenasserim Provinces, Pterocarpus Indicus, is a beautiful, hard, compact timber.

The Straits Settlements are very rich in wood.

The Malay Peninsula also possesses many useful woods, and some four or five command a market, at very high prices, for Madras. They are strong, solid, and very durable, being principally used for girders, rafters, joists, and timber for bridges, standing the sudden changes of the climate remarkably well. One, the marrabow, is also used for furniture; it is not subject to dry-rot, and, when well seasoned, is known to last nearly half a century. A wood called boonoot, which is tough, hard, crooked-grained, and fibrous, is in general use for masts and spars of vessels.

Ceylon, although well timbered and rich in some ornamental and fancy woods, exports but little timber.

For the *preservation* of timber in moist places, remove and replace the sap, or so modify it as to retard or prevent decay. With these aims, the spontaneous ascent of the sap is encouraged by retaining the felled timber in an upright position; soaking the felled wood in water so as to dilute or remove the sap; and in the pneumatic processes, which are the most effective, the following have been used for impregnation:—Creosote of commerce (raw), carbolic acid, acetate of iron (raw), sulphate of copper, chloride of zinc, sulphate of zinc, perchloride of mercury or (kyan) corrosive sublimate, chloride of sodium (salt), sulphate of soda, saltpetre, borax, sulphate of iron, arsenic.

Various methods have been adopted to render wood less combustible, by saturating it with solutions of phosphate of soda, and muriate or sulphate of alumina, and chloride of calcium. A proposed plan is to impregnate wood with silicate of soda, and to coat its surface with a silicate. The impregnating of the wood is effected by putting it into a solution of the silicate. The surface of the wood is then washed over with a somewhat diluted solution of the silicate of soda. After an interval of at least two hours, a coating of thick lime-wash is applied over the silicate; and finally, on the following day, a strong solution of the silicate is applied over all. In this way a protective covering is given to the wood. The process may be used with benefit in the case of timber employed for wooden huts.

The following is a list of the relative strengths of a few of the Australian woods, and some of

the Indian woods; also their weights per cubic foot:—

	Lbs.	Strength.
Australian Woods—		
Tarra, ...	59	20,238
Tasmanian grey iron-bark, .	64	24,400
Australian grey iron-bark, .	64	22,500
Blue gum, ...	48·19	20,060
Stringy bark, . . .	45·16	13,000
Indian Woods—		
Sal, ...	64	18,500 average.
Teak, Indian, . . .	55	15,500 average.
Teak, Moulmein, . .	42	11,520
Teak, Cochin-China, . .	44	12,100
Teak, Johore, . . .	62	19,400
Deodar, ...	29·34	...
Chir, ...	26·67	...

A vessel built of the Australian woods, iron-bark, box, banksia, and tea-tree timber, and planked and lined with flood gum, blue gum, or black bust, and trenailed with iron bark, takes a high place at Lloyds'.

The preservation of the forests of India, and the search for timbers and fancy woods suitable for the purposes of the State and wants of the people, have long been objects of attentive interest to the Governments of India. Amongst the earliest of the scientific investigators we find recorded the names of Drs. Roxburgh, Ainslie, Wallich, Royle, Gibson, Falconer, M'Clelland, Graham, Wight, and Mason; while Mr. Edye, Colonel Frith, Captain Dance, Mr. Mendis, Colonel Benson, and Mr. Rohde applied a large practical knowledge of the qualities of timber to ascertain the woods suitable for the manufacturing industries of India. There have appeared on this subject—three editions of Balfour's Timber Trees, Timber, and Fancy Woods; Beddome's Flora Sylvatica; Skinner's Indian Timbers; Brandis' Forest Flora; and Gamble's Manual of Indian Timbers.

The timber trees belong principally to the following natural orders of plants, viz.:—

Alangieæ.	Dipterocarpeæ.	Rhizophoreæ.
Anonaceæ.	Ericaceæ.	Rosaceæ.
Apocynaceæ.	Euphorbiaceæ.	Rubiaceæ.
Areceæ.	Flacourtianeæ.	Salicariæ.
Aurantiaceæ.	Guttiferæ.	Sapindaceæ.
Bignoniaceæ.	Lauraceæ.	Sapotaceæ.
Bombaceæ.	Leguminosæ.	Sterculiaceæ.
Borasseæ.	Lepidocaryeæ.	Styracaceæ.
Byttneriaceæ.	Loganiaceæ.	Tamariscineæ.
Cedrelaceæ.	Magnoliaceæ.	Taxaceæ.
Cocoaceæ.	Malvaceæ.	Terebinthaceæ.
Combretaceæ.	Memecycleæ.	Tiliaceæ.
Coniferæ.	Moreæ.	Ulmaceæ.
Cordiaceæ.	Myrsineaceæ.	Verbenaceæ.
Cupuliferæ.	Myrtaceæ.	Zanthoxylaceæ.
Dilleniaceæ.	Olacineæ.	

There is no regular rule for determining botanical orders and genera by means of the wood, for in some cases the structure of the genera or species presents characters of very dissimilar type. But the woods of the Coniferæ are always recognisable by the absence of pores; those of the Cupuliferæ by the arrangement of the pores in wavy radial lines and a particular texture. The arrangement of the pores in short wavy lines is a character of the woods of the Sapotaceæ. Somewhat broad medullary rays often indicate the woods of the Dilleniaceæ, Rhizophoreæ, and Myrsineaceæ; a close and even grained wood, most species of the order Rubiaceæ; while the woods of species of Ficus are recognised by alternate layers of soft and firm tissue.

The pores of different woods vary, and Mr. Gamble gives the following examples:—Extremely small, Buxus sempervirens; very small, Acer pictum; small, Adina cordifolia; moderate, Bassia latifolia; large, Albizzia lebek; very large, Erythrina suberosa.

Mr. Gamble illustrates his terms for degrees of hardness by applying them to the timbers of certain trees:—Extremely soft, Cochlospermum gossypium; very soft, Sterculia villosa, Bombax Malabaricum; soft, Cedrela toona, Albizzia stipulata; moderately hard, Ficus Bengalensis, Tectona grandis; hard, Shorea robusta, Terminalia tomentosa; very hard, Dalbergia sissoo, Quercus semecarpifolia; extremely hard, Pterocarpus Santalinus, Hardwickia binata.

In all countries, most of the woods in general use have a variety of names; the local name varies often in the same district. Many have likewise a commercial name, by which they are known in the market, as Trincomalee wood, Coromandel wood, Chittagong wood, etc. There are cedars from several trees; every country has its own iron-wood, rosewood, black-wood, and ebony. The timber trees and fancy wood of Southern and Eastern Asia are about 1000 in number, but those in common use are not above 100. The following list contains the names of the principal trees which are felled for timber or fancy woods and useful purposes throughout the various countries in the East Indies:—

Abies dumosa, *Lindon.*
A. Smithiana.
A. Webbiana, *Lindl.*
Acacia Arabica.
A. catechu.
A. dealbata, *Link.*
A. Farnesiana.
A. ferruginea.
A. intsia.
A. leucophlœa.
A. melanoxylon, *R. Br.*
A. modesta, *Wall.*
A. pennata.
Acer cæsium, *Wall.*
A. Campbellii, *H. f.*
A. caudatum, *Wall.*
A. cultratum.
A. Hookeri.
A. lævigatum, *Wall.*
A. oblongum, *Wall.*
A. pictum, *Thunb.*
A. Sikkimense.
A. Thomsoni.
A. villosum, *Wall.*
Acrocarpus fraxinifoliis, *Arn.*
Actephila Neilgherriensis.
Adansonia digitata.
Adenanthera pavonina.
Adhatoda vasica.
Adina cordifolia, *H. f. et Bth.*
A. sessilifolia.
Ægiceras corniculata.
Ægle marmelos.
Æsculus Indica, *Colcb.*
Æ. punduana.
Afzalia bijuga, *A. Gray.*
Agathis loranthifolia.
Agati grandiflora.
Aglaia spectabilis.
Ailanthus excelsa.
A. Malabarica.
Alangium decapetalum.
Albizzia amara, *Boivin.*
A. Julibrissin, *Boivin.*
A. lebbek, *Bth.*
A. lucida, *Bth.*
A. odoratissima, *Bth.*
Albizzia procera.
A. stipulata, *Boivin.*
Alnus Nepalensis, *D. Don.*
A. nitida, *Endlicher.*
Alseodaphne grandis.
A. semecarpifolia.
Alstonia scholaris.
Altingia excelsa.
Amoora cucullata, *Roxb.*
A. rohituca.
A. spectabilis.
Anacardium occidentale.
Andrachne cordifolia.
Anisophyllea Zeylanica.
Anogeissus acuminata.
A. latifolia.
A. pendula.
Anthocephalus cadamba, *Bth.*
Antiaris toxicaria, *Lesch.*
Antidesma diandrum.
A. ghæsembilla.
A. menasu.
Aquilaria agallocha.
A. Malaccense.
Araucaria, *sp.*
Areca catechu.
Artocarpus calophylla.
A. chaplasha, *Roxb.*
A. echinata.
A. hirsuta.
A. integrifolia.
A. lacoocha, *Roxb.*
A. nobilis.
A. pubescens.
Atalantia monophylla.
A. missionis.
Averrhoa carambola.
A. bilimbi.
Avicennia tomentosa, *Jacq*
Baccaurea sapida, *Mull.*
Bambusa, Bamboo.
Barringtonia acutangula.
B. speciosa, *Forst.*
Bassia butyracea, *Roxb.*
B. latifolia, *Roxb.*
B. longifolia, *Willd.*
Bauhinia acuminata, *L.*
B. brachycarpa.

Bauhinia diphylla.
B. Malabarica, *Roxb.*
B. purpurea, *Linn.*
B. retusa, *Roxb.*
B. tomentosa.
B. variegata, *Linn.*
Berrya ammonilla.
Betula acuminata, *Wall.*
B. bhojputra, *Wall.*
B. cylindrostachys, *Wall.*
Bischoffia Javanica, *Bl.*
Blackwellia perpinqua.
B. spirale.
B. tomentosa, *Vent.*
Bœhmeria rugulosa, *Wedd.*
Bombax heptaphyllum.
Borassus flabelliformis.
Boswellia thurifera, *Roxb.*
Briedelia montana, *Willd.*
B. tomentosa, *Bl.*
Bruguiera gymnorhiza, *Lam.*
Buchanania angustifolia, *Roxb.*
B. latifolia, *Roxb.*
Bucklandia populnea, *R. Br.*
Bursera serrata, *Coleb.*
Butea frondosa.
Buxus sempervirens, Box.
Cæsalpinia sappan, *Linn.*
Calamus, Canes, Rattans.
Callicarpe arborea, *Roxb.*
Calligonum polygonoides, *Linn.*
Calophyllum amœnum, *Wall.*
C. elatum, *Wedd.*
C. polyanthum, *Wall.*
C. spectabile, *Willd.*
C. tomentosum, *Wight.*
C. Wightianum, *Wall.*
Canarium Bengalense, *Roxb.*
C. coccineo-bracteatum, *Kurz.*
C. euphyllum, *Kurz.*
C. strictum, *Roxb.*
Capparis aphylla, *Roth.*
C. grandis, *Linn.*
Carallia integerrima, *D.C.*
C. lucida.
C. Zeylanica.
Carapa Moluccensis, *Lam.*
C. obovata, *Bl.*
Careya arborea.
Carpinus viminea, *Wall.*
Caryota sobolifera, *Wall.*
C. urens, *Linn.*
Casearia esculenta, *Roxb.*
C. glomerata, *Roxb.*
Cassia auriculata, *Linn.*
C. fistula, *Linn.*
C. Florida, *Vahl.*
C. nodosa, *Ham.*
C. Roxburghii, *D. C.*
Castanea Indica, *Roxb.*
C. Martabanica of Tavoy.
Casuarina equisetifolia, *Forst.*
Cedrela serrata, *Royle.*
C. toona.
Cedrus deodara.
Celtis Australis, *Linn.*
C. Caucasica, *Willde.*
C. tetrandra, *Roxb.*
C. Wightii, *Planch.*
Cerbera odollam, *Gœrtn.*
Chavannesia esculenta, *D. C.*
Chickrassia tabularis.
Chloroxylon Swietenia, *D. C.*
Cicca disticha.
Cinchona, *sp.*
Cinnamomum glanduliferum, *Nees.*
C. obtusifolium, *Nees.*
C. tamala, *Nees.*
Clerodendron inerme, *Gœrtn.*
Cocos nucifera, *Linn.*
Connarus speciosa.
Conocarpus latifolia, *Roxb.*
Cordia angustifolia.
C. fragrantissima, *Kurz.*
C. M'Leodii, *H. f. et T.*
C. myxa, *Linn.*
C. vestita, *H. f. et T.*
Coriaria Nepalensis, *Wall.*
Cornus capitata, *Wall.*
C. macrophylla, *Wall.*
C. oblonga, *Wall.*
Corylus colurna, *Linn.*
C. ferox, *Wall.*
Cotoneaster bacillaris, *Wall.*
Cratæva Roxburghii.
Cratoxylon neriifolium, *Kurz.*
Croton argyratus, *Bl.*
Cupressus funebris, *Endl.*
C. torulosa, *Don.*
Cylicodaphne Wightiana, *Nees.*
Cynometra bijuga, *Spanog.*
C. polyandra of Nepal.
C. ramiflora?
Dacrydium elatum, *Wall.*
Dalbergia cultrata, *Grah.*
D. frondosa, *Linn.*
D. lanceolaria, *Linn.*
D. latifolia, *Roxb.*
D. paniculata, *Roxb.*
D. sissoo, *Roxb.*
D. Ujjainensis.
Daphnephyllopsis capitata, *Kurz.*
Daphnidium elongatum, *Nees.*
D. pulcherrimum, *Nees.*
Dendrocalamus, *sp.*
Dillenia augusta.
D. Indica, *Linn.*
D. pentagyna.
D. scabrella, *Roxb.*
Diospyros chloroxylon.
D. ebenum, *Konig.*
D. exsculpta, *Beddome.*
D. hirsuta.
D. Kurzii, *Hiern.*
D. melanoxylon.
D. sylvatica, *Roxb.*
D. undulata, *Wall.*
Dipterocarpus alatus.
D. grandiflora.
D. Indicus, *Beddome?*
D. lævis, *Ham.*
D. tuberculatus, *Roxb.*
D. turbinatus, *Gœrtner.*
Dodonea viscosa.
Dombeya melanoxylon.
Doona Zeylanica, *Thw.*
Drimycarpus racemosus, *H. f.*
Duabanga Sonneratioides, *Buch.*
Dysoxylum procerum, *Hiern.*
Echinocarpus dasycarpus, *Bth.*
Ehretia aspera, *Roxb.*
E. lævis, *Roxb.*
Elæocarpus lanceæfolius, *Roxb.*
E. serratus, *Linn.*, Ceylon.
Elæodendron Roxburghii, *W. and A.*
Embryopteris glutinifera, *R.*
Engilhardtia Colebrookiana, *Lindl.*
E. spicata, *Bl.*
Eriobotrya Japonica, *Lind.*
Eriolæna Candollei, *Wall.*
E. Hookeriana.
Erythrina Indica, *Lam.*
E. suberosa, *Roxb.*
Eucalyptus globulus, *Lab.*
Eugenia Arnottiana.
E. caryophyllifolium.
E. grandis, *Wight.*
E. jambolana.
E. Kurzii, *Duthie.*
E. Malaccensis.
E. myrtifolia.
E. obovata, *Wall.*
E. præcox, *Roxb.*
E. salicifolia, *Wight.*
E. spiculata, *Roxb.*
Euonymus Hamiltonianus, *Wall.*
E. pendulus, *Wall.*
Euphorbia tirucalli.
Eurya acuminata, *D. C.*
Excœcaria agallocha, *Willd*
Fagræa fragrans.
Feronia elephantum.
Ficus Bengalensis, *Linn.*
F. cordifolia, *Roxb.*
F. glomerata, *Roxb.*
F. hispida, *L.*
F. infectoria, *Willde.*
F. regia, *Miq.*
F. religiosa, *Linn.*
F. virgata, *Roxb.*
Flacourtia montana.
Fraxinus floribunda, *Wall.*
Garcinia cowa, *Roxb.*
G. elliptica, *Wall.*
G. purpurea, *Roxb.*
G. speciosa, *Wall.*
Gardenia gummifera, *L.*
G. latifolia, *Aiton.*
G. lucida, *R.*
G. obtusifolia, *Roxb.*
G. turgida, *Roxb.*
Garuga pinnata, *Roxb.*
Givotia Rottleriformis, *Griff.*
Glochidon ellipticum.
Gluta Travancorica, *Bedd.*
Gmelina arborea.
Gordonia excelsa, *Bl.*
G. obtusa, *Wall.*
Grewia lævigata, *Vahl.*
G. microcos, *Linn.*
G. multiflora, *Juss.*
G. oppositifolia, *Roxb.*
G. tiliæfolia.
G. vestita, *Wall.*
Guatteria longifolia, *Wall.*
Guettarda speciosa, *Linn.*
Gynocardia odorata, *R. Br.*
Gyrocarpus Jacquini, *Roxb.*
Haciloneuron Indicum, *Bedd.*
Hæmatoxylon campechianum, *Linn.*
Hardwickia binata.
Heritiera fomes.
H. littoralis.
H. minor, *Roxb.*
Heterophragma Roxburghii, *D. C.*
Hibiscus macrophyllus, *Roxb.*
H. tiliaceus, *Linn.*
Hippophaë rhamnoides, *L.*
Hiptage madablota.
Holarrhena antidysenterica, *Wall.*
Holigarna longifolia.
Hopea floribunda.
H. odorata.
Hopea parviflora, *Bedd.*
H. Wightiana, *Bedd.*
Hydnocarpus Alpina.
Hymenodictyon excelsum.
H. thirsiflorum, *Bedd.*
Ilex dipyrena, *Wall.*
I. theæfolia, *Wall.*
I. Wightiana, *Wall.*
Inga bijemina.
I. xylocarpa.
Isonandra Wightiana.
Ixora parviflora.
Jonesia asoca.
Juglans regia, *Linn.*
Juniperus communis, *Linn*
J. excelsa.
J. recurva, *Ham.*
Kandelia Rheedii, *W. and A.*
Kydia calycina.
Lagerstræmia hypoleuca, *Kurz.*
L. microcarpa.
L. parviflora.
L. reginæ.
L. villosa, *Wall.*
Larix Griffithii, *H. f. et Th.*
Laurus nobilis.
Lebidieropsis orbicularis, *Mull.*
Limonia acidissima.
Litsæa Zeylanica, *Nees.*
Lophopetalum Wightianum, *Wall.*
Maba buxifolia.
Machilus macrantha.
M. odoratissima, *Nees.*
Macropanax undulatum, *Seem.*
Magnolia Campbellii, *H. f. et Th.*
Mangifera caloneura, *Kurz.*
M. Indica.
M. sylvatica, *Roxb.*
Mappia fœtida, *Miers.*
Melanorrhœa usitata.
Melia azadirachta.
M. azedarach, *Linn.*
M. Indica, *Brandis.*
Meliosma Arnottiana.
M. dilleniæfolia, *Wall.*
M. Wallichii, *Planch.*
Mesua ferrea, *Linn.*
Metrosideros vera.
Michelia champaca.
M. excelsa, *Bl.*
M. Nilagerica.
Microtropis ovalifolia.
Millingtonia simplicifolia.
Mimusops elengi, *Linn.*
M. hexandra.
M. littoralis, *Kurz.*
Morinda bracteata.
M. citrifolia.
M. exserta.
Morus alba.
M. Indica, *Linn.*
M. serrata, *Roxb.*
Murraya exotica, *Linn.*
Myrica Nagi, *Thunb.*
Myricaria Germanica, *Desr.*
Myristica amygdalina.
M. Malabarica.
M. sphærocarpa.
Myrsine capitellata.
Nauclea cadamba, *Roxb.*
N. cordifolia, *R.*
N. parviflora.
Nerium tinctorium, *Roxb.*
Nyctanthes arbortristis.
Odina wodier.
Olea cuspidata, *Wall.*
O. dentata, *Wall.*
O. dioica, *Roxb.*
O. Europea.

Olea robusta, *Kurz.*
Ougeinia dalbergioides, *Bly*
Parkia insignis, *Kurz.*
P. leiophylla, *Kurz.*
P. Roxburghii, *G. Don.*
Pavia Indica.
Pentacme Siamensis, *Kurz*
Phœnix sylvestris, *Roxb.*
Photina Lindleyana.
Phyllanthus bicolor, *Mull.*
P. emblica, *Linn.*
Pinus dammara.
P. excelsa.
P. Gerardiana, *Wall.*
P. Khassya, *Royle.*
P. Latteri.
P. longifolia of Nepal.
Pistacia integerrima.
Planchonia valida, *Bl.*
Platanus orientalis, *Linn.*
Podocarpus bracteata, *Bl.*
P. latifolia, *Wall.*
Poinciana elata.
P. regia.
Pongamia atropurpurea.
P. glabra.
Populus balsamifera, *Linn.*
P. ciliata, *Wall.*
P. Euphratica, *Olivier.*
Premna latifolia, *Roxb.*
P. mucronata, *Roxb.*
Prinsepia utilis, *Royle.*
Prosopis spicigera.
Protium caudatum, *W. and A.*
Prunus armeniaca, *Linn.*
P. padus, *Linn.*
P. Persica, *Blyth and H. f.*
P. puddum, *Roxb.*
Psidium pomiferum.
P. pyriferum.
Pterocarpus dalbergioides, *Roxb.*
P. Indicus.
P. marsupium.
P. Santalinus.
P. Wallichii.
Pterospermum acerifolium, *Willde.*
P. suberifolium.
Putranjiva Roxburghii, *Wall.*
Pygeum acuminatum.
Pyrus aria, *Ehrh.*
P. foliolosa, *Wall.*
P. lanata, *Don.*
P. variolosa, *Wall.*
Quercus Amherstiana.
Q. annulata, *Smith:*
Q. dilatata, *Lindley.*
Q. fenestrata, *Roxb.*
Q. ilex, *Linn.*
Q. incana, *Roxb.*
Q. lamellosa, *Smith.*
Q. lanceæfolia.
Q. lappacea, *Roxb.*
Q. pachyphylla, *Kurz.*
Q. semecarpifolia.
Q. spicata, *Smith.*
Randia dumetorum, *Lam.*
R. uliginosa, *D. C.*
Rhizophora conjugata, *Linn.*
R. macronata, *Lam.*
Reptonia buxifolia, *A. D. C.*
Rhododendron arboreum.
R. argenteum, *Hook. f.*
R. barbatum, *Wall.*
R. campanulatum, *Don.*
R. Falconeri, *H. f.*
Rhus cotinus, *Linn.*
R. Panjabensis, *Stewart.*
R. semialata, *Murray.*
Ricinus communis, *Linn.*
Rondeletea tinctoria.
Saccopetalum tomentosum *H. f. et T.*
Salix daphnoides, *Vill.*
S. tetrasperma, *Roxb.*
Salvadora oleoides, *Dcne.*
Sandoricum Indicum.
Santalum album.
Sapindus acuminatus, *Wall*
S. detergens, *Roxb.*
S. emarginatus, *Vahl.*
S. rubiginosus, *Baill.*
Schima Wallichii, *Choesy.*
Schleichera trijuga.
Schrebera Swietenoides.
Semecarpus anacardium, *L.*
Shorea laccifera, *Heyne.*
S. obtusa, *Wall.*
S. robusta.
S. tumbuggaia, *Bedd.*
Solenocarpus Indica.
Sonneratia acida.
S. apetala, *Buch.*
Sophora mollis, *Wall.*
Soymida febrifuga.
Spondias mangifera, *Willde*
Sponia orientalis, *Planch.*
S. politoria, *Planch.*
S. Wightii.
Stephegyne parvifolia, *Hook.*
Sterculia fœtida.
S. guttata.
S. villosa, *Roxb.*
Stereospermum chelonoides, *D.C.*
S. suaveolens.
S. xylocarpum, *Bth.*
Strychnos nux vomica.
S. potatorum.
Stylocoryne Webbera, *Rich*
Swietenia mahagoni.
Tamarindus Indica.
Tamarix articulata, *Vahl.*
T. dioica, *Roxb.*
Taxus baccata, *Linn.*
Tecoma undulata, *G. Don.*
Tectona grandis.
T. Hamiltonii.
T. ternifolia.
Terminalia alata.
T. arjuna.
T. belerica.
T. Berryi.
T. bialata, *Wall.*
T. catappa.
T. chebula.
T. coriacea.
T. glabra.
T. myriopteron, *Kurz.*
T. tomentosa.
T. violata.
Tetranthera grandis, *Wall.*
T. monopetala.
Thamnocalamus Falconeri, *H. f.*
T. spathiflorus, *Munro.*
Thespesia populnea.
Trewia nudiflora.
Turpinia Nepalensis, *Wall.*
Ulmus campestris.
U. integrifolia.
U. Wallichiana, *Planch.*
Vaccinium Leschenaultii, *W.*
Vateria Indica.
V. lanceæfolia.
Viburnum hebanthum, *W.*
Vitex alata.
V. altissima, *Linn.*
V. arborea.
V. leucoxylon, *Linn.*
V. peduncularis, *Linn.*
V. trifolia.
Wendlandia exserta, *D.C.*
Wrightia antidysenterica.
Wrightia coccinea.
W. tinctoria.
W. tomentosa, *Rou.*
Xanthophyllum affine.
Xylia dolabriformis, *Blyth.*
Zalacca Wallichiana.
Zizyphus jujuba.

—*Drs. Wight, Powell, Stewart, Mason, M'Cl., Tomlinson; Cleghorn, Madras Ex. Jur. Rep.*

TIM-CHORNAM. TAM. The red mark, made of flour and turmeric or of safflower, on the foreheads of Hindus.

TIME. In most parts of the East Indies, the natural recurrences of night and day, of the moonless nights and quarters of the moon, and of the hot and cold and rainy seasons of the year, have been used as measures of time by the Hindus, who divide the month into two equal lunar portions, according to the increase and decrease of the moon. The measure of seven days for a week has only in modern times become known to the Hindus. They measured each month by the increasing and decreasing moon alone, and by the quarters. They have now copied the names of the week days from Muhammadans and Europeans. Even yet a Hindu dates his letter thus—On Monday, the 6th of the bright fortnight in Magha. The periods of time with the Hindus regulate their religious rites, and the Chinese worship heaven and earth on the 1st and 15th of each month.—*Ward*, iii. p. 18; *Dr. Edkins.*

TIMKOWSKI, GEORGE, author of Travels of the Russian Mission through Mongolia to China, and Residence in Pekin in 1820–21, with Notes by J. von Klaproth, 1827.

TIMOKO. For the hilts and sheaths of krisses the Malay make use of the 'timoko' wood of Java, of which the black and white variegated fragments are called 'pelet.' There are various kinds.

TIMOR, lat. 8° 21′ to 10° 23′ S., and long. 123° 30′ to 127° 15′ E. It is the largest and most southerly of the Molucca Islands. It is formed of high undulating mountains in the interior, though near the sea it is of moderate elevation. The Portuguese settlement of Dieli or Diely is in lat. 8° 34′ S., and long. 125° 40′ E., and on the north side of the island.

Timor means the east, and was probably imposed on this island by the Malays, to whose language it belongs, because this was the extreme limit of their ordinary commercial voyages to the S.E. The two languages of Timor are the Manatoto and the Timori; the first spoken at the N.E. end of the island, and the last used by many of the tribes as a common medium of intercourse. No alphabet has ever been invented in Timor.

Timor seems to form the N.E. end of the great range of volcanic islands, which extend N.E. and S.W. from Timor to Sumatra. It has only one active volcano, Timor Peak, near the centre of the island, which was blown up during an eruption in 1638, and has since been quiescent.

There are Malays and Chinese, but the native Timorese preponderate, and have nothing in common with the Malays, but are closely allied to the true Papuans of the Aru Islands and New Guinea. They are of the Papuan type; all have pronounced features, large, somewhat aquiline noses, and frizzly hair. The women talk to each other and to the men with loud voices, and with a self-assertion quite different from Malay women. The mountaineers of Timor are a people of Papuan type, have rather slender forms, bushy frizzled

hair, and the skin of a dusky brown colour. They have the long, somewhat aquiline nose, with the overhanging apex, which is so characteristic of the Papuan, and so absolutely unknown among races of Malayan origin on the coast. There has been an admixture of Malay, perhaps of Hindu as well as of Portuguese, and the coast occupants have wavy and frizzled hair, a lower stature, with less prominent features, and the houses are built from the ground. The houses of the Papuan mountaineers are raised on posts. The dead of the Papuan Timorese are laid on a stage 6 or 8 feet above the ground, sometimes open, sometimes covered, and are retained there till money for a feast can be obtained, when they are burned.

The S.E. coast near Mount Allas is occupied by the Papuan race with frizzled hair in tufts on the head. Mr. Earl says that some of the people on the table-land back of Dieli have opaque yellow complexions, with hair of a reddish or dark auburn colour, and that the hair of others is straight, fine, and of a reddish hue; and that every intermediate variety of hue and complexion between this and the black or deep chocolate colour and the short tufted hair of the mountain Papuan is found in Timor, and it is possible that the races are there mixing, as its position is next to Papua.

The 'Pomali,' exactly resembling the Taboo of the Pacific, is in full operation here, and a few palm leaves stuck outside of a garden will preserve it from any thief. In the Malayan Miscellanies, published under the auspices of Sir Stamford Raffles at Bencoolen in 1820, lists of two languages of Timor and of the languages of the two small islands at its western end, Rotti and Savu, are given, amounting each to 95 words.

From Timor to New Guinea there runs a long chain of islets, forming as it were a wall of barrier to the S.E. portion of the Archipelago. In these islets the inhabitants speak many languages. By far the most ample and authentic account of them has been given by Mr. G. W. Earl, who says that in the S.E. parts of the Indian Archipelago, where opportunities of social intercourse between the various petty tribes are of rare occurrence, every island, every detached group of villages, has its own peculiar dialect, which is often unintelligible even to the tribes in its immediate neighbourhood. In some of the larger islands, Timor for example, these tribes are so numerous, and the country occupied by many of them so extensive, that it becomes impossible to form even an approximate estimate of their number. Of one language, the prevailing one among several languages of the island of Kisa, one of the Sarawati group in the chain of islets already mentioned, Mr. Earl furnished a vocabulary of 330 words. The Kisa is an unwritten tongue, but its vowels are the same as those of the Malay and Javanese.—*Earl*, p. 180; *Bikmore*, p. 127.

TIMOR LAUT, or the Tenimber Islands, form a group which consists of the large island of Timor Laut, the islands of Larat and Virdati, and the numerous small low lands fronting its northern side. Timor Laut means Timor of the Sea, or the Eastern Timor. It is about 70 miles long by 25 miles broad, lying between lat. 7° and 8° S., and long. 132° and 133° E. The Tenimber group is divided by Strait Egeron into a northern and southern portion. The other larger islands are Seloe and Seirah on the west; Larat, Virdati, and Malae on the N.E. and N.

TIMUNI. The Char Aimak or four tribes are the Timuni, Teimeni, Firoz Kohi, and Jamshidi, all of them of Iranian origin, and all speaking Persian. The Timuni dwell at Gorian and Kuli, are seen on the western boundary of Herat, and in the villages and towns situated east of Iran, from Tarbat Shaikh Jam as far as Khaf. About a thousand of their families dwell near Herat. The Teimeni dwell in the Jolgha-i-Herat, from Kerrukh to Sabzwar, the few who have extended to Farrah being styled Parsivan by the Afghans. Each member of the Char Aimak knows no greater enemy than the Afghan, and all attempts to form Afghan colonies amongst them have failed. The Teimeni are of a wild nature.

TIMUR, also known as Timurlang or Timur the Lame, changed in Europe to Tamerlane. He was of one of those races of High Asia to whom in Europe the general name of Turk has been given. One writer describes him as an Uzbak Tartar; Latham describes him as a Turk, and says, whatever the Mongols were elsewhere, the Moghuls of India were Chaghtai Turk. They affected a Mongol lineage, just as Timur professed a descent from Chengiz; whilst the Chaghtai tribe to which he belonged took its name from Chengiz's huntsman Zagatai, and he believes that Chengiz himself connected his line with the Manchu. At any rate, his Mongol son bore the name of a Manchu predecessor. Again, he professed descent from a virgin. So did Apaoki and Kitan, both Manchus, before him. Also, the most famous of his ancestors was said to be Karachar Nevian or Teragay Nevian, the minister of Zagatai or Chaghtai, and the first convert to Islamism amongst the wild conquerors. In his memoirs, written by himself, Timur says, 'My father told me that we were descendants from Abu-ul-Atrak (father of the Turks), the son of Japhet.' His father is described as a chief who commanded 10,000 horse. The country between the rivers Oxus and Jaxartes, known to the Arabs as Mawur-u-Nahar, had fallen to the share of Zagatai on the death of his father Chengiz Khan in 1227, and the land had been ruled by his descendants for more than a century, and Timur's grandfather was chief of the Berlas tribe. They claimed a remote descent from the same stock as Chengiz Khan.

Turghai (Thrush) was the name of Timur's father. Timur was born at Sabzwar, also called Shahr-i-Sabz, a suburb of Kesh, on Tuesday the 5th of Shaban A.H. 736 (A.D. 1333). Timur is a Turki word meaning 'it shall shake.' Each succeeding sultan of Mawur-u-Nahar had become more degenerate and more contemptible than his predecessor, under the insolent independence of powerful vassals. But Timur succeeded in attaining supreme power. At the age of 34 he ascended the throne of Samarcand, and before he died he made himself master of Central Asia.

He overran Persia in 1386–87, and Kipchak several times between 1387 and 1389, in the latter year reaching as far as Moscow. He took Baghdad in 1395, invaded India in 1398, invaded Asia Minor and Syria in 1400–1, and defeated and captured the emperor Bajazet at the battle of Angora, 20th July 1404.

He turned his arms, without the pretext of a quarrel, on the distracted empire of Hindustan.

He has recorded his exploits in his work entitled Political and Military Institutions, which was translated into Persian by Abu Talib, and from the Persian into English by Major Davy. 'I ordered,' he relates, '1000 swift-footed camels, 1000 swift-footed horses, and 1000 chosen infantry, to march and bring me information respecting the princes of India. I learned that Tonktumish Khan had been defeated by Auroos Khan, and sought assistance from me. Received information that the princes of India were at variance with each other; that Mahmud in Dehli, Mulloo in Lahore, and Sanring in Multan were hostilely disposed towards each other. The conquest appeared to me to be easy, though my soldiers thought it was dangerous. Resolved to undertake it, and to make myself master of the Indian empire, did so. Received then the news that the emperor in Rome had invaded my western provinces, and that the people of Georgia had conquered some of my fortresses in that country. Then I thought, if I pursue my conquests in India, Eran may revolt; therefore I regulated my kingdom in Hindustan, and marched from that country against the Roman emperor, whose provinces I conquered.'

Early in the spring of A.D. 1398 (A.H. 800), his grandson Pir Muhammad, who had been employed in reducing the Afghans in the Sulaiman mountains, crossed the Indus on a line with Uch, and soon after laid siege to Multan, which occupied him for upwards of six months.

While Pir Muhammad was thus occupied, Timur, who had proceeded against the Siah Posh Kafirs, had passed the Hindu Kush by the usual route to Kābul, left that city in August, and marched by Hariab and Bannu to Dinkot on the Indus. He crossed that river by a bridge of rafts and reeds, and marched to the Hydaspes (Jhelum), and down its banks to Tulamba, reducing the country as he passed. He levied a heavy contribution on Tulamba, which was afterwards sacked, and the inhabitants were massacred by the troops,—it is said without his orders. On the approach of Timur, his grandson set out to meet him, and left a garrison in Multan; they joined near the Gara or Sutlej, 25th October 1398.

Timur thence proceeded with a light detachment to Adjudin, where he met with no sort of resistance, and spared the town as it had the tomb of a famous Muhammadan saint. He then marched to Bhatner and (9th Nov. 1398) massacred the country people who had taken refuge under its walls. The place afterwards surrendered on terms, but the town was nevertheless burned, and all the inhabitants put to the sword. He then marched to Samāna, where he joined his main body, having slaughtered the inhabitants of every place he passed. From Samāna the towns were deserted, consequently there were no more general massacres. Many prisoners, however, were taken, and on reaching Dehli, Timur put to death all of them above the age of fifteen, to the number, it is said, of 100,000. Muhammad Taghalaq fled to Gujerat. Dehli surrendered under a solemn promise of protection, and on the 17th December 1398 Timur was publicly proclaimed emperor of India. But plunder and violence brought on resistance, which led to a general massacre; some streets were rendered impassable by heaps of dead, and the gates being forced, the whole Moghul army gained admittance, and when the troops were wearied with slaughter, and nothing was left to plunder, he gave orders for the prosecution of his march. On the day of his departure (A.D. 31st December 1398) he offered up to the Divine Majesty the sincere and humble tribute of grateful praise in the marble mosque which had been erected by the emperor Firoz on the banks of the Jumna. The booty carried off from Dehli is said to have been very great, and the men and women of all ranks whom he carried into slavery formed a number so large as to overstock the slave-market at Samarcand, and they were sold at two rupees the head; among them were many of the wives and children of a proud aristocracy. His soldiers are said to have had 150 slaves, and soldiers' boys had 20 slaves to their own share; and Timur secured for himself the stone-masons for the purpose of erecting a mosque at Samarcand.

He then marched to Meerut, where there was a general massacre; and afterwards crossed the Ganges and proceeded up its banks to Hardwar, where that river leaves the mountains. Several affairs took place with Hindus on the skirts of the hills, in which Timur, though now 65 years of age, exposed his person like a private soldier, and underwent great fatigue. He marched along the foot of the mountains to Jammu, then turned southwards, fell into the route by which he first advanced, and (A.D. 10th March 1399, A.H. 801) quitted India, leaving anarchy, famine, and pestilence behind him. For two months Dehli remained without a government, and almost without inhabitants; and for 36 years there was no kingdom of India, either in name or reality.

In his route from Kābul towards Hindustan, according to Sharif-ud-Din, he went by way of Irjal, Shenuzan, Nughz, Banou (or Bannu), and thence to the Indus, at the very place where Jalal-ud-Din, king of Kharazm, fought with Chengiz Khan, and so heroically swam the river after his defeat, in 1221. Timur crossed an extensive desert in his way to Bhatnair, but on his return from the banks of the Ganges he proceeded to the north-west, along the foot of the Siwalik mountains, by Meliapur, Jullundhur, and Jummoo, to the Indus, which he crossed at the same place as before, and in the same manner; and returned to Samarcand by way of Bannu or Banou, Nughz or Nagaz, Kābul, Bacalan, and Termed. On his return to Samarcand, his first piece of justice was inflicted upon Dina, 'the greatest officer in all the land of Samarcand.' Timur had left him in the city as his magistrate when he departed, for six years and eleven months, during which time this man had neglected his duties; so Timur ordered him to be hanged, and confiscated all his goods. The justice inflicted upon this great man caused terror amongst the people, and the same punishment was ordered to be inflicted upon another man who had interceded for this magistrate. A councillor named Burado Mirza asked for his pardon if he paid a sum of 400,000 bezants of silver, each bezant being equal to a silver real. Timur approved of this, and when the man had given all he had, he was tormented to give more; and as he had no more, he was hung up by the feet until he was dead. Another piece of justice was inflicted upon a great man, who had been left in charge of 3000 horses when Timur departed, and because he could not produce them all, he

was hanged, although he pleaded that he would produce not only 3000, but 6000 horses, if he would give him time. He also ordered justice to be executed upon certain traders who had sold meat for more than it was worth, and upon shoemakers; and other traders were fined for selling their goods at a high price. The custom was, that when a great man was put to death, he was hanged, but the meaner sort were beheaded. On the 8th of January 1405, to invade China, he marched out of Samarcand, in a heavy fall of snow, and, crossing the Jaxartes upon the ice, he encamped at a place called Otrar. In February he was attacked by fever and ague, and he died on the 17th of that month, in the year 1405, aged sixty-nine, leaving 36 male descendants. Timur's body was embalmed with musk and rose-water, wrapped in linen, laid in an ebony coffin, and sent to Samarcand, where it was buried. Mirkhond mentions that he was subject to very severe attacks of illness, which not unfrequently succeeded to any change from violent motion in the field to perfect domestic repose.

Timur's autobiography was written in the Chaghtai Turki language. It is known as the Malfuzat-i-Timuri or Tuzak-i-Timuri, the Institutes of Timur. It was translated into Persian by Abu Talib Husaini, and dedicated to the emperor Shah Jahan, and was translated by Major Stewart. Thirty years after Timur's death, Sharif-ud-Din Yazdi wrote his Zafar Namah, and quoted from the diary of Timur's court. Timur, in his autobiography, relates his own intrigues, and takes credit for goodness and sincerity, with a mixture of cant and hypocrisy, with real superstition and devotion. He was essentially a wily politician, with courage, prudence, and address. Chengiz Khan was the more violent, Timur the more perfidious. Malcolm, History of Persia, says, 'Though one of the greatest of warriors, he was one of the worst of monarchs. He was able, brave, and generous, but ambitious, cruel, and oppressive.'

The furious blood-shedding that characterized his wars created a horror amongst all his Asiatic contemporaries. His Arab biographer, Ahmad bin Arab Shah, pictures him while crossing the icy plains of High Asia as met by the Spirit of Winter, which exclaimed, 'Hold in thy rapid course, thou savage tyrant.'

He died at Otrar. Feeling his strength giving way rapidly, he made signs for the Mullah Haibat Allah to perform the rites of the dying and read the Koran over his bed, and he expired in the early evening of the 7th Shaban, A.H. 807 (A.D. 17th February 1405). His body was brought to Samarcand, and placed alongside of that of his spiritual teacher, Syud Barke, who first had proclaimed Timur's career. His descendants afterwards ruled in India from A.D. 1526 to 1857. His native language was the Chaghtai Turki, which at that time prevailed from the Alagh-Tagh mountains to the Hindu Kush, and from the Caspian to the Gobi desert. On the death of Timur, his vast empire soon fell to pieces; yet the greatest and best princes that ever reigned in Muhammadan countries, were the descendants of Timur. They ruled in India until the year 1857, though only nominally from the first years of the 19th century. In 1857, by joining in a rebellion against the British, they made a final effort to regain supremacy, and the last emperor at Dehli was exiled to Rangoon in Burma, where he died in 1862. The descendants of Timur, and particularly Baber, Akbar, and Jahangir, brought many of the trees of their native countries into India. Baber, whenever he found leisure in the midst of his active life, diversified with multitudinous vicissitudes, formed a garden. Akbar followed up the plans of Baber, and introduced the gardeners of Persia and Tartary, who succeeded with many of their fruits, as peaches, almonds (both indigenous to Rajputana), pistachios, etc. The princes of the house of Timur, though despots by birth and education, present a more remarkable succession of great characters, historians, statesmen, and warriors, than any contemporaneous dynasty in any region of the world.

Of all the countries over which members of this Timur family once ruled, India alone has made any advance in material prosperity since the days of their power. Samarcand, the capital of Timur, became a heap of ruins, until restored by Russia in the 19th century. Andecan, the beloved home of Baber, is in the possession of Uzbak savages. The once rich and opulent Herat, the abode of learning, the brilliant capital of Shah Rukh and Husain Mirza, the native land of poets and historians, is now a ruinous Afghan fortress. Shiraz, made immortal by the songs of Sadi and Hafiz, where Ali of Yezd wrote the life of Timur, is an impoverished provincial town in the kingdom of the Kajar kings of Persia. Lahore and Dehli are noted for their gold-woven fabrics, and light silk muslin fabrics interwoven with gold threads, as well as for all kinds of work in tinsel or kalabatun.—*Elphinstone's India; Elliot's India; Ferrier's Caravan Journeys; Yule's Cathay; Rennell's Memoir; Markham's Embassy; Rajasthan; Vambery's Bokhara*, p. 163; *Malcolm's Persia*.

TIMURI. A tribe of the Aimak dwelling at Gorian and Kuh'sun on the western boundary of Herat, and in the villages and towns situated east of Iran, from Tarbat Shaikh Jam as far as Khaf. About 1000 of their families dwell near Herat.

TIMUR SHAH, second son of Ahmad Shah, succeeded his father as Amir of Kābul in A.D. 1773, and died in 1793. He left 36 children, of whom 23 were sons.

TIN.

Kas-din, Ressas,	ARAB.	Banda stagnata,	IT.
Abruz,	,,	Stannum,	LAT.
Khai ma phyu,	BURM.	Timah, T. putch,	MALAY.
Yang-seih,	CHIN.	T. sari, Kalang,	,,
Etain,	FR.	Falagh,	MALEAL.
Bleck, Weissblech,	GER.	Urziz,	PERS.
Zinn,	,,	Shest, Blacha,	RUS.
Bedel,	HEB.	Trapu,	SANSK.
Kallsi, Ranga,	HIND.	Hoja de lata,	SP.
Kathel,	,,	Tagaram,	TAM.
Latta,	IT.		

Tin is one of those metals which were earliest known. Though it occurs in comparatively few countries, and though it does not occur in the native state, the acquaintance of the ancients with this metal is accounted for by the circumstances that the ore is found frequently near the surface, and is easily reduced by charcoal and a moderate degree of heat to the state of metal. Tin is found in England, Saxony, Bohemia, Hungary, Chili, Mexico, Billiton, Banca, and the Peninsula of Malacca. Malacca furnishes the purest tin, and Cornwall the largest quantity. India imports it chiefly from the Straits Settlements to a

varying extent up to 48,372 cwt., valued at Rs. 22,13,323.

Tin occurs in two states of combination, the peroxide and the rare double sulphuret of tin and copper; but it is from the former that the metal is almost entirely obtained. The peroxide is found —(1) In veins, where it is intimately mixed with several other metals, as arsenic, copper, zinc, and tungsten,—this is common tin-stone; and (2) in loose rounded masses, grains, or sand in alluvial soil, in which state it is called stream-tin. The former, when reduced to the metallic state, yields block-tin; while the latter yields grain-tin, which is the purer of the two, and it is brought into commerce in these two forms. Wood-tin is in reniform and botryoidal masses, or in wedge-shaped pieces, which have arisen from their partial destruction; the surfaces are generally water-worn. Stream-tin is evidently derived from the destruction of tin veins or lodes, the lighter portions of stony matter having been carried away by the water, which has rounded the fragments of the ore. Tin was used by the Egyptians. The Greeks and Romans obtained it through the Phœnicians from England. Tin with the Egyptians formed an ingredient in some of their metallic compounds for hardening copper, and they used the alloy for forming swords and spear-heads. Its use has long been familiar to the Hindus for tinning copper, and for various compounds with copper and tin, which are remarkable for their hardness, and for the fine sounds which they emit on being struck. Dr. Wight found that an alloy of 10 of copper to 2½ of tin was the best mixture which a native made in his presence. Ancient British spear-heads are found to consist of 1 of tin to 10 of copper, and an ancient knife, of 1 of tin to 7½ of copper. Mr. Aikin found that 8 of copper to 1 of tin formed the hardest alloy.

The European alloys of tin are as under:—1 oz. of tin to 1 lb. copper, a soft gun metal; 1½ oz., harder, fit for wheels to be cut with teeth; 1½ to 2 oz., brass ordnance; 2 oz., hard bearings for machinery; 2½ oz., very hard bearings for machinery; 3 oz., soft musical bells; 3½ oz., Chinese gongs and cymbals; 4 oz., house bells; 4½ oz., large bells; 5 oz., largest bells; 7¼ to 8¼ oz., speculum metal. The tin alloy is scarcely malleable at 2 ounces; it soon becomes very hard, brittle, and sonorous. Smiths of India render the mixed metal malleable with greater proportions of tin; so do the Chinese for their gongs and cymbals, by gently striking it while hot at repeated heatings. Some years ago bronze sheathing for ships was prepared on the same principle. Teling people call such malleable bell metal Akkansu. It is formed into vessels for containing acid food, buttermilk, etc.

The island of Banca, which is a continuation of the mainland of Malacca, is of granite, graduating into syenite, and flanked by silurian slates and quartzites. The ore was worked to a considerable extent during the 18th century by the sultans of Palembang, the yield having reached 4000 tons per annum. This production afterwards fell off very much, and when the Dutch obtained the island in 1821, it did not amount to half that quantity, although it now surpasses it, viz.:—1820-29, 1500 tons; 1830-39, 2700 tons; 1840-49, 4100 tons; 1850-59, 5200 tons; 1860-69, 4700 tons; 1870-77, 4400 tons. The average annual amount of tin per mine does not exceed half a ton, though the washings at Blinjoe average one ton per annum. The island of Billiton, as a tin-mining district, only dates from 1850, the yield for the first ten years being only 180 tons. Since then, however, it has risen so rapidly that between 1870-76 over 3600 tons were raised per annum. The population of Billiton has increased from 1400 in 1860 to 28,000 in 1876; of these a good number consisted of Chinese miners. There were only 400 of these in 1860, and 4300 in 1873.

The Malayan tin district or tin field is beyond all comparison the most extensive and the richest in the world, for it stretches from Tavoy in the 14th degree of N. latitude to Billiton in the 3d degree S. latitude, that is, over 17 degrees of latitude and 10 of longitude. The richest locality in the province of Tavoy is nearly opposite the city of Tavoy on the eastern side of the mountains. Mr. Ralph Fitch, who travelled in this part of the world in about the year 1586 or 1587, says—'I went from Pegu to Malacca, passing many of the seaports of Pegu, as Martaban, the island of Tavoy, whence all India is supplied with tin, Tenasserim, the island of Junk-Ceylon, and many others.'

Tin ore of the Malay Peninsula is stream-ore, and the nearer the mountains is the more abundant. The ore is imbedded in clay at from 6 to 50 feet below the surface, and is mined by Chinese. In the seven years prior to 1874, the value of the tin exported was upwards of 1¼ million sterling, the produce of thirty mines. The ground being marked out and cleared of vegetation, a square or oblong pit is sunk, varying in depth from 40 to 80 feet, through an alluvial deposit, and the ore extracted by a series of stream works. The stanniferous deposits occur in the form of regular beds, in which the binoxide of tin is associated with coarse sand and decomposed quartz, which are removed in baskets, arranged in heaps on the surface, and exposed to sun and rain for a month or two. The washing is conducted in wooden jutters, through which a stream of water is made to flow, the dirty ore or 'work' thrown into coarse wicker-baskets immersed in water in the wooden trough and shaken about; the metallic ore and finer particles of sand and decomposed quartz are washed through the crevices of the basket into the wooden trough, through which the stream of water flows, and is there kept in constant motion by several coolies with spades, by which means all the dirt and lighter particles of sand are carried off by the stream, and the heavy ore collected in the heap when the flow of water is stopped, and the metallic ore conveyed to the smelting shed. A funnel-shaped blast-furnace is used, 6 feet high and 4 feet diameter at the mouth. The sides of the trunk and funnel-hole are shaped and backed with clay. The fused matters escape from the cavity and flow continually into an exterior reservoir hollowed out for that purpose, from which the liquid metal is ladled out into moulds, shaped in moist sand. The trunk is filled with charcoal made from the gompos tree, and combustion is accelerated by a cylindrical blowing machine, worked by eight men, of which the nozzle is introduced by an aperture. When the whole mass is brought to a red-heat, the crude ore is sprinkled on the top of the burning embers, and kept constantly fed by successive charges of charcoal and mineral. Each charge consists of

30 pikuls of washed ore, containing from 45 to 60 per cent. of tin.

Both gold and tin exist in and about Mount Ophir. The depth of the gold mines is from 70 to 200 feet, and the process of pounding the rock and washing the gold dust is simple and rude. The tin is worked in the lowlands at the depth of a few feet, and some of the ores are so rich that they contain about 80 per cent. of the metal. The whole Malay Peninsula, from Mergui, Perak, and Queda (Kedah) on the north, to the islands of Carimon and Banca, which were once probably connected with the mainland, in the south, is one rich deposit of tin, the same as that of Cornwall. It is the ordinary tin-stone or binoxide of tin. It occurs in veins, and also in rounded masses or grains. It is often beautifully crystallized, interspersed with decomposing granite, and is generally free from sulphur and arsenic. At the two extremities of the peninsular zone of elevation, Junk-Ceylon and Banca, tin-sand is diffused in such quantity that its collection has never had any other limit than the number of persons employed in it. In Junk-Ceylon and Phunga, about 13,000 pikuls are annually dug out of the soil. But in Banca, without any improvement on the usual Chinese modes of excavating, washing, and smelting, the production increased from 25,000 pikuls in 1812, when it was a British possession, to 60,000 pikuls.

The tin ore in the island of Banca is cast into ingots, weighing from 20 to 60 lbs.; the purity of these bars is superior to those from the mines in Malacca. All that is of a superior quality which is brought to China in bars is called Banca tin, while the inferior is known as Straits tin. The former sells for about £17, and the latter for £14 or £15 a pikul.

The tin of Siam is worked in the provinces of Xa-lang, Xai-ja, Xamphon, Rapri, and Rak-Bhrek.

Tin mines of Larut, or, as they are called, Klians, in the Malayan Peninsula, are about 100, averaging 60 or 70 feet in depth, and 700 feet in circumference. There were in 1867, 12,000 Chinese at work, earning five to six dollars monthly. In their superstition, no one is allowed to go near the water-wheel with his shoes on, or with an open umbrella. The mines at Cassang near Malacca, north of Ayer Panas, cover a space of five or six miles. Since the Chinese began to work them in 1844, their produce increased from 146 pikuls to 12,000 pikuls in 1852.

The Malay and Javanese term for tin, timah, is a word used in the Archipelago as a generic term for both tin and lead, the epithet white or flowery (puteh and sari) being given to tin itself, and that of black (itam) to lead, a metal with which, being entirely a foreign product, the Malayan nations are but little acquainted.—*Horsfield on the Tin of Banca; J. of Ind. Arch.*, 1848; *Winter's Burma; Morrison's Compendious Description; M'Culloch's Com. Dict.; Mason's Tenasserim; Royle, Prod. Res. of India; Crawfurd's Dictionary; Mr. Rohde, MSS.*

TINCAL, borax, Sodæ biboras, from the Sanskrit Tinkana.

TIND. HIND. of Panjab. Wide-mouthed, round-bottomed earthen jars with which the Persian well-wheel is moved.

TINDAL, in India, a petty officer of native seamen, also the non-commissioned officer over gun and store lascars.

TINDU. HIND. Ebony of Diospyros melanoxylon, *Roxb.*, also of D. tomentosa. Tindu-kaki, TEL., D. tomentosa? Tinduki, also Tumiki, TEL., D. embryopteris, *Pers.*, probably Tindu-kaki and Tindula, should be applied to different trees, as D. tomentosa, D. melanoxylon.

TINFOIL, Beggud, HIND., is tin rolled into thin sheets, and employed with the addition of mercury to cover the surface of glass, thus forming looking-glasses, mirrors, etc.—*Faulkner.*

TINGHAE, a town and harbour on the south side of the island of Chusan, and fronted by many islands, between which are several channels leading to it. Tinghae city is one mile and eight cables in circumference, and is surrounded by a wall 14¾ feet high and 13 feet wide, surmounted by a parapet 14½ feet high. A canal nearly 33 feet wide and 3 feet deep almost encircles the city, and enters it near the south gate. Large quarries of hornstone porphyry are found in the N.W. extreme of the island. Salt, arrack, and mat manufactures occupy the people.

TINNEVELLY, chief town of Tinnevelly district, Madras, is 1½ miles from the left bank of the Tambraparni, lat. 8° 43′ 47″ N., and long. 77° 43′ 49″ E.; the district lying between lat. 8° 9′ and 9° 56′ N., and long. 77° 16′ and 78° 27′ E., having the Bay of Bengal on its eastern face, and a harbour at Tuticorin. This district formed part of the ancient Pandiyan empire. It was ceded to the British in 1801. It has twenty-six polygar estates paying tribute to the British. Romish Christian missions have been here since the 17th century. The two chief towns are Palamcotta and Tuticorin, the last famed for its pearl fishery. The Protestant missionaries who have laboured in Tinnevelly have been Pohle, Schwartz, Kohlhoff, Hough, Rhenius, and Caldwell. The southern coasts have many salt marshes, which were increased at the beginning of the 19th century by inundations. There are several streams, the largest being the Tambraparni. The district produces cotton and rice. The general appearance of the district is that of an extensive plain with small hills interspersed. The Anangol pass leads to Travancore. Between Tinnevelly and Travancore is a chain of fortifications or lines which were considered very formidable at the close of the 18th century.

Agricultural castes (Vellalars, Vanniars, Shanars) amount to 62 per cent.; Pariahs, 10·4 per cent. Paravars are all Catholics. The Shanars cultivate the palmyra palm, and make jagari from its sap. They claim to be the original proprietors. Christian missions have been successful among them. Devil-worship is common in the district, but especially among the Shanars. Some Brahmans have even taken up the local devil-worship. At Srivaikuntham is a mercantile subdivision of the Vellalar caste, the Nat'ha Kottai Vellalars (Fort Vellalars), who live in a mud fort, out of which their women are not allowed to go. The three most celebrated Hindu shrines are at Tiruchendur on the sea-coast, at Papanasam on the Tambraparni, and at Kuttalam (Courtallum) on its tributary the Chittur. At both the two latter places there are beautiful waterfalls at the foot of the hills. Kuttalam is also known as Ten Kasi, *i.e.* the Southern Benares. The scenery is very lovely.

Mr. James Fergusson (Hist. of Indian Archit. p. 366) cites the great Siva temple as giving a good general idea of the arrangement of large Dravidian temples. It is a double temple. The whole enclosure measures 508 by 756 feet. Like some other large temples, it contains a thousand-pillared portico. The Muhammadans are descended from the ancient Arab traders and their converts. They are found along the whole coast of the Tamil country, and are called by the British Labbai; they call themselves Sonagar or Yonagar.

Out of the total of 5176 square miles, 1112 are uncultivable. The palmyra palm flourishes in the almost rainless tracts of red sandy soil to the south. Pearl fishery here is very ancient. It is mentioned by Pliny (A.D. 130), by Muhammad-bin-Mansur in the 12th, and by Marco Polo in the 13th century. The Venetian traveller Cæsar Frederic (1563-81) describes the fishery in a way which applies to the present day. The colour of the pearls of the Gulf of Manaar is not good. The British first entered on the pearl fishery in 1796, since which time a total sum of nearly £120,000 has been realized, at a cost of not more than £600 a year.

Between 1830 and 1861 there were no fisheries, as the beds seemed exhausted, ascribed to currents produced by the deepening of the Pambam channel. In 1861 and 1862 the fisheries realized £37,858. Chank-shells are found all along the coast, and from time immemorial have been sent to Bengal and elsewhere. Since 1876 the fishery has been taken by Government management. In 1877-78 the profit was £2290. The divers were paid £2 for a thousand shells, and the price got by Government was £9, 2s. for each thousand of good shells. Throughout the district the average rainfall is only 24·79 inches. A fall of rain is always expected late in January, sufficient to raise the rivers and replenish the tanks.

According to Tamil tradition, Chera, Chola, and Pandiya were three royal brothers, who at first lived and ruled in common at Kolkai on the Tambraparni. Eventually a separation took place; Pandiya remained in the south; Chera and Chola founded kingdoms of their own in the north and west. 'The earliest Dravidian civilisation was that of the Tamilar of the Pandiya kingdom, and the first place where they erected a city and established a state was Kolkai, on the Tambraparni river. The leader of the first or most influential Brahmanical colony is said to have been Agastya. He is fabled to be still alive, and to reside somewhere on the mountain called Agastya Malai, from which the Tambraparni takes its rise' (Caldwell's Grammar, p. 118). He is the traditional founder of the Tamil language. The first capital of the Pandiyas was Kolkai, above named; the second and more celebrated was Madura. Kolkai is the Κολχοι μωδιον of Ptolemy (A.D. 130) and of the author of the Periplus (A.D. 80), both of whom speak of it as the headquarters of the pearl fishery, and belonging to the Pandiyan king. This place is now about three miles inland. — *Pharoah's Gazetteer; Imp. Gaz.* ix.

TINNUNCULUS ALAUDARIUS, the Falco tinnunculus, the kestrel of Europe, Asia, Africa, and the great Asiatic Archipelago, is very common in India, sometimes in large flocks. It is the commonest bird of prey in England and France.

TINOSPORA CORDIFOLIA. *Miers.*

Menispermum glabrum, *Kl.*	Cocculus cordifolius, *D.C.*
M. cordifolium, *Willd.*	C. convolvulaceus, *D.C.*
Galancha, . . . BENG.	Gilo, Gul-arich, . . PANJ.
Gadancha, . . ,,	Amurta guduchi, SANSK.
Gulbal, Gulo, . DUKH.	Shindi-kodi, . . . TAM.
Gul-wail, ... ,,	Galuchi, Guduchi, . TEL.
Gurcha, . . . HIND.	Manapala, Tippatige, ,,
Cita-merdoo, . MALEAL.	Somavalli, Jewanti, ,,

The root is covered with loose papery bark, and its wood is composed of distinct wedges separated by depressed medullary rays. It contains much starch, and a bitter principle, is used by natives for colds and fever, in doses of six mashas, in cold infusion; also in leprosy and skin diseases. It is a useful demulcent tonic, a substitute for calumba or cetraria in the treatment of dyspepsia, also diuretic and febrifuge. Used in intermittent fevers, in which it is said only to diminish the cold stage; also in chronic rheumatism and debility after fever, and as a general tonic; and is said by some to be as powerful a febrifuge as Peruvian bark. The extract is made by boiling the root 12 hours in water, then straining and removing the woody fibres, and evaporating the liquor to dryness. It is said also to be made by squeezing out the juice of the cut root, adding water, allowing it to stand, and collecting and drying the sediment. The substance is white, very brittle, in irregular lumps, and contains a large quantity of starch.—*Powell; Roxb.; Wight; Voigt.*

TIPERAH, a corruption of Tripura, on the N.E. frontier of British India, is partly British territory, and in part under a native ruler.

The British province in 1872 had a population of 1,522,228 souls. It presents a continuous flat and open surface, with the exception of the isolated Lalmar range. All communication and transport are effected by means of boats, except during the few months of hot weather, when the village footpaths can be made use of. The Megna flows along the entire western boundary of the district, and is the only river navigable throughout the year by trading boats of four tons burden; but the Gumti, Dakatia, and Titas are navigable for craft of that size for a considerable portion of their course. The Muhuri, Bijaigang, and Borigang are all navigable by boats of four tons during at least six months of the year.

The chief aboriginal tribe of the district is the Tiperahs, of whom there were 3004. Among semi-Hinduized aboriginal tribes and Hindu castes, the most numerous are—the Chandal, numbering 81,155; the Jugi, a caste of weavers, 66,812; the Kayasth or writers, 82,804; and the Kaibartta, the chief agricultural caste of the district, 53,916. On the 31st January 1860, the Kuki or Lushai suddenly entered the district at Chhagalnaiya, burned and plundered 15 villages, murdered 185 British subjects, and carried off about 100 captives.

Hill Tiperah Native State adjoins British Tiperah, lying between lat. 22° 59′ and 24° 31′ N., and between long. 91° 12′ and 92° 24′ E. Approximate area, 3867 square miles; population, 75,792.

Tripura was dedicated either to Tripuradana, the sun-god, or to Tripureswari, the mistress of the three worlds. The worship of Siva was here associated with human sacrifice. In no part of India were more victims offered up. Till the

reign of Dharma Manik (A.D. 1407-1439), the number was 1000 a year; but Dharma ruled that human sacrifices should only be offered triennially. He appears to have been an enlightened prince. So late as 1852, some men of the Tunia Jum Mahals were tried for murder by sacrificing. This is a forest tract in the hills, and inhabited by the Mug, Chukma, Reang, and Tiperah races, and others, all more or less nomadic. The place of sacrifice was a cleared spot in the jungle, and staked round with bamboos about six feet high. The sacrificial pole is the Phula bans or bamboo, scraped and stripped at the edges, the hanging strips giving a rude notion of ornament. These sacrifices generally occurred once a year. During its celebration at Agartolla a gun was fired every evening at sunset, when every person hurried to his home. The religion now prevailing in Tiperah is a form of Hindu idolatry; but it is said that before the accession of Trilochun, they worshipped only natural objects, trees, stones, animals. A trace of that old faith is to be found in their present practice, by the Tiperah and Kachari people, and Garo, of sticking a bamboo in the ground during one of their religious festivals, and worshipping it, as Kols worship the sal tree. The sal tree and bamboo had to be dispossessed before the new settlers could derive any benefit from the soil. The Tiperahs number 34,727 persons. They are divided into 4 classes,—the pure Tiperahs, 27,148 in number, the class to which the reigning family belongs; the Jamaitya, or fighting caste, of whom there are 3000; the Nowattia, 2144; and the Reang, 2435. They are all of the same religion, and speak the same language. Their divinities are the gods of fire and water, of the forest and the earth; and sacrifices form an important part of their religion.

Tiperahs eat flesh of every description except beef, but, after the decease of a relation, abstain from flesh for a week. Both men and women are very fond of dancing. They are, as a rule, truthful and simple-minded. No man is looked on as a person of any importance till he is married. The Kuki and all the hill tribes worship local deities, said to be fourteen in number. The Tiperah raja, in addition to the hill territory known as Independent Tiperah, is the holder of a very considerable zamindari in the district of Tiperah in the plains. He receives his investiture from the British Government, and is required to pay the usual nazzerrana.—*Dalton's Ethn. of Bengal*, pp. 110, 111; *Records of Sudder Nizam at Adalat of Chittagong for* 1852.

TIPU, son of Hyder Ali, commonly known as Tipu Sultan, also Tipu Sahib, sovereign of Mysore, whose capital was Seringapatam. In the year 1783, the British and the Peshwa of the Mahrattas combined to attack Tipu, and on the 11th March 1784 a treaty of peace was concluded. But in 1789 Tipu attacked the raja of Travancore, whom the British supported, defeating Tipu. In 1790 the British entered into a treaty with the rajas of Calastri, Cartinaad, and Kotiote, also with the Nizam of Hyderabad, the Peshwa, and the raja of Coorg, to make war against Tipu, who was defeated by Lord Cornwallis on the 5th February 1792, and peace was declared on the 22d of that month and 18th March. In 1799, in consequence of Tipu's efforts to combine with foreign powers, war again broke out, and the British, the Nizam, and the Peshwa united against him. He was defeated by General Harris on the 27th March 1799, and was found amongst the slain in the storming of Seringapatam on the 4th May 1799. It is reported that when he heard that Syud Ghaffūr, his bravest commander, was killed by a cannon shot, he went to the post of danger, and afterwards fought like a man who was resolved to live or die a king. He was buried at Seringapatam, and after his death his children and other relatives were removed to Vellore, where a mutiny broke out in their favour, and then the sons were taken to Calcutta. The last of his sons, Prince Gholam Muhammad, died there on the 11th August 1872. The inscription engraved on the tomb of Tipu is,—

'Tipu Sūltān cho kard āzm-i-jahād
Haq ba ū mansab-i-shahādat dād.
Sāl-i-tārikh-ī-ū Shahīr bagūft;
Hāmi-i-dīn shāh-i-zamān baraft.'

'When Tipu Sultan resolved on a religious war,
The All-True gave him the dignity of a martyr;
Shahīr gave the year of its occurrence—
Defender of the Faith, King of the Age has left.'

The principal events of his reign were as under—

1783, 2d January. Began to reign.
1784, 11th March. Peace with Tipu.
1788, 8th May. He invaded the low country, and war declared.
1789, 29th December. He was defeated at Travancore.
1790. First campaign under General Abercrombie.
1791. Second campaign under Lord Cornwallis.
1791, 7th March. Pettah of Bangalore assaulted.
1791, 21st March. Bangalore taken.
1792. Third campaign.
1792, 6th February. Seringapatam fortified camp stormed by Lord Cornwallis' army, and taken.
1792, 20th February. Surrendered two sons as hostages (restored 1794), Tipu ceding half his territories, paying three kror and thirty lakhs.
1798. Second war with Tipu.
1799, 5th March. General Harris entered Mysore.
1799, 4th May. Seringapatam stormed, Tipu fell. Lieut. Lawrence led the forlorn hope of left column of H.M. 74th. He was father of Sir Henry, of John Lord Lawrence, and of Generals A. W. and G. St. P. Lawrence.
1799, 5th May. Sons surrendered as hostages.

TIRAH and Chura are fertile and well-peopled valleys, enjoying a cool climate; and it was not unusual for the Peshawur sirdars and others, who had an understanding with the inhabitants, to pass the warm weather in Chura. At Chura resided Khan Bahadur Khan, Afridi, who attained immense influence amongst his tribe from the circumstance of his attendance at court during the sway of the Saddozai. Shah Shuja married one of his daughters to, and on more than one occasion found an asylum with him. The Afridi occupy the eastern parts of the hills nearest Peshawur, and the Shinwari the western parts looking upon the valley of Jalalabad. The Orakzai reside in Tirah, intermingled with the Afridi, and some of them are found in the hills south of Peshawur. It was a malik or chief of this tribe who conducted Nadir Shah and a force of cavalry by the route of Chura and Tirah to Peshawur, when the principal road through the hills was defended against him. The Shinwari, besides their portion of the hills, have the lands immediately west of them, and some of the valleys of the Safed Koh range. More westerly still, under the same hill range, they are found south of Jalalabad, and are the neighbours

of the Khogani. There are also some of them in Ghorbund, and they dwell in great numbers bordering on Bajor to the north-west, where they are independent, and engaged in constant hostilities with the tribes of Bajor and of Kafiristan. See Khyber.

TIRE or Tyr. TAM. Sour curdled milk.

TIREH, amongst the Afghans, the branch of a tribe or firqah.

TIRHO. SIND. A rude boat made in Sind of the leaves and stems of Typha elephantina, for crossing the Indus during its inundations.

TIRHUT (Tirhoot), formerly a district of Bengal, now divided into two districts of Darbhangah and Muzaffarpur, a tract of country between lat. 25° 28′ and 26° 52′ N., and between long. 84° 56′ and 86° 46′ E. Area, 6343 sq. miles. Muhammadans, 528,605; Hindus, 3,854,991; Rajputs, 225,419. Babhans (318,577) are the most numerous. Although lower than Brahmans or Rajputs, they nevertheless enjoy a higher rank than the Sudra castes. Kayasth caste (70,992) comes next; Goala, 526,683. Koeri (227,046), the best spade-husbandmen in the country; they are identical with the Kachi of the North-Western Provinces, and are the chief cultivators of the poppy. Kurmi (142,303), though generally engaged in agriculture, make good soldiers. Chamar, 171,793. The principal manufactures of Tirhut are indigo, saltpetre, coarse cloth, pottery, and mats.—*Imp. Gaz.*

TIRKHAN, a carpenter race in the Panjab. The Kaminan, the Tirkhan, Lohar, and Chamar, etc., are agricultural labourers, who receive certain dues for their work.—*Powell.*

TIRNI. HIND. A grazing tax. There are t'hul tracts of greater or less extent in the various districts of the Panjab, and some of them chiefly valuable for the grazing they yield to large herds of cattle, who pay 'tirni' or grazing tax to Government.

TIRSING and Khanda, double-edge swords of the Rajputs.

TIRT'H or Tirt'ha. SANSK. Any Hindu shrine or holy place to which Hindus make pilgrimages. In the Padma Purana, a guru, a father, a wife, a son, are considered tirt'has. Tirthan or Tirthan-kara, TAM., is a temple priest, a worshipping priest. Amongst the Jaina sect, a deified mortal who has passed out of the circle of transmigrations; he is worshipped. Tirt'ha or Indra, a branch of the Dandi sect. Tirthahalli, a municipal village in Shimoga district, Mysore, in lat. 13° 41′ N., and long. 75° 17′ E., on the left bank of the Tunga river, 30 miles south-west of Shimoga town. It derives its name from the number of tirt'has or sacred bathing-places in the Tunga. One of the hollows scooped out by the rushing water is ascribed to the axe of Parasu Rama, and at the Rameswara festival, held for three days in the month Margashira, thousands of persons bathe in this hollow.

Tirthankara is the generic title of the 24 deceased saints, persons held sacred by the Jains, deified mortals, viz.—

Rishaba.	Sitala.	Malli.
Ajita.	Sreyansa.	Manisuvrata.
Sambhava.	Vasu Pujara.	Nami.
Abhivandana.	Vimala.	Nemi.
Sumati.	Ananta.	Parsva.
Padmaprabhu.	Dharma.	Mahavira Swami or Vardhamani.
Supursva.	Tanti.	
Chandraprabhu.	Kuntu.	
Pushpadhanta.	Ara.	

TIRU, an adjective signifying venerable, divine, or sacred, prefixed to many names. In the south of India it is a prefix to holy places, as Tripatur, Triputty; also to many religious books and writers on religion as an attribute. It is the Dravidian dialectal change from Sri. Tirunama, the holy name. Tiruniru, the holy ashes. Tirunur undai, TAM., also Tirunut undi, TEL., balls of cow-dung ashes. Tirupad, a titular appellation of the native princes of Malabar, as the Tirupad of Nelambur. Tirupati or Tripati, in lat. 13° 27′ N., long. 79° 26′ E., in the Carnatic, 4 miles N. of the Surnamuki. Level of the plain is 507 feet. Tiruvachaka, a famous Saiva work.—*Ad. Schl.; Wils.* See Nama; Tripati; Vibhuti.

TIRUCHARNAM. TAM. Curcuma longa, also a yellow paste of turmeric with which the forehead is marked with the Hindu sign of their sect.

TIRUKALYANA. TAM. Lit. the sacred or divine wedding, the name of a festival celebrated in honour of Iswara and Parvati, also of a festival celebrated in honour of Vishnu and Lakshmi.

TIRUKKAZ HUKKUNRAM, a temple 36 miles S. of Madras, well known to Europeans who visit it to see the kites fed at noon. The temple is now devoted to the worship of Siva, but an inspection of the inscriptions shows that it was once a Jain edifice, and Taranatha, in his history, in Tibetan, of Indian Buddhism, mentions this temple under the name of Paxitirtha, or, in the Tibetan corresponding name, Bird convent.—*Mr. Burnell on Inscriptions*, 1870, p. 6.

TIRUMALISAI ALVAR, one of the 12 Vaishnava Alvars. He is said to have written 206 stanzas, included in the Nalayira Pirapantam.

TIRUMAN. TAM. White clay with which the Vaishnava religionists make sectarian marks on their foreheads.

TIRU-MUKHU-STHANAM, a ceremonial by which the rulers of Travancore honour their subjects.

TIRUMULAR, a contemporary of Agastiya. Legends connected with him are given in the Tirutonder Puranam. A treatise on medicine is attributed to him, Tirumular Vaittiya Vakadam, and a theological work, Tirumulamantiram, but both are spurious.

TIRUMURTI-KOVIL, a village in Coimbatore district, Madras, situated in lat. 10° 27′ N., and long. 77° 12′ E., containing a venerated shrine of the Hindu triad, with interesting rock sculptures. Pilgrims visit the shrine on Sundays all the year round. There is one large annual festival. The temple is built exactly on the watershed; that part of the stream on which it is situated flows into the Arabian Sea, and the other part, diverted by a dam, flows into a feeder of the Kaveri (Cauvery), and thence into the Bay of Bengal.—*Imp. Gaz.*

TIRUVALLAVAR, the literary name of the author of the Kural, a book of Buddhistics, in the Tamil language, generally acknowledged to be unequalled in any of the languages of India, and amongst the Tamils Tiruvallavar occupies the first place as a moralist. He is said to have been the son of a Pariah woman by a Brahman father, and to have been brought up by a Valluvan, a priest of the Pariah caste, at Mailapur, a suburb of Madras. His real name is not known, but he is generally supposed to have lived about the 9th century. During the reign of Vamsa Sekhara, a

Pandiya ruler, a college had been established at Madura, with a council or sangattar of 48 professors, whose successors seem to have abandoned the teaching of Tamil, and devoted their attention to the cultivation of Sanskrit literature. The influence of Tiruvallavar, however, induced the Pandiya ruler to reintroduce the Tamil, on which the professors are said to have drowned themselves; but the Tamil progressed, and in the course of the 9th century there appeared a number of the most classical Tamil writers, amongst whom were the poetess Avayar, and the poet Kamben, the translator of the Ramayanum. The Kural advocates moral duties and practical virtues above ceremonial observances and speculative devotion; but it inculcates respect to Brahmans and ascetics, and alludes to Indra and to various parts of the Hindu pantheon. It is a didactic poem, with maxims on the moral aims of man, full of tender and true ideas, but adhering to the view of transmigration of souls, from which release is to be sought in the Buddhistic method. His principal work is the Kural of short lines with four and three footed strophes, with initial rhymes and alliterations in the middle. It is a tradition that he was brother of Auveyai or Avayar. He lived at St. Thomé, and appears to have had an intimate friend called Elela Singan.

TIRUVASAKAM, a Tamil book by Manikka-vasakar of the 8th century, held in high esteem by the Saiva sect. They say that persons who will not be moved by it, nothing will move.

[redacted] FAROOQ. ARAB. This is the cele-riaca Andromachi, of which the Ten-m c[redacted]nædrys, the common germander, forms an ingredient. The words, however, are merely the Greek and Arabic for the best sorts of treacle, and this substance being esteemed in Baghdad as an antidote for snake-bites, Tiryaq has come to be applied as a general term for antidote. The substance is in much request in Beri-beri. This is a black extract, imported, carefully packed in a small tin box; a powerful stimulant. It is given in a sort of convulsive disorder called 'seet,' catalepsy; one tola costs six or eight rupees.—*Genl. Med. Top.* p. 152.

TISTA (Teesta, Trisrota), a large river of Northern Bengal. It rises in the Chatamu Lake, Tibet, but is said to have another source below Kanchinjinga in Independent Sikkim. After passing through Sikkim, the Tista is the boundary between Darjeeling and Sikkim for some distance, till it receives the waters of the Great Ranjit, in lat. 27° 6′ N., and long. 88° 29′ E., when it turns to the south, and, after flowing through the hill portion of Darjeeling district, passes through Jalpaiguri and Rangpur, and finally falls into the Brahmaputra below Bagwa in the district of Rangpur. The Tista debouches on the plains through a gorge known as the Sivak Gola pass. It has many old channels.

TITHE, the younger daughter of Kasyapa, the mother of the giants, the Titans or Daitya. See Genesis vi. 4.

TITHI, a lunar day, and also the anniversary of the decease of a parent, elder brother, etc. In Hindu reckoning of time, those lunar days on which the sun does not rise (Suryo-du-ya nahin) are struck out; those in which it rises twice are Virdh, or additional; and since, according to the Hindus, the Tithi is 22 min. 31·9 sec. less than the mean solar day, it is obvious such circumstances will occur about once in 64 days, or six times in the course of the lunar year. The Tithi of each half month are named after the moon's age, as follows:—

1 Prathami or Pratapada.	5 Panchami.	10 Dasami.
2 Dwitya.	6 Shasthi.	11 Ekadasi.
3 Tritiya.	7 Saptami.	12 Duadasi.
4 Chaturthi.	8 Ashtami.	13 Triadasi.
	9 Navami.	14 Chaturdasi.

The 15th from Shukla Pratapada is Purnima or full moon; and the 15th from Krishna Pratapada is Amavasya or new moon. The Hindu zodiac is divided into twenty-seven lunar mansions or Nakshatra of 13° 20′ each, probably originating in the revolution of the moon being performed in little more than 27 days.

TITLES, badges, and flags have been in use amongst all nations, through all ages. Rulers adopt them in order to assert for themselves their own chiefship, and they have conceded them as distinguishing designations to the eminent of their subjects. Even Mahomed carried the black flag of his tribe, although he in every manner opposed all attempts at music, poetry, and painting, and prohibited all representations of living things. Angels, he said, enter not into a house where is a dog or a picture; but the khalif vicegerents who succeeded him were less strict, and Abdul Malik is said even to have decorated the doors of a mosque at Jerusalem with portraits of their great apostles. At the battle of Bedr in the 2d year of the Hijira, the white flag of the Beni-Aus was unfurled. A little later Mahomed's own black standard led the Muslims to the sack of Khaibar, and the Abbassi khalifs continued the use of the black flag throughout their rule.

Ancient Egypt had a system of heraldry. In the 14th and 15th centuries A.D. the Muhammadans of Egypt had a system of heraldry, but it was not hereditary, and died out. But the Crusaders adopted the use of armorial bearings from the Saracens, and the Turk, Mongol, and Manchu distinguish their tribes and clans by banners of different colours.

In Europe, where,—whether it be by a crown or a collar; a star, a cross, or a chain; a medal, a device, or a seal; a spur of honour or a sword of honour; a mantle, a ribbon or scarf, or any of the standards designative of military or naval rank,—sovereigns recompense merit of every denomination without making the gifts burdensome to their subjects, neither the treasure of the State nor the Civil Pension List being in any way affected by such royal benefactions.

In Great Britain there are seen fifty-three titular insignia, besides nine or ten recognised Orders granted by allies, and the badges of the Orders of the Garter, the Bath, the Thistle, and St. Patrick are to be seen suspended by blue, green, red, and pale-blue ribbons. During the latter half of the 18th century, the fortunes of the British in India were much bound up with those of the Walajah family, nawabs of Arcot. Their chiefship may be regarded as a type of the short-lived monarchies of India; and Surgeon-Major Balfour in 1858 brought to the notice of the Government that from 1801 the Walajah princes had bestowed 890 titles on 704 persons, and had given also a great number of badges.

The titles which the Walajahi family had granted for Muhammadans were nawab, jah, umra, mulk, dowlah, jung, bahadur, khan; and for Hindus, maharaja, raja, raja-raian, rae-raian, bahadur, rae and wunt; and the insignia bestowed comprised the palki and nalki palanquins, the chour whisk of feathers; the chatri and aftab giri, sunshade and umbrellas; malbus-i-khas or royal robes, with the ali-band or full-dress belt; the overcoat or nim-astin, the khilat or robe of honour, with shawls and shawl-dresses, the do-shala, rumal-shal, shal-jama, and the jama-i-durdaman or brocaded dress; and separate jewels were bestowed, or a complete set, the juahar sir-a-pa. To these had been added ensigns of royalty, standards, flags, and colours and equipage, with the siphar, shamshir, and pesh kabz, shield, scimitar, and dagger; the ālam, the naobut and naqara were the standard, the royal and martial drum, with the canopy, gong, and throne, shamiana, gharial, and musnud, and the fel-ba-saz-i-tilai-wa-jarib, the elephant with gold trappings and measuring rod. The highest of all the insignia was the mahimaratib, or fish banner; but the titular military commandants were munsubdars of 1000 to 5200, and in the civil executive were granted the inkstand complete, the Kalm-dan-ba-laoazama.

The British in India were slow to assume the regal prerogative of coining money in their own name, and the equally sovereign duty of honouring their Indian subjects with titular dignities. Until 1835, the East India Company, although they were virtually independent rulers, continued to coin their gold and silver moneys in the name of Shah Alam, the titular emperor of India, and only in that year did the rupee bear the effigies of King William IV. Two years later, in 1837, the Order of British India of two classes, and the Order of Merit of three classes, were established to reward the sepoy soldiery for services in the field. But in the years 1855-56, the deaths of the Bhonsla rajas of Nagpur and Tanjore, and of the nawab of the Carnatic, closed the line of three native dynasties, and Surgeon-Major Balfour, while settling the affairs of the last-named prince, suggested to the Government to assume the royal duties of bestowing on the people appellations of dignity. There were in his office seven ex-servants of the deceased nawab, holders of titles, viz. Raja Girdhari Lal, Kriatwunt Bahadur; Raja Eshwara Das, Dyawunt Bahadur; Raja Hulas Rae, Dya Bahadur; Raja Tej Bhan Bahadur; Rae Ruttan Chund; Rae Futteh Chund; Terazish Khan Bahadur.

The necessity for a change in the old policy was great. The East India Company, whether as merchants or rulers, had paid their servants liberally, but their rewards were restricted to this pecuniary form, and since their sway ceased, other views have been acted on. Queen Victoria, on the 1st November 1858, assumed from the E. I. Company the rule of India, and subsequently, 28th April 1876, and at Dehli on the 1st January 1877, was proclaimed Empress of India; the royal style and titles of the Queen-Empress being Indiæ Imperatrix, Victoria, by the grace of God of the United Kingdom of Great Britain and Ireland, Defender of the Faith.

The Governor-General of India, Lord Canning, on the 24th December 1859, forwarded Surgeon-Major Balfour's letter to H.M. Secretary of State for India, then Sir Charles Wood, and since then there have been instituted the Order of the Indian Empire of one grade; that of the Star of India (1861 and 1866) of three grades; and in 1878 the Imperial Order of the Crown of India for ladies. These Orders may perhaps be still further extended in order to meet the longings and wishes of the native communities.

The Queen-Empress of India rules over subjects from all the races of Asia, Aryan and non-Aryan, Semite and Turk, Mongol and Manchu, whose rulers have handed down many regal and tribal epithets which the people prize. And Asiatic titles are not single designations to mark a rank or grade, such as duke, marquis, and earl, but honorific epithets, appellations of dignity, distinction and pre-eminence of civil and military bearing. The E. I. Company's Governor-General and the Government of India were early aware of and adopted these forms, but only for themselves. The seal of Warren Hastings, the first Governor-General, was very simple, describes him as—'The pillar of the State, the support in war, Mister Hastins, the devoted servant of the victorious king Shah Alam.'

A successor designated himself on his seal—'Cream of the princes, high in dignity, privy councillor of the illustrious throne of England, Lord Mornington, Governor-General of the kingdoms under the dominion of the English Company in the region of India, the devoted servant of the victorious emperor Shah Alam, 1212.'

A little later, a successor of Marque[illegible] was styled—'The cream of the princes[illegible] dignity, high in honour, exalted in p[illegible]ion, noble of nobles, Sir George Hila[illegible]o Barlow, Baronet, Bahadur, Governor-General o[illegible] the countries under the dominion of the English[illegible] Company connected with the country of India[illegible], devoted servant of the victorious emperor Sh[illegible]ah Alam, Bahadur, 1805, year 1220 Hijira.'

Later on, the seal of the Supreme Gove[illegible]rnment of India ran—'MDCCCXXXI., Seal of the Go[illegible]vernment of power and for the control and arrang[illegible]ement of the affairs of the country and islands of [illegible]ndia, the high English Government, supreme in a[illegible]uthority, 1831.'

Governor-General Lord Auckland's s[illegible]al contains the words—'Zabdat-i-nao-nian, [illegible]azim-us-shan, mushir-i-khas-i-Huzur faiz mamur [illegible]badshah kaiwan-i-barga-i-Inglistan, ashraf-ul-umr[illegible]a, Lord George, Earl of Auckland, Governor-General, Bahadur, nazim-i-azam-i-mumalik-i-ma[illegible]hrusa-i-sarkar-i-Company Angriz Bahadur mata[illegible]aqa-i-kashwar-i-Hind; san Isawi 1840.' Which may be rendered—'Cream of the people, of exalted dignity, member of the Privy Council of His illustrious Majesty the bountiful king of England, the noble of nobles, Lord George, Earl of Auckland, the valorous, Governor-General, the chief administrator of the countries under the rule of the brave English Company, in the year of Jesus 1840.' The Persian is the language used.

The British, while establishing the five Orders enumerated above, have not, as yet, imitated the native princes in the grant of insignia. The Ain-i-Akbari of Akbar's time names as regal insignia the aurang or throne, chattar or umbrella; the sayaban or sun-shade, and the kaukabah or golden stars, the alam or standard, the chattartouq, and taman touq or collars. Three drums,

viz. the kowrekh or dimamah, the naqara, and dhol; with trumpet, viz. the kurna of metal, the sarna, the nafir, the sing, and sank'h or chank.

In Alamgir's reign no one could of his own accord assume a chair, a palanquin, or an umbrella. A grant from the king was required to use them, and every one was punished who adopted them without authority. That emperer was styled Muhammad Mohi-ud-Din Abu-uz-Zafr, Alamgir Badshah Ghazi, year 12, year 1080; which may be rendered, Muhammad Mohi-ud-Din, father of victory, world conquering king, the victorious, year 12, year 1080.

Timur had ∴ as his arms, supposed to represent the three regions over which he ruled. His full title in the height of his power was Sultan, Kamran, Amir, Kutb-ud-Din, Timur, Kur Khan, Sahib-i-Kuran, meaning 'Sovereign, ruler, noble, polar star of the faith; Timur, of the lineage of sovereign princes, lord of the grand conjunctions.'

The Yukti Kalapataru mentions five umbrellas of Orissa, viz. the Prasada, Pratapa, Kalasa, Kanaka-danda, and Nava-danda. The rajas of Cochin have as their insignia the palanquin with umbrella, the lamp, and the chank-shell.

The balaband or head-fillet is the diadem of the Greeks, and in Mewar is the symbol of honour. In the days of her grandeur, it was held equal to any cordon of Christendom. It consists of one or more cords of floss silk and gold thread, tied round the turband, the ends hanging behind the head. It was valued as the mark of the sovereign's favour.

In 1808, Futteh Ali Shah, emperor of Persia, instituted the Order of the Lion and Sun, Sher-o-Khurshid, to decorate foreign envoys who had rendered services to his government, and it is now open to Persian subjects. In the treaty of peace with Persia of 4th March 1857, the emperor is styled 'His Majesty, whose standard is the sun; exalted, the august, the great monarch, the king of kings of all the States of Persia.' The same time, his ambassador, then at the Court of France, was styled 'His Excellency, the [illegible] of greatness, the favourite of the king; Hajji Khan, Amin-ul-Mulk, the great ambassador of the mighty State of Persia.' This emperor takes the titles Shahets, Ali Hazrat, Kawi Shokat, Shahnshah, also Ali Hazrat Aqdas Humayun, Shahnshah, also Sahib-i-Qaran; likewise Zil Allah, Shadow of God, and Hashmat Panah, Source of Dignity.

The honorific appellations adopted by the Asaf Jah dynasty rulers of Hyderabad in the Dekhan have varied. In the 18th century it was Nizam-ul-Mulk Asof Jah Bahadur, Fatah Jung, commander-in-chief, devoted servant of Muhammad Shah, the king, as high in dignity as Solomon, 1140 Hijira, the tenth year of his reign.

Later on, it was The faithful friend, the bravest man of his time, as high in dignity as Solomon, conqueror of countries, Nizam-ul-Mulk, Nizam-ud-Dowla, Mir Nizam Ali Khan Bahadur, victorious in battle, Asof Jah, commander-in-chief, devoted servant of king Shah Alam Bahadur, the victorious emperor 19 (year of his reign); and the reigning prince (1884) is Mir Mahbub Ali, entitled Muzaffar-ul-Mumalik, Rustum-u-Dauran, Arastah-i-Zaman, Asaf Jah, Nizam-ul-Mulk, Nizam-ud-Dowla, Mir Mahbub Ali Khan Bahadur, Fatah Jung.

H.H. Nawab Sadik Muhammad, Khan, Bahadur, Grand Commander of the Most Exalted Order of the Star of India, is distinguished by the epithets Rukn-ud-Dowla, Nasrat Jung, Hafiz-ul-Mulk, Mukhlis-ud-Dowla, chief of Bahawulpur.

The ruling family here are Muhammadans of the Dawudputra race. In this territory since 1866 great improvements have been made by irrigation. The treaty of 22d October 1838 is that which exists between the States.

Nawab Mumtaz Ali Khan, Bahadur, is designated Jalal-ud-Dowla, Mustikil-i-Jang, chief of Dujana.

Kalab Ali Khan, the Muhammadan ruler of Rampur, is styled His Highness Farzand-i-Dil-Pazir-i-Dowlat-i-Inglishia, Kalab Ali Khan, Nawab of Rampur, K.G.C.S.I. and C.I.E., the Persian words meaning Heart-loved Son of the British Government.

The prince of Arcot, a relative of the former Walajahi dynasty of the Carnatic, was styled Azim Jah, Umdat-ul-Umra, Amir-ul-Umra, Madar-ul-Mulk, Umdat-ul-Mulk, Azim-ud-Dowla, Asad-ud-Dowla-al-Angrez, Zahir-ud-Dowla (name) Khan Bahadur, Zu-ul-Fiqar Jang, Fitrat Jung, Sipah Salar, Amir-i-Arkatwa, Hind, G.C.S.I.

Rajputs and Mahrattas have surnames like the races in Europe. Rajputs' are, however, too extended to be utilized, but those of the Mahrattas are in daily use. Also Hindu rulers and their dominions are sometimes distinguished by the family name of the sovereign, by the name of the capital, or by that of the territory—Sindia or Gwalior, Gaekwar or Baroda, Mewar or Udaipur, Holkar or Indore, and Marwar or Jodhpur.

Maharaja Jaya Ji Rao Sindia, the reigning sovereign of Gwalior, is of the Mahratta race, follows the Hindu faith. He is styled Mukhtar-ul-Mulk, Azim-ul-Iqtadar, Rafi-us-Shan, Wala Shikoh, Muhtashim-i-Douran, Umdat-ul-Umra, Maharaj Dhiraj, Ali Jah, Hisam-us-Saltanat, Maharaja Jyaji Rao Sindia Bahadur, Sri Nat'h, Mansur-i-Zaman, Fadvi-Hazrat Malikah Muazzamah, Rafi-u-Darjah, Inglistan, G.C.S.I. This is The absolute executive authority of the country, the mighty in power, the high in pomp, the exalted in splendour, the magnificent one of the period, the elect of nobles, the great chief, the chief par excellence, the high in dignity, the great chief Jyaji Rao Sindia, the valiant, the lord, the conqueror of the age, vassal of Her Majesty, the Honoured and Exalted Queen of England, Grand Commander of the Most Exalted Order of the Star of India.

The Holkar family are Hindu Sudras of the great Dhangar or Shepherd race. They rule over the fertile Malwa province, and are wealthy. Jaswunt Rao died in 1811, and was succeeded by his son Mulhar Rao, who died in 1833 childless. Martand Rao was adopted as his successor, but was deposed by Hari Rao. Hari Rao died in 1843 childless, was succeeded by his adopted son Khandey Rao, who died in 1844, and was succeeded by adoption by Tukoji Rao Holkar, whose title is Tukoji Rao Holkar Maharaja Dhiraj, Rajeswar, Sawai, Tukoji Rao Holkar Bahadur, K.G.C.S.I.

Ch'hatrapati is Lord of the Umbrella, the source of the Satrap of the Greeks. It is taken by H.H. Maharaja Ch'hatrapati Sivaji IV. of Kolhapur, Bhonsla family, K.C.S.I.

Ch'hatrapati is assumed also by a Mahratta lady, another of the Bhonsla family, the princess

of Tanjore, who, as mentioned by Dr. Russell, when inquiring of the Prince of Wales as to his mother's welfare, styled Queen Victoria her sister. This princess is the daughter of the last raja of Tanjore.

Chiefs of the Mahrattas are known as the Pant Pratinidhi, Pant Amatya, the Ghatge chief of Kagal, chief of Ichalkaranji, chief of Sangli, chief of Mudhol, Patwardhan. There are several Ghorpara chieftains, one of them styled Narayan Rao Ghorpara, Amir-ul-Umra of Dutwad; the Ghorpara, also, of Kapshi, and Mudhol and Sandur.

Mysore is ruled by a scion of a race who have had many centuries of dominion, with periods of grandeur and depression. Chamrajendra Wadiar, born 1862, was installed 23d September 1868, and placed in charge in March 1881. His full title is Maharaja Chamrajendra Wadiar Bahadur, Raja of Mysore. He was an adopted son of the preceding ruler, and reigns under the Partition treaty of 1799. The emblem on the flag of Mysore is the fabulous bird of Hindu mythology, called in Sanskrit the 'Gunda Bhairūnda,' and the Canarese name for it is 'Gund Warrūnda pukshee.' This mythical bird has been the principal crest of the royal family of the Wadiars of Mysore since A.D. 1399. Regarding the Gunda Bhairūnda (Benfey, Sanskrit Dictionary), Gunda signifies the temple of an elephant. Bhairūnda, in its adjective form, means formidable. As a nominative, it signifies a form of Siva, and is also the name of one of the attendants of Durga. This fabulous bird has, in the animal kingdom of Hindu mythology, the foremost place. The most powerful elephant ranks below a lion, which ranks below the sarabha, a fanciful animal, which again is inferior to the Gunda Bhairūnda. The emblems of the Maharajas of Mysore are the sankh, or conch-shell; the chara, or quoit of war; the ankusa, or elephant goad; the kuthāra, or dagger; the makara, or alligator; the matsya, or fish; the sarabha, a fabulous animal; the salva, or lion; and the sacred bird above noticed.

The Travancore ruler is H.H. Sri Padmanabha Dasa, Vanji Bala Rama Varma, Kula Shekara, Kiritapati, Manne Sultan, Maharaj Raja Rama Raja Bahadur, Shamshir Jung, G.C.S.I., Maharaja of Travancore. The family name is said to be Threpathathu Swaroopan. Its princes' titles are Rama Varma, Carela Varma, Martandha Varma. The chank-shell is one of the insignia of this race, who claim to be Kshatriya, and follow Brahmanism. The chief of their subjects are the Nair, who follow the law of uterine descent.

Among great chiefs in the Peninsula are the Vizianagram, the Venkatagiri, the Bobili, the Beder rulers of Zorapur, the raja of Wanparti; and of other representatives of ancient dynasties may be named the Zamorin raja Poonithurakon Kunnalakonatiri. In 1766, a zamorin was beleaguered by Hyder Ali; he set fire to his palace, and voluntarily perished in the flames. Since that time the zamorins have been subject to Mysore, and then to the British. At the latter part of the 18th century, a raja of Bobili acted similarly.

The descendant of the great Rama Raja is the raja of Anagundee, whose title is Sri Mudrajadhee Raja, Raja Parameswara, Sri Virapratapa, Sri Vira Teroomala, Sri Viravenkata Ramarawya, Deva Maharawya Sumstan Vidaya Nagarum.

Of the chiefs of Mewar, some have the title of Raj, others that of Rawul; some take Rawut as their distinction. Sawai is an honorific epithet adopted by several princes of Northern India, also by the chiefs of Baygoo and Bejolia; and the Bheendur and Bednore chiefs take respectively Maharaja and Thakur. Sawai means additional, a quarter more, as if to say more than a man.

Of Patiala, in the Panjab, is H.H. Maharaja Rajindar Singh, Mahindar Bahadur, Farzand-i-Khas, Daulat-i-Inglishia, Mansur-i-Zaman, Amir-ul-Umra, Maharaj Dhiraj, Rajeshar, Sri Maharaja Rajgan, chief of Patiala.

Raja Bikram Singh, Bahadur, Barar Bans, Farzand-i-Saadat, Nishan-i-Hazrat, Kaisar-i-Hind, chief of Faridkot.

H.H. Raja Hira Singh, Mahindar Bahadur, G.C.S.I., Farzand Arjamand Akidat Paiwand Daulat-i-Inglishia, Barar Bans Sarmur, chief of Nabha.

Raja Pratap Sah of Tehri, Garhwal.

H.H. Raja-i-Rajgan, Raja Raghbir Singh, Bahadur, Grand Commander of the Most Exalted Order of the Star of India, Companion of the Indian Empire, Farzand-i-Dilband, Rasakh-ul-Itkad-i-Daulat-i-Inglishia, Councillor of the Empress of India, chief of Jind.

The Indian Government addresses the Rajput ruler of Jummu and Kashmir as 'His Highness Maharaja Ranbir Singh Bahadur, Grand Commander of the Most Exalted Order of the Star of India, Companion of the Indian Empire, Sipar-i-Sultanat (Shield of the Sovereignty), Councillor of the Empress of India, Honorary General in the Imperial Army, Chief of Jummu and Kash

Outside of British boundaries, the ru their chiefs have similar titles;

Rana Maharaja Jung Bahadur was entitle lin-Pimma-Kokang-Vang-Syan, Co of the Army, the brave, perfect in ev Master of the Military Affairs, the Mahar

Minor titles in Nepal are Maharaj, Kunwar, Rawut, Sah, Bahadur.

In Burma, the figures of a peacock an are painted on the king's throne; a pea borne on the royal standard, and Ne-dwe Yeng, sun-descended monarch, is one of th titles. The throne is painted over with fig the peacock, and the hare typifying the des the king from the Solar race and the human which is also directly laid claim to in the Nay-twet Buyin, sovereign of the rising sun, the titles Khattia, implying that he has dom over the crops, and yaza, that he can instruc in the laws. Ein Shemen is the special t the declared heir of the Burmese throne means Lord of the Eastern House. The wee of Burma is a chain worn as a bad nobility, and has been supposed to be de from the Brahmanical thread.

The ruling king, The-baw's titles are Yett bohng Nay-pyee-daw, ruler of the sea and lord of the rising sun, sovereign of the em of Thuma-paranta and Zampu-deepa, and other great empires and countries, and king all the umbrella-bearing chiefs, lord of the mi of gold, silver, rubies, amber, and the noble s pentine; chief of the Saddan or celestial elephant and master of many white elephants; the sup porter of religion, owner of the sekya (Indra' weapon), the sun-descended monarch, sovereig

of the power of life and death, great chief of righteousness, and possessor of boundless dominions and supreme wisdom, the arbiter of existence.

The white elephant of the king of Burma is called Sin-pyoo-daw, or king of elephants. When he goes forth to take the air, he is shaded by golden and white umbrellas. He and the king share between them all the eleven white umbrellas in the country. The king of men has nine; the king of elephants two, but the latter has also four golden ones. Not even the heir-apparent has a right to use the white umbrella. He must be contented with his eight golden shades. The display of a white one would be regarded as a declaration of rebellion, and would result in his immediate execution.

Siam has six classes of district governors or royal stadtholders, of whom a Phya or Paya is the highest in rank.

Anak Agong, son of heaven, is the title of the rajas of Lombok.

Amongst other titles, those of the emperor of China are Tien-tsze, Son of Heaven; also Kwa-jen, the Man who stands by Himself; and Kwa Kuin, Solitary Prince. In China, small globes, or buttons, as they are called, of mother-of-pearl and other substances, are used for distinction. Faghfoor is a common title given by the Muslims to emperors of China.

A round metal or coral or mother-of-pearl or crystal ball or button is used in China to mark the rank of their wearers. The members of the highest rank or order of nobility wear a dark red co[illegible]ball or button on the apex of their caps; [illegible]ond class have one of a light red; the third [illegible]ve light blue; fourth, dark blue; the fifth [illegible]rystal ball; and the sixth, one of mother-[illegible]; the seventh and eighth, a golden ball; [illegible] ninth and lowest rank have one of silver. [illegible]fficer may be further distinguished by the [illegible]ation of a peacock's feather. This is attached [illegible]e base of the ball or button on the apex of [illegible]hat, and slopes downwards; it is worn at the [illegible]k. Tseang-Keun, the highest rank or title, is [illegible]towed only on the Manchu. Te-tae is the [illegible]hest military title. State umbrellas of the [illegible]nese are worn only by those to whom they [illegible]granted. They are variously marked. China [illegible]ple of humbler rank can use paper umbrellas [illegible]. Mark Antony was censured for having [illegible]ed the eagles of Rome with the State umbrellas [illegible]leopatra.

'Interque signa (turpe) militaris
Sol aspicit cornopeum.'

[illegible]itles of Japan are Daimiyo, meaning Great [illegible]ne; Kugé, nobles of the Mikado's court; [illegible]lurai, military retainers of the Daimiyo, who [illegible]re two swords. Sho-gun (now abolished), Sho-[illegible]yo, territorial nobles.

[illegible]n India and Persia the following words form [illegible]rts of titular and honorific epithets and insignia:

[illegible]u-u-Zafr.	Ali-Jah.	Aurangzeb.
[illegible]chari, Achariya.	Ambalakaren.	Avargal.
[illegible]dhi Raja.	Amir.	Azam-ul-Umra.
[illegible]ga, Agha, Aka.	Amir-ul-Mominin.	Azim Jah.
[illegible]jam-Akram (Azam-Akram).	Amir-ul-Umra.	Azim-ud-Dowla.
	Anak-Agong.	Azim-ul-Ikhtadar
Alam.	Aqdas-Humayun.	Bab, Babi.
Alamgir.	Arbab.	Babu.
Alavi.	Asaf-Jah.	Badshah, Basha, Padshah, Pacha.
Alat'hi.	Athi Kurati.	

Bahadur.	Indiæ Imperatrix.	Mukhtar-ul-Mulk.
Bahadur Jung.	Indian Empire.	Mukhya.
Bai.	Ishan.	Muktashm-i-Daoran.
Barar-Bans.	Iyah, Iyen-Iyengar, Ayah.	Muktashm-ud-Dowla.
Be, Begum.	Izzat-Akram.	Mulk.
Beg.	Jag-Deb.	Mulvi.
Bhos.	Jaghirdar.	Mumtaz-ul-Mulk.
Bhumia.	Jah.	Murshad.
Bhutter, Puther.	Jalal-ud-Dowla.	Muzaffar-ul-Mulk
Bhuya.	Jam.	Muzaffar-ul-Mumalik.
Bibi.	Jamnepa Kara.	Nadan.
British India.	Janab.	Naib, Nawab, Nawab-Begum.
Cha.	Jonakan.	Naidu.
Chakravarta (Chuckerbutty).	Jotidar.	Naik, Naikkan, Naiker.
Chand.	Jung.	Nair, Nayar.
Charriar.	Kaisar.	Nambiar.
Chetty, Chettiar.	Ka[illegible]kos ([illegible]us).	Namburi, Nambudari.
Ch'hatrapati.	Ka[illegible]	Narindar, Mahaputra.
Choube.	Kanam.	Nasrani.
Crown of India.	Karta.	Nasrat-Jung.
Culcurni.	Kayamal.	Nattu-Kottiyar.
Curnum.	Kazi-ul-Kazat.	Nazim.
Daimiyo.	Khajah, Khoja.	Ne-dwet-bhu-Yeng.
Das (Doss).	Khakan.	Nissa.
Deb, Dev.	Khan, Khanum.	Nizam-ud-Dowla.
Deo, Deo-ji, Bhanj-Deo.	Khattia.	Nizam-ul-Mulk.
Deo-Saont, Deo-Bhanj.	Khone.	No-niyan.
Desai.	Kirita-Pati.	Odiar.
Deshast'h.	Kiriyathil.	Padiachi.
Des-Kulkurni, Des-Mukh, Des-Pande.	Komatti.	Padri.
	Konar, Kone.	Padshah, Padshazada, Padshahzadi.
Dever.	Kowtan.	Paik.
Dhakka.	Kudumpan.	Pandaram.
Do-be.	Kuge.	Pande.
Dora, Doralu, Dorasani.	Kula-Shekara.	Pandya.
Douraha.	Kurathi.	Panikkar.
Dowla, Dowlat.	Kumara Raja.	Pantulu Gariki.
Dya, Dya-wunt Bahadur, Dya Bahadur.	Kur-Khan.	Pardhan.
	Kuruppu.	Parmeswara.
Ein-Shemen.	Kutb-ud-Din.	Pasban.
Eka-ch'chatra.	Kwa-jen.	Patel.
Elayu-Raja.	Kwa-kuin.	Pathan.
El-Mihraj (Al-Maharaja).	Lal, Lala.	Patra, Madhapatra.
	Madar-ul-Mulk.	Patro.
Excellency.	Mahant.	Patwari.
Fadvi.	Maha-Prabahu.	Paya, Phaya.
Faghfur.	Maharaja, Maharaji.	Peshwa.
Faridun-Jah.	Maharaja-Dhiraj.	Pillai.
Farzand-i-Dilband	Maharaja-i-Rajgan	Pir, Pirzadah.
Fatteh-Jung.	Maharana, Maharani.	Polygar.
Firoz-Jung.	Maharawul.	Pridhan.
Fitrat Jung.	Mahdi.	Prince.
Gaon-bara.	Mahindra.	Put, Hindu-put, Mahi-put.
Gariki.	Makhdum.	Puthen, Puther, Bhutter.
Garliki.	Makkadam.	Rae, Rai, Rao, Roy, Rai-Rayan, Rai-Bahadur, Rao-Bahadur.
Garu.	Mal (Mull).	
Ghorpara.	Malik, Malikah.	
Ghosh (Ghose).	Mandal.	
Goraet.	Manne Sultan.	Rafi-ush-Shan.
Goraku.	Mansur-i-Nizam.	Raja, Raji (f) Raja-Bahadur, Raja-Rayan, Raja-Dhiraj, Raja-Rajgan.
Gouenden, Gowda	Mansur Jung.	
Gramani.	Marakor.	
Grassia.	Mard-raj.	
Guru.	Martanda Varma.	
Gurukkal.	Mastakl Jung.	
Hafiz.	Matampi.	
Hakim.	Menon.	Raj-Bhat.
Hashmat-Jung.	Mian.	Ram.
Hashmat-Panah.	Mir.	Rama-Raja.
Hazrat.	Miras-dar.	Rama-Varma.
Highness.	Mir-Wadero.	Rana, Rani, Maha Rana, Maharani.
Himmat Bahadur.	Mirza.	
Hissam-us-Sultanat.	Misr, Misra.	Rasakh-ul-Itikad
	Moghul, Moghulani.	Rashid-ul-Mulk.
Housha.	Mohsan-ud-Dowla	
Huzur.	Moin-ul-Mulk.	
Ikhtiar.	Mouzadar.	
Imad-ud-Dowla.	Muallam.	
Imam.	Mudali, Mudaliar.	
	Mukhtar Jung.	

cording to Buchner, the seeds of tobacco yield a pale-yellow extract to alcohol, which contains a compound of nicotine and sugar. Analysis of five samples of tobacco:—

	Argillaceous soil.		Calcareous soil.		
	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.
Potash,	29·08	30·67	9·68	9·36	10·37
Soda,	2·26	...	...	...	·36
Lime,	27·67	24·79	49·28	49·44	39·53
Magnesia,	7·22	8·57	14·58	15·59	15·04
Chloride of sodium,	·91	5·95	4·61	3·20	6·39
Chloride of potassium,	...	...	4·44	3·27	2·99
Phosphate of iron,	8·78	6·03	5·19	6·72	7·56
Sulphate of lime,	6·43	5·60	6·68	6·14	9·42
Silica,	17·65	18·39	5·54	6·28	8·34

The important mineral substances present in Havannah tobacco, examined by Hertung, are, in 100 parts of ashes—

Salts of potash,	34·15	Magnesia,	4·09
Salts of lime,	51·38	Phosphates,	9·04

These substances being for the most part insoluble in earth, must have been dissolved during the growth of the crop.

Analysis by Professor Johnston (Lectures, 2d edition) of the ash of the tobacco leaf, and the composition of a special manure for tobacco:—

Potash,	12·14	Phosphate of iron,	5·48
Soda,	0·07	Phosphate of lime,	1·49
Lime,	45·90	Sulphate of lime,	6·35
Magnesia,	13·09	Silica,	8·01
Chloride of sodium,	3·49		
Chloride of potassium,	3·98		100·00

All the ingredients which are necessary to replace 100 lbs. of the ash of tobacco leaves are present in 144 lbs. of the following mixture:—

Bone dust, sulphuric acid,	23 lbs.
Carbonate of potash (dry),	31 ,,
Carbonate of soda (dry),	5 ,,
Carbonate of magnesia,	25 ,,
Carbonate of lime (chalk),	60 ,,

A compost similar to the saltpetre beds which Napoleon employed so extensively in France, would be a good manure for tobacco lands, namely, calcareous matter, such as old mortar, dung, and the ashes of weeds or wood.

Growers in Cuba, Virginia, North and South Carolina, and the Philippine Islands select a high and dry piece of land of a siliceous nature, and combined with iron if possible. Tobacco will even lose its natural quality and degenerate by transplanting from one soil to another, although of the same temperature, and *vice versa*.

Throughout the East Indies the farmers grow the tobacco (each for his own use) upon the heap of rubbish at his own door, consisting of ashes, cow-dung, and offal of all kinds, a soil as fertile and as well manured as for the production of the poppy or opium. It is therefore often planted in the spaces enriched by animal and vegetable exuviæ, among the huts of the natives.

Several efforts have been made to extend and improve the tobacco industry of British India. In 1829, under the orders of the Court of Directors, samples of Maryland and Virginia seed were sent, accompanied by a paper by Captain Basil Hall on the Virginian method of cultivation and preparation. The tobacco grown from this seed was pronounced by dealers and manufacturers in London the best sample of Indian tobacco they had ever seen. In flavour and general appearance of the leaf it approached the descriptions usually selected in the London market for cigars and pipes, viz. Havannah, San Domingo, and Amersfoort, which commanded high prices in comparison with other tobaccos; and in 1831 a select committee of the House of Commons reported that a bale of tobacco from Gujerat had fetched 6d. a pound in the open market, being a penny a pound higher than the best American tobacco. But this excellence was far from general, and a considerable quantity of private growth, which was sent to England for sale, was pronounced worthless through defective curing,—being either mouldy and fit for nothing, or brittle and broken, and suited only for snuff. Still no fault was found with the quality of the leaf; and the possibility of growing really saleable tobacco having been demonstrated, repeated experiments have since been made to discover the most suitable soils and the best modes of preparation.

About the year 1876, the Indian Government established an experimental farm at Ghazipur, on the Ganges, 800 acres, and a planter from Virginia was employed to superintend the curing of the leaf, and Ghazipur tobacco is now well known over the North-West as being as good as, if not better than, most of the imported descriptions.

The *Shiraz* tobacco of Persia (Nicotiana Persica) is much esteemed for the delicacy of its flavour, and its aromatic quality. In December the seed is sown in a dark soil, which has been slightly manured (red clayey soils will not do). To protect the seed and to keep it warm, the ground is covered with light thorny bushes, which are removed when the plants are three or four inches high; and during this period the plants are watered every four or five days,—only, however, in the event of sufficient rain to keep the soil well moistened not falling. The ground must be kept until the plants are six to eight inches high, when they are transplanted into a well-moistened soil, which has been mad trenches for them; the plants being put top of the ridges ten or twelve inches apart the trenched plots are made so as to reta water given. The day they are transpl water must be given to them, and also ever or six days subsequently, unless rain enough to render this unnecessary. When the p have become from thirty to forty inches high, leaves will be from three to fifteen inches l At this period, or when the flowers are form all the flower capsules are pinched or twisted After this operation, and watering being continu the leaves increase in size and thickness until month of August or September, when each p is cut off close to the root, and again stuck fir into the ground. At this season of the ye heavy dews fall during the night; when expos to these, the colour of the leaves change fro green to the desired yellow. During this stag of course no water is given to the soil. Wh the leaves are sufficiently yellow, the plants are taken from the earth early in the morning, and while they are yet wet from the dew, are heaped on each other in a high shed, the walls of which are made with light thorny bushes, where they are freely exposed to the wind. While there, and generally in four or five days, those leaves which are still green become of the desired pale-yellow colour. The stalks and centre stem of each leaf are now removed and thrown away, the leaves are heaped together in the drying-house for three or four days more, when they are in a fit state for

packing. For this operation the leaves are carefully spread on each other, and formed into cakes of sorts, the circumference from four to five feet, and three to four inches thick, great care being taken not to break or injure the leaves. Bags made of strong cloth, but thin and very open at the sides, are filled with these cakes, and pressed very strongly down on each other; the leaves would be broken if this were not attended to. When the bags are filled, they are placed separately in a drying-house, and turned daily. If the leaves be so dry that there would be a risk of their breaking during the operation of packing, a very slight sprinkling of water is given them, to enable them to withstand it without injury. The leaf is valued for being thick, tough, and of a uniform light-yellow colour, and of an agreeable aromatic smell.

In the *Panjab*, in the years 1871-72, 92,500 acres were under cultivation for tobacco, and 5114 maunds were exported, valued at Rs. 29,184. The kinds of tobacco which are recognised are:—

1st. *Kandahari.* This is of a yellowish light colour, and has small indentated leaves like an onosma; with this kind of tobacco molasses or gur is not mixed, but as it tastes sweet, there is probably a small quantity of honey mixed with it previously; it is not twisted into any shape, but the broken leaf is left in little pieces. The stalk of the plant is used in this variety to make tobacco, just as much as the leaves, in fact there is more stalk than leaves. *Kakar* tobacco is also grown at other places, and there is Lahori Kakar, Shikarpuri Kakar, etc. The kakar is known by its small size, and the leaves are more round than the others, which are long pointed.

2d. *Baghdadi.* The seed of this is very much sought after by cultivators, on accouut of the abundance of the produce. It is not imported from the place whose name it takes, but probably came originally from thence.

3d. *Noki*, so called from its pointed lanceolate leaves; of this there are two sorts, the noki and the desi Panjabi.

4th. *Lambli*, a variety of which the leaves only are used; the woody stalk is of no use.

5th. *Zarda.* This is the best quality of tobacco, being of the kind called noki.

6th. *Purbi*, from Hindustan, which is chewed with chunam, supari (areca nuts), and catechu (kath); it is also smoked, but it is expensive.

7th. *Baingani.* This is very uncommon at Lahore; it is so called because its leaves are shaped like those of the egg-plant fruit, Solanum melongena.

8th. *Surati*, from Surat and Bombay; it is strong and bitter like kakar.

The ground is carefully worked up by repeated ploughing, and manured with old dung and with saliferous earth where the soil is naturally deficient of salts.

Tobacco is grown in the highly-manured fields immediately around the village site, and brackish water is said to be the best with which to irrigate it. The seed is sown in the N. of India in August and September, and transplanted in October. Its first leaf-plucking is in March; a second is in May, yields about half that of the first crop.

The average produce of a bigha of 360 Ilahi yards square, is 12 standard man of dry leaf, and of first quality, selling at Rs. 5 the man, and Rs. 2 for the refuse stalk; of inferior quality at Rs. 3 the man.

In *Oudh*, the retail price of unmanufactured tobacco is Rs. 8 the man, and that of three qualities of manufactured tobacco for smoking, at 2 to 3 seers the rupee, at 5 to 6 seers, and at 13 to 14 seers the rupee.

In the *Bombay Presidency*, tobacco is largely produced in the Kaira and Kandesh districts. In 1871-72, nearly 43,000 acres were under cultivation, and 3,262,000 lbs. were exported by sea to Bourbon, Mauritius, etc., valued at Rs. 5,64,485, and 112,000 lbs. were sent to other presidencies. Small quantities of the fine Gujerat tobacco were sent to the N.W. Provinces. In 1839, Mr. Elphinstone, collector of Ratnagherry, grew some good tobacco from Shiraz and Kazeroon seed. About the same time, Dr. Gordon grew some at the Hewra Gardens from American and Persian seed. The Shiraz and Havannah species were grown at Baroach.

In the *Madras Presidency*, the most celebrated of its tobaccos are grown in the Northern Circars, and on some of the low sandy islands or Lanké formed at the mouths of the river Krishna, also in the delta of the Godavery, where the soil is peculiarly rich and fertile, the product being known as Lanka tobacco. For Lanka cigars, the Nicotiana rustica is still grown on the islets of the Godavery, where the cultivation is rapidly increasing and is rather famous. The tobaccos of Trichinopoly and Dindigul are celebrated, and are manufactured into cheroots for Europeans.

The Dindigul tobacco is grown on a carefully-cultivated red loam. Some of the highest-priced tobacco is grown on the rich dry land, but it is too pungent for smoking. The vicinity of villages and the back yards of houses are much utilized. Heavy rains injure the quality; and as manures, the droppings of goats and sheep are used, also ashes, cattle-dung, urine, sweepings, and in Nellore saline earth.

The value of good tobacco in the district of Masulipatam is from 10 to 15 rupees a candy of 500 lbs., or about ½d. per lb. The best Lanka tobacco is from the Sitanagram island near Gutala, on the Godavery, and is sold usually at 40 rupees a candy on the spot.

The seeds of all the species, Havannah, Maryland, Virginia, Manilla, Shiraz, etc., have been widely distributed, and with some success, and the produce was largely analyzed by Mr. Broughton. In 1871-72 it was exported to the value of 5½ lakhs of rupees. The paucity in the soils of Madras of carbonate of potash prevents the tobacco plants obtaining sufficient of that substance. The ashes of the American tobaccos contain from 25 to 35 per cent. of it.

Ceylon.—Tobacco is cultivated with some attention and success by the Singhalese of the western province, the Kandyans of the interior, and the Tamils of the northern districts of the island. In 1760, Ceylon produced a considerable quantity of tobacco, principally about Jaffna, a demand having sprung up for it in Travancore and on the Malay coast. The cultivation spread to other districts of the island, Negombo, Chilaw, and Muttra. Not long after the possession of the island by the British, a monopoly was created by an import duty of 25 per cent. ad valorem, and

in 1811 the growers were compelled to deliver their tobacco into the Government stores at certain fixed rates. The culture and demand thereupon decreased. In 1843, the duty on the exports of tobacco from Ceylon amounted to £8386.

In *Bengal*, the Surat, Bhilsa, and Sandoway (Arakan) varieties of tobacco are the most celebrated. The two first are found to be good for cultivation in the districts about Calcutta. That of Singour, in Bardwan, near Chandarnagar, sells at the price of the Arakan sort, though of the same species as that cultivated in the surrounding country; and the best Bengal tobacco is grown at and about Hanglee, in the Kishnagar district. The tobacco of Chunar, on the Ganges, and more especially that of Bhilsa, were celebrated throughout India.

In 1871-72, above 500,000 acres were under tobacco cultivation, chiefly in the districts of Rangpur, Tirhut, Purniah, and Koch-Bahar, and nearly 10,104,000 lbs. were exported, chiefly to Bombay. The farmers of Koch-Bahar trust mainly to their tobacco for the money for their rents, and in the Terai it flourishes in great abundance; the soil of the Terai is very favourable. It is grown in clearances made in the jungle by the cowherd races who graze buffaloes. They collect the dung on the clearance, and after a year bring it under cultivation. In the cultivation of the Bhilsa tobacco, immense quantities of manure are used, with much wood-ashes.

Arakan tobacco, grown at Sandoway, was brought to London, and was valued at from 6d. to 8d. a pound. Some very superior tobacco, which obtained the name of Martaban tobacco, was shown by Dr. N. Wallich to be from Arakan, and not from Martaban. He described it as having a fine silky leaf. Many people pronounced it the very best they had ever tasted, surpassing the finest imported from Turkey and Persia. An extensive tobacconist said: 'A finer and better-flavoured tobacco he never saw or tasted in his life.' One of the first brokers in the city said: 'The sample of leaf tobacco is certainly of a very fine quality, and appears to have been produced from some peculiar seed and a greatly-improved cultivation and cure.' By many manufacturers it was supposed to be from the seed of Havannah or St. Domingo tobacco. For smoking, it was compared with Maryland tobacco, having the same qualities, except the flavour, which is better, and more like Havannah. The colour and leaf, moreover, were pronounced excellent for cigar-making; but for that purpose the largeness of the principal stalk, and coarseness of the small fibres in the leaf, somewhat detracted from its value.

Tenasserim tobacco is used in Burma. The Karens raise it for their own consumption, and the Burmese both cultivate it and import it. In 1884 the Burmese are cultivating largely.

In the *Philippines* very fine tobacco is grown and the Manilla cheroots are celebrated all over the globe. The quantity of raw tobacco shipped from Manilla in 1847 was 92,106 arrobas, each about a quarter of a cwt.; manufactured tobacco, 12,054 arrobas; and 1933 cases of cigars. 5220 boxes of cigars were shipped from Manilla in 1844, 73,439 millions of cigars were shipped in 1850, and 42,629 quintals of leaf tobacco. The manufacture of cigars in Manilla is a monopoly of the Government of the closest description. The cheroot which now costs, free of duty, about one halfpenny, could be tendered for half that sum. The flavour of Manilla cheroots is peculiar to themselves, being quite different from that made of any other sort of tobacco,—the greatest characteristic probably being its slightly soporific tendency, which has caused many persons in the habit of using it to imagine that opium is employed in the preparatory treatment of the tobacco, which, however, is not the case. The cigars are made up by the hands of women in large rooms of the factory, each of them containing from 800 to 1000 souls. These are all seated or squatted, Indian-like, on their haunches, upon the floor, round tables, at each of which there is an old woman presiding to keep the young ones in order, about a dozen of them being the complement of a table. All of them are supplied with a certain weight of tobacco, of the first, second, or third qualities used in composing a cigar, and are obliged to account for a proportionate number of cheroots, the weight and size of which are by these means kept equal. As they use stones for beating out the leaf on the wooden tables before which they are seated, the noise produced by them while making them up is deafening. The workers earn from six to ten dollars a month for their labour; and as that amount is amply sufficient to provide them with all their comforts, and to leave a large balance for their expenses and dress, etc., they are seldom very constant labourers, and never enter the factory on Sundays, or, at least, on as great an annual number of feast days as there are Sundays in a year.

In *Java*, the residences of Rembang, Sourabaya, Samarang, Chinbou, and Tagal present districts suited for its culture. It has been carried on with success for a good many years in the residences of Treanger, Pakalongan, and Kedu, but only for the consumption of the interior, and of the Archipelago.

Celebes.—Tobacco is cultivated in Celebes, but merely in sufficient quantity for local consumption. It is exclusively grown by the Bantik population; the mode of preparation is the same as in Java; it is chopped very fine, and mostly flavoured with arrack.

The *Japanese* grow a good deal of tobacco for their own consumption, which is very considerable. They consider that from Sasma as better than that from Nagasaki, Sinday, etc. The worst comes from the province of Tzyngaru; it is strong, of a black colour, and has a disgusting taste and smell. The tobacco from Sasma is, indeed, also strong, but it has an agreeable taste and smell, and is of a bright yellow colour. The tobacco from Nagasaki is very weak, in taste and smell perhaps the best, and of a bright brown colour. The tobacco from Sinday is very good. The Japanese manufacture the tobacco well, and persons who cannot use other tobacco can smoke that of Japan with pleasure.

China.—Tobacco seems to have been introduced into China from the west, by way of Japan or Manilla, during the 16th and 17th century, but is now grown in most of the Chinese provinces. The species seem to be the Nicotiana fruticosa, and N. rustica, *var*. Chinensis. The Russians manufacture from it and from Mongolian tobacco large

quantities of cigarettes. The tightly packed leaves are cut up into very fine threads by means of planes, and, according to Lockhart, mixed with some yellow ochre, arsenic, and other compounds. Dr. Williams says that the leaf is sometimes soaked with a solution of opium. A tobacco of Lobelia and also coltsfoot tobacco are sometimes smoked in China.

Australia.—Tobacco is cultivated in New South Wales with much success. Australia produces a leaf equal to Virginia or the most fertile parts of Kentucky, but the great difficulty is to extract the superabundant nitre, which causes a rank and disagreeable flavour. In Victoria the yield is generally large, but the scarcity of dew in some of the districts hinders the production of the best kinds. The crude kinds are obtained with ease. —*As. Soc. Journals; Exhibitions, Reports, and Catalogues; E. Buck; Sir G. Birdwood; J. E. O'Connor; Von Mueller; Powell; Poole; Royle; Forbes Watson; Ure; Don Raphael Zaragoza; Smith.*

TOBAGO CANES. This walking-stick is a product of a palm, the Bactris minor, *Jacq.*, a native of New Granada and the West Indies.—*Seeman.*

TOBBA was the hereditary title of the ancient kings of Yemen. Samarcand was said to have been built by them, and a Himyarite inscription on one of the gates testifies thereunto.—*Yule, Cathay*, i. p. 190.

TOCHARI, a nomade Turki tribe, supposed by Lassen to be the Yeu-tchi, Yu-chi, or White Huns. He places them with their Aryan kings in Upper Bactria and Sogdiana. Towards the end of the second century before Christ they consisted of five tribes.—*Cunningham's India*, p. 40.

TOD, COLONEL JAMES, many years Resident at Udaipur, in Rajputana. He devoted his leisure to the collection of the traditions, legends, genealogies, and literature connected with the Rajput race among which he was placed. He published the result of his inquiries in two very interesting quarto volumes, which contain some beautiful illustrations of Rajput scenery and architecture, entitled Annals and Antiquities of Rajasthan, also in his Travels in Western India, embracing a Visit to the Mountains of the Jains and celebrated Shrines of Hindu Faith between Rajputana and the Indus, London 1839.

TODA. This name is derived from the Tamil Toravam and Toram, a herd. The Toda have four or five clans, two of them nearly extinct, and one is endogamic. Their language is Dravidian.

They burn their dead, reverence the buffalo, and take especial notice of the bell suspended to its neck; bury weapons and personal ornaments with the remains of the dead. The men attain from 5 feet 4 inches to 6 feet 1 inch, but average about 5 feet 8 inches. The women range from 4 feet 10 inches to 5 feet 4½ inches, but average 5 feet 1 inch. The men weigh from 110 to 155 lbs., and women from 110 to 130 lbs. When Toda people meet who have been apart for some time, the young women fall on the ground before a senior, and the senior places first the right foot, then the left foot on the head. Women tattoo their arms, chest, and legs with dots. The Toga or Putkuli is worn by both sexes. The Toda is pastoral, but not nomade. They eat buffalo flesh on ceremonial occasions, but are not flesh-eaters in general. They have no weapons for the chase, neither spear nor net, nor do they construct traps or pitfalls. They are increasing in number. In 1870 the five clans numbered 713 souls, of whom 258 were men in the prime of life. The average number of children born to each woman is six, and they bear on the average from 17¼ to 37¼ years. The Toda salam to the rising and setting sun and moon, and speak a blessing on the house, 'May it be well with the male children, the men, the cows, the female calves, and every one.' The ancient bells are worshipped and attached to the necks of cattle, and called Konku-der and Mani-der, bell god, relic god. Each tirieri with its drove of cattle is in charge of the holy palal, who is regarded as a god. He is an ascetic milkman or priest, and the kavi-lal, an ascetic herdsman. No man must touch the palal or approach nearer than five yards. The Toda reverences the tudé tree, Millingtonia simplicifolia, a synonym of Meliosma simplicifolia, a plant of the Himalayas, Khassya, Sylhet, and Mishmi Hills, and in the Western Ghats from the Konkan to Courtallam. The dead have a lock of hair cut off, are burned with their face downwards, and with all their ornaments, and one or two buffaloes are sacrificed at the spot by being struck with the back of an axe on the head. The lock of hair and portions of the unburned skull are collected in a cloth and taken to the house, which continues closed until the final ceremonial. The slaughtered cattle are carried off by the Kota. Formerly many milch buffaloes were killed at the final interment of the portions of the remains that had been preserved, but since 1856 only two are sacrificed, amidst the wailing and lamentations of the relatives, who question the spirit of the deceased thus: 'Are you suffering from fever? Are your buffaloes thriving? Why did you leave us so soon? Have you gone to Amnor?' This final ceremonial is now-a-days postponed till several persons have died, and the relics are all preserved and presented together, and interred at the place of cremation. Old and barren cows are often sacrificed. The Madras Government on the 21st July 1820 ordered efforts to be made to repress their practice of destroying their infant girls, and it has now ceased. An old woman used to take the child immediately it was born and close its nostrils, ears, and mouth with a cloth, and it was then buried. The old woman got four annas as a present. The women are still (1874) fewer than the men, and the Toda woman consorts with four or five husbands. They crave for progeny, and in the manner of Genesis xvi. 2–5, xxx. 1–4, and xxxviii. 26, obtain it.—*The Todas, by Lieut.-Colonel W. E. Marshall*, London 1873.

TODAR MULL, the Kshatriya Hindu minister of Akbar, a great financier. Under his advice Akbar lightened the burdens that pressed on agriculture, abolished the capitation tax on the Hindus, abolished also the tax on religious assemblies and other imposts that weighed on the population. Todar Mull is described by Abul Fazl as entirely devoid of avarice, and quite sincere, but of a malicious and vindictive temper, and so observant of the fasts and other superstitions of the Hindu religion as to draw down on him the reproof even of Akbar.

TODD, MAJOR D'ARCY, an officer in the Bengal army, who distinguished himself in political duties

when serving in Western Afghanistan at Herat. He wrote a Memoir on Masandaran.

TODDALIA ACULEATA. *Pers., W. and A.*

T. Asiatica, *Lam.*
T. nitida, *Lam.*
T. rubricaulis, *Willd.*
Scopolia aculeata, *Sm., Roxb., Rh.*
Paullinia Asiatica, *Linn.*

Kudu miris, . . SINGH.
Kaka toddali, . . TAM.
Mula karni maram, ,,
Konda kasinda, . . TEL.
Varagoki, ... TEL.
Varra kasimi, . . . ,,
Mirapa kandra, . . TIB.

This plant has prickly stems and branches. It is one of the most common bushes on the Coromandel coast, and extends to lat. 30° N. along the base of the Himalaya mountains. All the parts are very pungent, especially the roots when fresh cut. The fresh leaves are eaten raw for pains in the bowels. The ripe berries are fully as hot as black pepper, and have nearly the same kind of pungency. They are pickled by the natives. This has a small white root, about the third part of an inch in diameter, the bark of which is bitter and sub-aromatic, and is considered as stomachic and tonic. It is given in a weak infusion to the quantity of half a teacupful in the course of the day. The fresh bark of the root is administered by the Telinga physicians for the cure of the remittent called hill fever. Roxburgh believed that this tree is possessed of very valuable stimulant properties.—*Roxb.; O'Sh.; Mason; Voigt.*

TODDY.

Palm wine, Toddy, . ENG.
Sendi of date palm, HIND.
Tari of palmyra palm, ,,
Nareli of cocoanut, ,,
Tuwak, . . . MALAY.
Kallu, ... MALEAL.
Sura, Tari, Tadi, SANSK.
Khullu, . . TAM, TEL.

Toddy is the name generally given by Europeans to the sweet, refreshing liquors which are procured in the tropics by wounding the spathes or stems of certain palms, on which the sap and juices exude from the trunks or from the fruit-stalks. In the West Indies it is obtained from the trunk of the Attalea cohune, a native of the Isthmus of Panama. In South-Eastern Asia the palms from which it is collected are the gomuti, cocoanut, palmyra, date, and the kittul or Caryota urens. The gomuti palm, Arenga saccharifera, is fit to yield toddy when nine or ten years old, at the average rate of three quarts a day. On the first appearance of the fruit, one of the spadices is beaten with a short stick, on three successive days, with the view of determining the sap to the wounded part. The spadix is cut off a little way from its root or base, and the liquor which oozes out is received in pots of earthenware, in bamboos, and other vessels. When newly drawn, the liquor is clear, and in taste resembling fresh must. In a very short time it becomes turbid, whitish, and somewhat acid, and quickly runs into the various states of fermentation, acquiring an intoxicating quality. In Malacca, the gomuti, termed kabong, comes into bearing after the seventh year. It produces two kinds of Mayams or spadices,—male and female. The gomuti grows throughout many of the islands of the Eastern Archipelago, and is largely utilized by the people.

To procure the toddy or tari of the palmyra tree, the Borassus flabelliformis, at the season when the inflorescence begins to appear, and before the spathes have had time to burst, the toddy-drawer cuts off all leaves except three or four, and all or most of the spathes are effectually encompassed from end to end by thongs, to prevent the inflorescence from bursting forth. When thus tied, for three successive mornings they are beaten or crushed between the wooden battens, with the object of keeping them from bursting, and to encourage the flow of sap. On the fourth morning, a thin slice is cut from the parts of the spathes. On the eighth morning, a clear sweet liquor begins to flow from the wounded parts, and the toddy-drawer then ascends in the evening with pots or toddy receivers, in which he places the ends of the spathes, and leaves them until the morning, when they are found to contain a quantity of this liquor. The operation of attracting the juice is repeated every morning or evening until the whole spathe is sliced away. The trees are drained in this manner for several months of the year, seven or eight spathes yielding at the same time.

The toddy of the cocoanut tree (Cocos nucifera), called nira, is obtained from the flower spathes before the flowers have expanded, in a manner almost similar to what has been described of the palmyra palm. The spathe is tied with strips of the young leaves to prevent its expansion. It is cut a little transversely from the top, and beaten either with the handle of the toddy knife or a piece of hard wood, a process which is repeated morning and evening for five or six days in succession. The under part of the spathe is then taken off, to allow of its being bent, in which position it is retained by being attached to a leaf-stalk below. An earthen pot or leaf-basket is, a few days afterwards, attached to the end, and is every morning and evening emptied of the toddy which exudes into it, the quantity of which greatly varies. A little portion of the spathe is daily cut off.

Sendi toddy is procured from the date tree of India, Phœnix sylvestris, during the months of November, December, January, and February, in which period each tree is reckoned to yield from 120 to 240 pints of juice; but the mode of its extraction destroys both the fertility and the appearance of the tree. After removing the lower leaves and their sheaths, a notch is cut in the pith of the tree near the top, from which the toddy issues by a small channel, made of a bit of the palmyra leaf, into a pot suspended to receive it.

Palm wine is also extracted from the Caryota urens during the hot season. The quantities which are said to flow from it are immense, so much as a hundred pints during the twenty-four hours.

The taste of toddy in its fresh state probably varies according to the state of the weather and season of the year, which will explain the many comparisons given of it, to Poubon water, mild champagne, cider, ginger beer, perry, etc. In all eastern countries the toddy of these several trees is used for the same purposes. It is drank, though rarely, when fresh from the tree, and is then a gentle aperient, particularly useful in delicate constitutions. It is boiled down into a coarse sugar called jagari or gur, which is afterwards refined. It is fermented in the course of a day into a mildly intoxicating liquor, still known as toddy, of which several pints are partaken before intoxication comes on. It is also distilled into arrack, made into vinegar, and throughout all eastern countries it is employed as yeast, as it begins to ferment in a few hours after it is drawn. In the Peninsula of India the

ropes employed by the toddy-drawers to help them to climb the tree, are made of cow or buffalo hide, but in other countries the pliant tendrils of plants are sometimes employed. The ropes are sufficiently large to surround the tree and the body of the climber, who, by leaning backwards and throwing his whole weight on the rope, is thus enabled to retain each position he attains, while by drawing up his feet and shifting the thong in his hand to higher points, he gradually raises himself to the top of the tree. Accidents, however, are frequent and severe.

TODDY-CAT, one of the Viverridæ, Parodoxurus musanga, *Jerdon.*

TODDY-DRAWER—in Tamil, Sanar; in Malabar, Kattikaran; in Carnatica, Idiga; in Tamil, Sarai-kara; in Telugu, Kalal—is a person who draws and sells toddy, and makes and sells other spirituous liquors. In Mysore the toddy-drawers are the Hale Paik race, who speak Tulu.—*Wils.*

TODDY SHRIKE, Artamus fuscus.

TODRIA. HIND. Species of Cheiranthus; Todri safed is C. annuus, Todri surkh or lal, C. cheiri. Todri na-farmani is a Delphinium. Todri surkh is apparently the seeds of common cress (Lepidum sativum), but in all probability mistakenly, as all other specimens of cress are named halim or taratezak. Several of them are considered to be aphrodisiac. Todri safed is also Mathiola incana, *R. Br.*, the purple gilliflower.

TOFANGI. PERS. A matchlock-man, a musketeer, from Tufung, PERS., a musket.

TOGHA. ARAB. A necklace, a badge of slavery; also the Toug, ARAB., Toug or Jugum of the Romans.

TOGHRA. ARAB. A royal signature; an order; the royal titles prefixed to letters, diplomas, or other public deeds, which are generally written in a fine ornamental hand. The celebrated Husain or Abi Ismail, vizir to the Seljukian sultan Masud, was surnamed Toghrai, on account of his excellence in this kind of writing. He is known to Europe by his admired Arabic poem, the Carmen Toghrai. Being taken prisoner in a battle wherein his sovereign was defeated by his brother Mahmud, he was put to death, A.D. 1120, by Mahmud's vizir, who hated him for his great abilities and superiority in writing the Toghra character.

TOHFAT-ul-MUJAHIDIN, a work by Shaikh Zain-ul-Abidin, giving an account of the proceedings of the Portuguese against the Muhammadans from A.D. 1498 to A.D. 1583.

TOINO, a gem much valued by the Kuki race. One was priced at Rs. 3000.

TOKA. HIND. A blight; a cotton blight caused by the insect Heliocopis cupido, or Depresscaria gossypium, etc., a weevil which attacks cotton.

TOKEN BESSEY or Toucam-baso is a large group of moderately-elevated islands, extending N.N.W. and S.S.E. Wangiwani, the most northwesterly, is visible from a distance of 21 or 24 miles; the body of it is in lat. 5° 15′ 30″ S., and long. 123° 33′ E.

TO-KIO, called Yedo by Europeans, the capital of Japan.

TOKKAY. BURM. A large lizard in Further India and the Archipelago, the Gecko of the Geckotidæ, which utters the sound of 'tokkay' in a loud, distinct tone, and a stranger, if not informed of the peculiar nature of the call, would certainly imagine the word to proceed from the lips of a human being. A French traveller there, whose name was Touquet, hearing the sound at night, responded 'Eh! bien,' and it was some time before they could persuade him that he had been holding a conversation with a lizard about twelve inches long.—*Mr. Earl*, p. 52. See Gecko.

TOL. HIND. A Hindu collegiate institution; that at Naddeya is famed.

TOLA, a weight containing 12 masha, and equal to 180 grains troy; the rupee of British India, a tola, is 180 grains, or 3 drachms apothecaries' weight.

1 tola	=180 grains.	
5 tolas	=1 chittak.	
16 chittaks	=1 seer=80 tolas	= 2·057143 lbs. avoir.
40 seers	=1 mun=(or maund)=	82⅔ lbs. exactly.

The tola in use by goldsmiths and jewellers has maintained a ponderary value of about 182 or 184 grains.

TOLA-PARIKSHA. SANSK. A balance ordeal. The accused is accurately weighed in a balance, and, after certain ceremonies, is re-weighed; if lighter, the accused is innocent. It is from Tolna, to weigh.

TOLKAPPIYANAR, the author of the oldest extant Tamil grammar. He is said to have lived in a town to the south of Madura. He was the chief of the twelve disciples of Agastiya, but he quarrelled with Agastiya, and established a separate school. He wrote the grammar called the Tolkappiyam, or ancient composition. It is the oldest Tamil work extant. Dr. Caldwell places it at the very commencement of the Jaina period, or about the 8th century A.D.; but it contains quotations which must belong to still earlier works. Much of the Tolkappiyam has been lost.

TOLON NOR, a Chinese town, walled, populous, and commercial. A depot for the Kiakta goods from Russia. The workmen are skilful in modelling and casting the bells, vases, idols, and other metallic implements of Buddhism.

TOLU BALSAM, Saint Thomas' Balsam.

Baume de Tolu, . . FR.	Balsamo de Tolu, . . SP.
Tolutanischer balsam, GR.	

This is the concrete juice of the Myroxylon toluiferum. It is of a brownish-yellow colour, transparent, with the taste and odour of the white balsam of Peru.—*Faulkner.*

TOMAN. When Tavernier visited Persia in the 17th century, the toman was worth more than £3; since then it has gradually diminished in value. When Sir J. Malcolm wrote his History of Persia about the year 1820, it was worth £1; it since fell to about nine or ten shillings. Twenty rupees make a toman in Herat, which is equal to 6 rupees and 12 annas of India (or about 13s. 6d.). The toman of the Dushtistan is equal to 16 Persian rupees and 1 mahomedi; each rupee, 7 mahomedi; each of which in turn contains 8 pool-e-siah (black money, a certain copper coin); consequently a toman contains 904 pool-e-siah.

TOMATO.

Lycopersicum esculentum.	Liebes apfel, . . . GER.
Pomme d'amour, . . FR.	Pomo d'oro, ... IT.

Tomato or love-apple is a vegetable of easy culture, does not require a very rich soil, succeeds best when trained on horizontal trellises; should be thinned occasionally of superfluous shoots;

shoots; raised from seed; used in sauces and in jams.

TOMBS. The tombs of Muhammadans have usually been of earth, or unbaked brick, but every material is employed, and names even are written on the tombs. The tombstone of a man is distinguished by a raised part in the centre, and that of a woman by a depression. The prevalent form in India of Muhammadan tombs of the wealthy, is a dark or black tombstone with verses of the Koran engraved on it, and covered by a cupola. Some of these are very magnificent. Those of the Adal Shahi dynasty at Bijapur and Gogi have attracted much attention, as also have those of the Bahmani dynasty at Kulburga, the Kutub Shahi dynasty at Golconda, and the Nizam Shahi at Ahmadnaggur. The cupolas at Roza, where Aurangzeb is buried, have not any display, and that of Aurangzeb is the least ostentatious. His daughter's tomb at Aurangabad is magnificent, and many of the tombs at Dehli and Agra are great structures. That of Mumtaz Begum, known as the Taj Mahal, is particularly remarkable. The reformers amongst the Muhammadans consider that unbaked brick or earth should alone be used. In Surat, near the mosque of Mirza Shami in Mulana Chakla, is a tomb constructed in the style of the 16th or beginning of the 17th century. Its windows of perforated stone are of rare beauty. In Sind, the more remarkable tombs are those of Mirza Baki Tur Khan, of Mirza Jani Beg Tur Khan, of Dewan Soof Khan, all on the Mukklee range of hills near Tatta; and that of Nawab Amir Khan at Tatta, and that of Gholam Shah Kullora at Hyderabad, are all remarkable. Gholam Shah's tomb was commenced by himself in 1765 and completed in 1768. It is situated in the northern end of the upper plateau on which the city of Hyderabad now stands. It is built of burnt brick, with glazed tiles in the inside and out. The glazed tiles were made at Nussurpur, 16 miles N.E. of Hyderabad, once a town of great importance when the river Indus ran at its base. The tomb of Gholam Shah is surrounded by a wall 12 feet high, and is now very much dilapidated. The thirteen tombs, the burial-places of thirteen emperors of the Moghul dynasty of China, are famed in China. See Architecture; Sculptures.

TOMICUS MONOGRAPHUS or T. monographica, a beetle of Northern Europe of a very destructive character to felled oak. In 1860–62, it attacked the staves of the beer barrels of the commissariat in Lower Bengal and Burma, and caused much damage and loss by the escape of the fluid. It is of the section Rhyncophora. The soldiers playing on the name called it Tipsy Tommy.

TOMYRIS, the Getic queen of Scythia. Her opponent erected Cyropolis.

TONARENG, a nomade race dwelling in the great desert of Africa, very fair, with long hair, aquiline noses, high foreheads, and thin lips. They say their prayers in Arabic, and speak a Semitic tongue. Their arms consist of a long lance with a broad head, javelins six or seven feet long, with jagged hooks at the pointed end, a round buckler (darega) of buffalo or elephant hide from Soudan, a poniard, and a broad-bladed scimitar. See Semitic Races.

TONDAI-MANDALAM, an ancient name of a tract in Southern India extending from Nellore to the Colerun river, and including North and South Arcot and the Chingleput collectorate. It was arranged in 24 kottam or fortified districts. It is described as having been an ancient wilderness known as the Ramayanum Dandacaranyam, 'the forest of the punisher,' and was inhabited by the Kurumbar, a pastoral and half-savage race, who had their own chiefs, residing in kots or forts. They were conquered by an inroad of the Vellalar from the western portion of the Peninsula in the reign of Adanda Chakravarti, in an age supposed prior to the Christian era. The Vellalar race found the clearance of the forest a task of such difficulty, that some withdrew; and the others who remained had the peculiar privileges conferred on them by Adanda Chakravarti, which are called the Kani-atchi (acre-permanency). These have survived through the political changes of centuries, and are highly valued in a large portion of the old Tondai-mandalam.

TONDAMAN, an independent chief of Tondai-mandalam. The present chief has been honoured by a title from the Viceroy. His ancestor greatly aided the British in their wars against the French. See India; Maravar.

TONGA ISLANDS lie between lat. 17° and 22° S., and long. 172° and 176° W., and consist of six principal islands. They were discovered by Tasman in 1642. The population number about 20,000. The Tonguese are real Polynesians, whilst the Fijians are of Papuan origin. They are also a much handsomer and taller people. In Tonga the women are not allowed to perform hard work; the women of Fiji carry heavy loads, do field work, and go out fishing.—*Galton; D'Ewe's China.*

TONG-KANG —? A boat or junk used in the seas of the Eastern Archipelago.

TONGLO, a mountain in Tonkin, lat. 27° 1′ 8″ N., and long. 88° 3′ 9″ E., in Sikkim, the most southern prominent point of the Singhalila ridge. The top of the mountain is 10,080 feet; the grove at the foot of the peak, with a small pool surrounded by rhododendron trees, is 9891 feet. Barometrical observations, taken simultaneously with those of Calcutta, give the height of Tonglo in Southern Sikkim as 10,078·3 feet. Colonel Waugh's, by trigonometry, 10,070·4 feet,—a remarkable and unusual coincidence.—*Hook. H. J.* i. p. 171; *Herm. Schl.*

TONGUS. The most western of the populations to which this name applies are occupants of the Lower Tunguska; some of whom call themselves Orotshong, and are called by others Tshapodzhir; the men who bear this name tattoo themselves. For the Tongus at large there is no general name, and different tribes designate themselves differently. The Manchu call all the tribes beyond the confines of Manchuria, Orotshong; the Lamut are of the sea-coast. All the Tongus belong to either Russia or China, those of China being the Manchu of Manchuria. The Manchurians, as a body, are perhaps somewhat ruder than the Mongols, and the Russian Tongus somewhat ruder than the Manchu. As a rule, they are Shamanists, and imperfect converts to Christianity, rather than Buddhists.—*Latham*, i. p. 267.

TONI, an Indian canoe, is the hollowed-out trunk of a tree; near Bombay, generally a mango tree.

TONJON, a sedan chair in use in India, open in front and on each side, carried by a single pole on men's shoulders.

TONK, a Native State in Rajputana, ruled over by descendants of the famous predatory leader Amir Khan, the companion in arms of Jeswunt Rao Holkar, who played a conspicuous part in all the dissensions which preceded the British settlement of Malwa. Amir Khan (born 1766) was by connection, habit, and disposition essentially a Pindari. Beginning life as a petty mercenary leader, in 1798 he had become commander of a large independent army in the service of Holkar in the campaigns against Sindia, the Peshwa, and the British, and in assisting to levy the contributions exacted from Rajputana and Malwa. In 1806, Holkar granted to him the State of Tonk, and he had previously received the district of Sironji. In that year, Amir Khan transferred himself and his army to the raja of Jeypore, then at war with the raja of Jodhpur; and, after crushing the latter, he changed sides and reduced the former. Having indiscriminately plundered both countries, he, in 1809, proceeded at the head of 40,000 horsemen (being joined en route by 25,000 Pindaris) against the raja of Nagpur. He was, however, warned off by the British Government, and, returning to Rajputana, his bands plundered the country. Eventually, in 1817, the Marquis of Hastings offered Amir Khan the sovereignty of all the tracts bestowed on him by Holkar, on condition of his disbanding his army, which consisted of 52 battalions of disciplined infantry, 150 guns, and a numerous body of Pathan cavalry. In this Amir Khan acquiesced. His artillery, with the exception of 40 guns, was purchased, and some of his troops enlisted in the British service. The remainder were liberally dealt with prior to disbandment, and the fort and district of Rampura were presented to the nawab by the British Government as a free gift. Amir Khan died in 1834, and was succeeded by his son Wazir Muhammad Khan, who did good service in the Mutiny. He died in 1864. He was succeeded by his son Muhammad Ali Khan. In consequence of abetting a treacherous attack on the relatives and followers of one of the chief feudatories of the State, the Thakur of Lawa, Muhammad Ali Khan was deposed by the British Government in 1867, and his son Muhammad Ibrahim Khan was placed on the musnud.—*Imp. Gaz.*

TONKIN is the cradle of the Cochin-China race, including under this name both Tonkinese and Annamese. Six of its provinces have Saigon for their capital, and up to the year 1883 were designated French Cochin-China. The Tonkinese and Annamese are of the same race, and their original settlement was in Tonkin. They speak the same language, but the pronunciation, and to some extent the orthography, differ, and the same remark is applicable to their respective connection with Chinese. The formation of all three languages is nearly identical, but Tonkinese, Annamese, and Chinese are mutually unintelligible. Three races occupy the peninsula, viz. the Chinese, the Cambojan Malays, and the Mongoloid aborigines, comprising the Moi, Loi, the Laos, and others who are equally connected with the Siamese Shans and with the Miao-tsze, Pai, Lo Lo, Sifan, and other hill tribes, to whom the Chinese have given fanciful and derogatory names. When the Tonkinese moved southwards, they drove these aborigines from the plain country into the hills, and these are now in the ranges to the west and in the kingdom of Tsiam-pa in the S.E. part of the Peninsula, where they occupy the mountains of the province Binh-Thuan, which, in 1883, the French declared annexed. Before the 15th century, both Tonkin and Annam were parts of China; but in the reign of Louis XVI. of France, the French acquired territory there, which has since been called French Cochin-China. Through a prolonged period it was a dependency of the Chinese empire, sometimes as a tributary kingdom, at others as a province of the empire. Tonkin Gulf is an extensive bight formed in the coast between the parallels of lat. 17° and 22° N., and which is rendered a deep inlet by the peninsula of Lui-chew-fu and the island of Hainan, which protect it, and in a great measure enclose it to the eastward. The entrance between Tigu Island and the south-west part of Hainan is about 110 miles wide. The Tonkin river, Thai Sinh, falls into the N.W. side of the gulf, the mouth of its western branch, called the Dornea (probably Sang-koi), being in lat. 20° 50′ N., and long. 106° 39′ E. Cachao, the capital of Tonkin, is about 74 miles up the river. In the entrance of this river there is but one flood and ebb in 24 hours, as occurs at the island of Basselan, near Mindanao, and the other islands in the Eastern Archipelago. The Tonkinese men and women are well proportioned, of an olive complexion, very much admiring the whiteness of the Europeans. Their noses and faces are not so flat as those of the Chinese. They usually wear their black hair as long as it will grow, being very careful in combing it. The common people plait it in tresses, and tie it like a great roll upon the top of their heads. But the nobility, men of law, and soldiers, tie their locks about their necks, that they may not flutter in their faces. They blacken their teeth and suffer their nails to grow, the longest being accounted the finest.—*Everard's Treatises*, p. 17.

TONKIN BEAN, Dipteryx odorata, a native of the woods of Guiana, is an oval, oblong, somewhat boat-shaped seed, one or two inches long, shining, with an oily surface marked with a network of wrinkles; colour purple-brown; odour very fragrant; taste slightly bitter, but very burning and almost caustic. They are employed as a perfume for snuff.—*Faulkner.*

TON-LE-SAP, a great lake in Camboja, 60 miles long when at the lowest, but treble that when the inundation occurs. It contains many fish.

TONS RIVER rises on the northern side of Jamnotri, in lat. 24° N., and long. 80° 30′ E., runs N.W., E.N.E., N., and falls into the Ganges a few miles below Allahabad. Length, 165 miles. It receives the Satni, Behar, Mahana, Belun, and Seoti, including small streams; 13,000 square miles drained. It runs near Sahespur in Dehra and near Ramnuggur in Allahabad district.

TONSURE is practised by many religious orders. Rome has sometimes directed her clergy to cut their hair, and at others to let it grow. The races following Hinduism, the Afghans, Persians, Arabs, and Buddhists, shave their heads in whole or in part.

TOON. TAM. The timber of the Cedrela toona

the Toona maram of the Tamils, a tree which extends over every part of India. The botanical specimens from Nepal having frequently a sixth part added, Dr. Wallich was induced to call that variety Cedrela hexandra. There is, however, a distinct species, Cedrela serrata, which may be readily recognised by the great length of its racemes of flowers, and may frequently be seen with Sapindus acuminatus growing in the close valleys within the Himalaya. The toon tree wood resembles its congeners, Chittagong wood and mahogany, and is much used for furniture all over both Peninsulas. It is of a reddish colour. —*Royle's Ill.; Mason; Holtzapt.*

TOORBUT HYDEREE is the hilly country between Meshed and Herat. Both sides of the high-road to within forty miles of that city were subject to Persia since 1833, and held directly under Meshed. Previous to that period, many petty chiefs, who were robbers, occupied the tract.—*Sir A. Burnes in P. P.*

TOOS and Malidah are loosely-woven flannel-like cloths, very narrow, made of excellent wool, used by the Bhotias, and by the well-to-do natives of N.E. India, as coverlets and sheets.

TOO-TEE, the Chinese god of wealth, or middle heaven; a Chinese festival.

TOOTH RELIC. The sacred tooth of Buddha is in the Mallagawa or Temple of the Tooth in Ceylon. There is much ceremony when this tooth is exhibited, various orders for the opening of the chamber are requisite before the bars may be taken down and the strong box unlocked. The tooth is enclosed in manifold caskets, one within another, becoming richer and more ornamented the nearer they are to the sacred relic. The last two or three are of very fine gold, set with rubies, diamonds, and emeralds; but these, like most oriental jewels, are roughly cut and ill set.—*Frere, Antipodes*, p. 185.

TOPASS, from Topi, HIND., a hat, a person wearing a hat; a Christian of mixed descent, chiefly of Portuguese origin, employed on ship-board as a sweeper.

TOPAZ.

Topase, ... FR.	Zabarjad, ... PERS.
Topas, . . . GER., RUS.	Purperagan, . . SINGH.
Pokhraj, ... HIND.	Topacio, ... SP.
Topazio, ... IT.	Pushiaragum, TAM., TEL.
Ratna champaca, MALAY.	

The topaz of the ancients was the greenish-coloured substance now called peridot and chrysolite. The modern topaz is of a vinous orange colour, without any admixture of green. Topaz is so called from the island of Topazion in the Red Sea. Beautiful topazes of various kinds are found in the Burman dominions and in Ceylon. The topaz is divided by jewellers into two, oriental and occidental. Oriental topaz, ruby, emerald, and sapphire, consist of pure alumina, coloured with oxide of iron, varieties of corundum; and the occidental topaz contains a greater proportion of silex. The pink topaz of jewellers is the Brazilian topaz modified by the action of fire. It emulates the balas in tint and lustre. The colouring process is to envelope the stone, ready cut and polished, in German tinder, fastened with wire, and set on fire, and when fairly burned out, the topaz is found changed into a clear rose colour. One of the pencils being yellow and the other pink, the yellow is discharged by heat, leaving the pink unimpaired. Tavernier mentions (p. 150) that a large topaz was worn by the Great Moghul all the time Tavernier was in India. It weighed 181 rati and half a quarter, or 157¾ carats. It was bought at Goa for Rs. 1,81,000, or 271,500 livres.

TOPE, in Southern India, from Topu, Canarese and Telugu, a grove, usually of mango or tamarind trees. In bygone times these were largely planted throughout India in charity; owing to the diminution of the semi-religious feeling which formerly led to the planting of groves, and partly owing to the increased value of land, such deeds have now become fewer.

TOPE, a sepulchral, memorial monument, the st'hupa of the Buddhists; mound-like buildings erected for the preservation of relics. Such mounds occur at Sanchi, Bharhut, Bhilsa, near Benares, Tirhut, Behar, in Afghanistan, Tibet, Nepal, and Western Asia; also in various parts of S. India. On the demise of the Sakya Gautama Siddharta in B.C. January 543, his body was consumed, and his bones, divided into eight portions, were distributed amongst applicants, who erected st'hupas or topes over them—at (1) Rajagriha, an ancient capital of Magadha or Behar proper; (2) Visali, at Bassalor, north of Patna; (3) Kapilavastu, between Ayodhya and Gorakhpur; (4) Allakappo; (5) at Ramagrama, in the neighbourhood of Gorakhpur, and most probably (Sri-Rampura) the Selampura of Ptolemy; (6) Wetthadipo, most probably Bettiya; (7) Pawa was to the west of Visali, on the high-road to Kusinara; (8) Kusinara, equidistant between Benares and Visali, or in the position of Kusia on the Little Gundak; and (9) another tope was erected at Pipphaliwano, or the place of the charcoal tope, between Kapilavastu and Kusinara. The topes of Kābul and Jalalabad were opened by Messrs. Honigberger and Masson in 1835, and those between the Indus and the Jhelum by Generals Ventura and Court in 1833 and 1834. The topes near Benares were opened by Major Cunningham in 1835, and those at Sanchi and other places around Bhilsa were also opened by him and Lieutenant Maisey in January and February of 1857. Of the largest of the Sanchi group near Bhilsa, a plan and section of the building, with a short account of the various subjects represented in the sculptured bas-reliefs of the gateways, was published by Captain J. D. Cunningham in the Journal of the Asiatic Society of Bengal. In the topes dedicated to the celestial Buddha, the invisible being who pervaded all space, no deposit was made, but the Divine Spirit, who is Light, was supposed to occupy the inferior, and was typified on the outside by a pair of eyes, placed on each of the four sides, either of the base or of the crown of the edifice. Such is the great chaitya or tope near Katmandu, in Nepal, dedicated to Swayambhunath, the Self-Existent, in which the eyes are placed on the upper portion of the building. A specimen of the regular chaitya is represented in the 3d compartment (inner face) of the left-hand pillar of the eastern gate at Sanchi, in which the two eyes are placed one above the other. Such also are the numerous ch'hod-ten in Tibet, which are dedicated to the celestial Buddha, in contradistinction to the dungten, which are built in honour of the mortal Buddhas, and which ought to contain some portion of their relics, either real or supposed. The first, ch'hod-ten, means simply

an offering to the deity; the latter, dungten, is emphatically a bone or relic receptacle. The same distinction is preserved in the Sanskrit terms chaitya and dhatugarba or dhagoba. The former is properly a religious edifice, dedicated to Adi-Buddha, while the latter is only a relic shrine or repository of ashes. The word chaitya, however, means any sacred object, as a tree, an altar, a temple, as well as any monument raised on the site of a funeral pile, as a mound or a pillar. Chaitya may therefore perhaps be only a general term for both kinds of mound; while dhatugarba or dhagoba is particularly restricted to the relic shrine.

The word tope is the same as the Pali st'hupo, and the Sanskrit st'hupa, a mound or tumulus, both of which terms are of constant use in the Buddhist books. St'hupa or tope is therefore a name common to each kind of tumulus, whether it be the solid temple dedicated to the Supreme Being, or the massive mound erected over the relics of Sakya, or of one of his more eminent followers. Tumulus, modo terra tumens, alias sepulchrum (Serv. ad Virg. Æn. ii. p. 713). In the Turkish word tepeh, which the Persians pronounce tappeh, signifying a hillock or small tumular mountain, we may fancy a resemblance to the Greek ταφος (sepulchrum) or ταφη (sepultura), and it is applied (though not exactly in this sense) to some of the sepulchral heaps near Troy.

From several passages in the Pali Buddhistical annals, it would appear that topes were in existence prior to Sakya's advent, and that they were objects of much reverence to the people. Sakya himself especially inculcated the maintenance of ancient chaitya, and the continuance of the established offerings and worship. In the sixth precepts to the people of Visali, the Pasadika Ptolemy, he enjoins them to maintain, reverence, and make offerings to the and to keep up the ancient offerings diminution. Sakya acknowledged the i, Karkutsanda or Krakuchanda, Kanaka, syapa, as his immediate predecessors. had been erected over their relics in the urhood of Kapila and of Benares. St'hupas o been erected over supreme monarchs Sakya's advent, for Sakya particularly his disciple Ananda that over the remains hakravarti raja they build the st'hupa at a where four principal roads meet.

is clear, therefore, that the tope or tumulus common form of tombs at that period. In he tope, as its name implies, is nothing more a regularly-built cairn or pile of stones, which undoubtedly the oldest form of funeral nto. The topes were therefore of three ct kinds—1st, the dedicatory, which were rated to the Supreme Buddha; 2d, the y funereal, which contained the ashes of the d; and 3d, the memorial, which were built on celebrated spots. Of the dedicatory topes, it is improbable that any deposit would have en placed in them, we may plausibly conclude at the largest topes, such as those of Sanchi, tdhara, and Bhojpur, were consecrated to the upreme Invisible Adi-Buddha. Of the memorial opes, little is at present known. It seems nearly ertain, however, that the great Manikyala tope was this kind, for an inscription extracted from it, hich begins with Gomangasa, 'of the abandoned body,' undoubtedly refers to Sakya's abandonment of his body to a hungry lion. This tope therefore dates earlier than the period of Fa Hian's Indian pilgrimage, in A.D. 400. The funereal topes were of course the most numerous, as they were built of all sizes and kinds of material, according to the rank of the deceased and the means of his fraternity. At Bhojpur, the topes occupy four distinct stages or platforms of the hill. The largest topes, six in number, occupy the uppermost stage, and were, it is believed, dedicated to Buddha; that is, either to the celestial Buddha, Adinath, or to the relics of the mortal Buddha Sakya. This view is borne out by the fact that the largest tope contained no deposit, and that the second and third sized topes yielded crystal boxes, one of which, shaped like a st'hupa, contained only a minute portion of human bone smaller than a pea. The gateways of the Sanchi tope belong to the first half of the first century of our era. The Amaravati sculptures are 300 years later than those at Sanchi, but the frescoes in the Ajunta caves are 300 years later than Amaravati, and belong to the time immediately preceding the decline of Buddhism.

The topes at Amaravati, Bharhut, Buddha Gaya, Muttra, and Sanchi have, as a feature of their style, highly ornamental rails. One at Bharhut was nine feet high.

Amaravati, its central dhagoba, was small, only 30 feet to 35 feet in diameter, or about 100 feet in circumference and 50 feet high. Amaravati was visited in the year 639 by the Chinese pilgrim Hiwen Thsang. It had then been deserted for more than a century, but he describes its magnificence in glowing terms. Many of its sculptured slabs had been brought to Madras, which Surgeon-Major Balfour placed in the museum that he founded, and then sent them to England, where they have been erected, with some others since received, on the wall of the great staircase of the British Museum.

Sarnath, a town near Benares, is famed for a Buddhist tope or st'hupa. It contains no relics, and was erected to mark a place where Buddha stayed. It is 93 feet in diameter, built of stones clamped together with iron. It is said to have been destroyed by the Muhammadans, A.D. 1017, before its completion.

Near Bhilsa, a town in Bhopal, are five or six groups of topes—at Sanchi, Sonari, Satdhara, Bhojpur, and Andher. They are in a district not exceeding ten miles E. and W., and six miles N. and S., and are in number between 25 and 30. The chief is the great tope of Sanchi, attributed to Asoka. Some of the topes contain relics of friends of Buddha and of missionaries. The Sanchi tope is 106 feet in diameter, and 42 feet in height. One at Satdhara is 101 feet in diameter. They are the best preserved of all the topes in India. The four gateways or torans of the Sanchi tope are covered with the most elaborate sculptures. The pillars are 33 feet to 35 feet in height. The sculptures generally represent scenes from the life of Buddha when he was Prince Siddharta, also scenes from the Jataka or legends; likewise the worship of trees, of dahgopas or relic shrines, the chakra or wheel, the emblem of Dharma, of Devi, or Sri, who became the Lakshmi of the following Hindu religion. The trisul emblem and the sacred feet are shown, and there are sieges represented, and fighting and triumphs, and others portray

ing men and women drinking and love-making. At Sanchi, most of the women are figured nude, while at Bharhut no figure is entirely nude. The southern and oldest of the gateways of the tope at Sanchi was almost certainly erected during the reign of the first of the Andhra kings, in the first quarter of the 1st century; and the other three topes were erected in the course of that century. The last of the architectural monuments of this dynasty was the completion of the rail at Amaravati, about A.D. 450.

The Sanchi tope numbered 2 by General Cunningham contains the relics of the ten apostles who took part in the third convocation under Asoka, and afterward aided in the spread of Buddhism on the borders of India. No. 10 tope has the relics of Sariputra and Moggilana.

At Sanchi, love-scenes and drinking-scenes are represented, and at Muttra the female figures are nude. Each of the pillars found by General Cunningham when excavating at Muttra is adorned by the figures of naked women in high relief, well executed, richly adorned with necklaces and bangles, and a bead belt or girdle round their middles. Each stands on a crouching dwarf; and above each, in a separate compartment, are the busts of a male and female figure, either making violent love or drinking.

The Bharhut tope has numerous bas-reliefs, all representing some scene or legend, and nearly all inscribed with the names of the principal persons represented, with the title of the Jataka or legend.

About 100 topes have been found at Jalalabad, Manikyala, and in the region from the Indus to Kābul. Manikyala is situated near Jhelum, on the banks of the river of that name, called by the Greeks the Hydaspes. There are many topes there, one of which is 80 feet high, with a circumference of 320 feet. No coin of a Greek prince of Bactria has ever been met with in any of these topes. No coins have been found in any Indian topes; but in all the Afghanistan topes coins are found deposited with the relics. The topes have been examined by Dr. Honigberger (1835), Mr. Masson, Generals Ventura, Court (1833-34), and Cunningham, and were described by Professor Wilson in his Ariana Antiqua. The topes at Jalalabad differ from those of India in being smaller in size, taller in proportion to their breadth, and having a far more tower-like appearance, except the Sarnath example. The largest, at Darunta, is only 160 feet in circumference. This is the usual size of the first-class Afghan topes, the second-class being a little more than 100 feet, and many are much smaller.

These topes or tumuli, it is now admitted, are only cairns regularly built, and this mode of sepulture is supposed to be alluded to in the heaps, and graves, and tombs spoken of in Job xxi. 32, also xxx. 24, and in Jeremiah xxxi. 21; and cairns are still found scattered over all the northern parts of Europe and Asia, and down to Cape Cormorin in Peninsular India. Amongst others, the tumuli of Halyattes, Crœsus, etc., have never been properly excavated, and would probably yield most interesting archæological treasures, and perhaps pay for the work if attempted. Mr. Dennis, English consul, Smyrna, began to excavate the tumulus of Crœsus, but was obliged to stop short of the work. Chiefs of Nakello, in Fiji, were interred in tumuli. The tumuli over the Assam (Ahom) sovereigns are very extensive, and when opened, the remains have been found in massive timber coffins, with gold and silver ornaments, and, outside the coffin, various arms, utensils, and implements of agriculture. The same practice prevailed extensively in America, particularly in Peru. —*Ouseley's Travels*, ii. p. 112; *Cunningham's Bhilsa Topes; Fergusson, Rock-cut Temples; Masson.*

TOPI. HIND. A hat, a skull-cap. In India these are made of many materials and in varied shapes. Topi-jhalladar, a cap with a tassel, jhalla. Topi-wala, literally hat-fellow, a derogatory term employed by natives of India to designate Europeans.

TOP-KHANCHE, a border village on the Grand Trunk road. Chass was, on the old route viâ Hazaribagh, the village where Bengal and Behar on each other gaze, and where the traveller has to pass on from one to the other province. Hence the popular saying of the Hindustanis—

'Jab koi pâr hojâtâ Châss
Tab chhorta nahi ghăr ki âs.'

TOR. PUSHTU. Black. The Tor or Black Tarin, a tribe occupying Pishin; Spin or White Tarin, a Pathan tribe residing in the valley of Zawura, and in the open plains of Tull and Chutialli.—*Latham.*

TORA. HIND. A metal anklet ring of gold or silver. A plain ankle ring or chain-work for the ankle, with or without a fringe.

TORAH. HIND. A number of trays, containing various dishes of food, presented to others by great men, or the dishes set before guests at meals.

TORAMA. Amongst the Tartars, a dish of horseflesh boiled soft, and mixed up with turnips, carrots, and dumplings.

TORAN or Torana. SANSK.
Pailoo, ... CHIN. | Tori, Torii, . .

A capital, an arch, an ornamental arch, a strings of flowers stretched across ro the gateway of the Buddhist and Hindu also the doorway of the relic or memoria st'hupas, usually in the form of an or archway, but some are formed of uprig held together by cross-beams of stone. beautiful of these are at Bijanagar, F Sikri, Gaur, Jaunpore, and Sanchi. The Japan, literally bird-nests, are the sacred g of the temples of the Shin-to sect, and co two upright posts and a transverse beam are the portal over the entrance of the a leading to temples and shrines. The Toran putana is a symbol of marriage, and consists of wooden bars, forming an equilateral tri having the apex crowned with the effigies peacock; it is placed over the portal of the abode. At Udaipur, when the princes of J mir, Bikanir, and Kishengarh simultan married the two daughters and the granddau of the rana, the torans were suspended fro battlements of the tripolia, or three-arched leading to the palace. The bridegroom on hor back, lance in hand, proceeds to break the tor toran-torna, which is defended by the damsels the bride, who from the parapet assail him wi missiles of various kinds, especially with a crims powder made from the flowers of the palasa, the same time singing songs fitted to the occasio replete with double entendres. At length th toran is broken, amidst the shouts of the retaine when the fair defenders retire. The similitude these ceremonies to others in the north of Euro

and in Asia, increases the list of com-affinities, and indicates the violence of rude times to obtain the object of affection; and the lance, with which the Rajput chieftain breaks the toran, has the same emblematic import as the spear which, at the marriage of the nobles in Sweden, was a necessary implement in the furniture of the marriage chamber. We discover in this emblem the origin of the triumphal arches of antiquity, with many other rites which may be traced to the Indo-Scythic races of Asia. The Rajput's toran, in its original form, consisted of two columns and an architrave, constituting the number three, sacred to Hari, the god of war. In the progress of the arts, the architrave gave way to the Hindu arch, which consisted of two or more ribs without the keystone, the apex being the perpendicular junction of the archivaults; nor is the arc of the toran semicircular, or any segment of a circle, but with that graceful curvature which stamps with originality one of the arches of the Normans, who may have brought it from their ancient seats on the Oxus, whence it may also have been carried within the Indus. The cromlech, or trilithic altar, in the centre of all those monuments, called Druidic, is most probably a toran sacred to the sun-god Belenus, like Har or Bal Siva, the god of battle, to whom, as soon as a temple is raised, the toran is erected, and many of these are exquisitely beautiful.—*Northern Antiquities; Tod's Rajasthan*, i. p. 271.

TORCH TREE or Torchwood. In India, Ixora parviflora, *Vahl.*; in Ceylon, a straight dried branch of the Pterospermum suberifolium is used for a torch; it is bruised into loose strips, and it burns freely and steadily. The Sarcocaulon, remarkable in its fleshy stem and spinose leaf-stalks, burns freely like a torch.

TORENIA ASIATICA. *L.* Caela dola, SANSK. A plant found in almost every part of India; is described by Rheede as having the juice of its leaves employed as a cure for gonorrhœa on the coast of Malabar. It has a brilliant purple flower.

Torenia cordifolia, *Roxb.*, Kaka pu, MALEAL., an annual spreading plant; grows on the coasts of Southern India, and is used in medicine.—*O'Sh.; Eng. Cyc.*

TORI. HIND. A vegetable. Bhinda tori, Abelmoschus esculentus; Galar tori, Trichosanthes anguina; Ghia tori, Luffa pentandra; Kali tori, Luffa acutangula.

TORIKA are Japanese officers of noble blood, commanding troops, under the orders of the governors, whom they assist with their advice, and carry out their orders. The doosiu are assistants to the Torika, serve as guards, do duty on board ship and in guard boats. Each of the doosiu is required to maintain a servant. The karoo are stewards. The bugio are civil officers, of rank of two swords, who exercise a controlling power over collectors, interpreters, and other inferior officers.

TORPEDINIDÆ, the torpedo family of fishes, belonging to the order Plagiostomi, and the suborder Raiinæ. Several genera and species occur in Indian waters, viz. :—

Torpedo marmorata, *Risso*, Indian Ocean, Cape, Mediterranean.
T. panthera, *Ehrenb.*, Red Sea.
T. Smithii, *Gthr.*, South Africa.
T. fusco-maculata, *Ptrs.*, East Africa.
T. occidentalis, *Storer.*
T. sinus Persici, *Kampfer*, Persian Gulf,
Narcine Tasmaniensis, *Rich.*, Australia.
N. timlei, *Henle.*, East Indies, Japan.
N. lingula, *Rich.*, China.
Hypnos subnigrum, *Dum.*, Australia.
Astrape Capensis, *Gm.*, Cape, Madagascar.
A. dipterygia, *Bl., Schn.*, Indian Seas, China, Japan.
Temera Hardwickii, *Gray*, East Indies, Penang.

Narcine Indica, Astrape dipterygia, Temera Hardwickii, and Cysteocercus temeræ occur in the Malay seas. Dr. Cantor says large individuals of Narcine are of rare occurrence at Penang, but younger, from 3 to 6 inches in length, are taken at all seasons, and in or out of water they may be handled with impunity. Several species of fishes introduced into a jar filled with sea-water, and containing a large Narcine, showed no consequences from the contact, nor did they appear to avoid the torpedo. The food of this and the other Malayan Torpedinidæ consists of crustacea and testacea. Torpedo, the name of the principal genus, was founded by Dumeril upon the Raia torpedo of Linnæus, and some other species. The space between the head, the pectoral fins, and the branchiæ, is occupied by small vertical hexagonal tubes, which are filled with mucous matter, and largely provided with nerves from the eighth pair. The situation of these honeycomb-like cells, which constitute the electrical apparatus, is indicated on the upper surface by a slight convexity on each side of the head.

Risso described Torpedo narke, T. unimaculata, T. marmorata, and T. Galvani.

TORRENS, HENRY, a Bengal civilian who was Secretary to the Government of India from 1838 to 1845. He died August 1852. He translated the Arabian Nights, Calcutta 1839; wrote an Abstract of Traffic across the N.W. Frontier, in Bl. As. Trans., 1841, x. p. 677, Edin. Phil. Jl., 1841; on Native Impressions on the Natural History of Animals, in Bl. As. Trans., 1849, xviii. 778.

TORRES ISLANDS. The Great Torres Islands are the most western of the Mergui Archipelago, consist of two contiguous islands with some small islets near them, the centre of the western island being in lat. 11° 47′ N., and long. 97° 28′ E. The Little Torres Islands are a group of three or four small straggling isles 9 miles south by east of Great Torres.

TORREYA GRANDIS. *Fortune.* A tree of China attaining a height of about 60 feet, with an umbrella-shaped crown; it produces good timber. T. nucifera, *Sieb. and Zucc.*, the Caryotaxus nucifera, *Zuccarini*, a tree of Japan, height about 30 feet. The nuts yield an oil which is used for food.—*Von Mueller.*

TORRIANO, MAJOR, took the fort of Honore by storm on the 6th January 1783. From the 14th May he defended it against an army of 10,000 men, until the peace of 1784, when, having been reduced to eat rats and cats, on the 18th April he delivered it up, and left for Bombay with a remnant of 238 men, having lost 505 by death and desertion.

TORS. By the natural weathering of rocks exposed to atmospheric vicissitudes, the perishable parts are removed, and the more resisting portions remain. In rocks which manifest peculiar arrangements of joints or natural divisions, the blocks and masses defined by their intersections often appear in cubical, sub-columnar, and other characteristic shapes. To masses more or less characteristic in figure, left by the decay of surrounding parts i

prominent situations, the name of Tor is applied in the granitic tracts of Devon and Cornwall. Tors are of very frequent occurrence in the granitic rocks of Southern India, where, as in Hyderabad in the Dekhan, and in the Ceded Districts, the piled-up masses often are seen assuming the appearances of artificial structures.—*Newbold.*

TORTOISE. In Southern and Eastern Asia, there are about 50 species of land and fresh-water tortoises and turtles, and the more important may be thus shown :—

Sec. A. Cataphracta, Shielded Reptiles.

ORDER, CHELONIA.

Fam. Testudinidæ.

Testudo Indica, *Gmel.*, Galapagos.
T. radiata, *Shaw*, Madagascar.
T. stellata, *Shaw*, Vizagapatam.
T. platynotus, *Blyth*, Bardwan.
T. elongata, *Blyth*, Arakan, Tenasserim.
Homopus Horsfieldii, *Gray*, Afghanistan.

Fam. Geoemydidæ.

Manouria emys, *Gray*, Tenasserim.
Geoemyda grandis, *Gray*, Tenasserim.
G. tricarinata, *Blyth*, Chaibassa.
Cuora Amboinensis, *Daud*, Malacca, Tenasserim.
Cyclemis orbiculata, *Bell*, Burma.

Fam. Emydidæ.

Emys nuchalis, *Blyth*, Java.
E. Hamiltonii, *Gray*, Calcutta.
E. trijuga, *Schweigg*, Arakan, Madras.
E. nigra, *Blyth*, Tenasserim.
E. sebæ.
Tetraonyx Lessonii, *D. and B.*, Calcutta, Tenasserim.
Batagur lineatus, *Gray*, S. E. India.
B. Thurgii, *Gray*, Calcutta.
B. dhongoka, *Gray*, Central India.
B. Berdmorei, *Blyth*, Pegu.
B. ocellata, *Dum.*, Calcutta.
B. trivittata, *Dum.*, Nival.
Pangshura tectum, *Bell*, Calcutta.
P. tentoria, *Gray*, Indus.
P. flaviventer, *Gunth.*, Bengal.
P. Smith, *Gunth.*, Bengal.
Platysternum megacephalum, *Gray*, Martaban.

Fam. Trionycidæ.

Emyda granosa, *Gray*, Calcutta.
E. Ceylonensis, *Gray*, Ceylon.
Trionyx Gangeticus, *C. and V.*, Bengal.
T. Guntherii, *Gray*, Arakan.
Chitra Indica, *Gray*, Hoogly.

Fam. Chelonidæ.

Sphargis coriacea, *Linn.*, Tenasserim coast.
Caretta imbricata, *Schweigg*, Bay of Bengal.
Cayana olivacea, *Escheck*, Bay of Bengal.
Chelonia virgata, *Schweigg*, Bay of Bengal.

Testudo greca inhabits a part of Syria; the T. geometrica, an African species, is found also in the island of Ceylon. Of Trionyx, several species inhabit the rivers of Southern Asia. One has been observed in the Euphrates, which is perhaps identical with the Trionyx of the Nile, also found in Hindustan. The Ganges maintains the T. Gangeticus, peculiar, so far as is known, to that river; another, the T. granosus, which forms the passage to the Emydes, is found also on the coast of Coromandel; while two others, T. stellatus and T. subplanus, have been observed from Bengal to the island of Java. The Trionyx of Japan belongs most probably to the first of these, which would thus be nearly as widely diffused as the Emys vulgaris, of which a local variety is found in the islands of that empire. The other Emydes of the south-eastern portion of Asia are E. tectum, E. megacephala, so characteristic in its heavy or unwieldy form; E. tetrionyx, intermediate between the Emydes and Trionyx, and a native of the river Irawadi; E. Spengleri varieties are known in the isle of France, Ceylon, Penang, Malacca, Sumatra, Java, Borneo, and China; E. couro inhabits China, the southern point of Celebes, and the islands of Penang, Java, and Amboyna; while E. trijuga has been found in Java.

Tortoises are eaten in the Pacific Islands. A small fresh-water tortoise of China, called Luh-mau-kwei, is provided with a growth of green conferval filaments of an inch or more in length. It is kept in bowls and fed on fish and shrimps.

The tortoise is sacred in the eyes of the Buddhists of China, because it is believed to undergo no transformation.

The kites carry to a height the small fresh-water tortoise Emyda punctata of Central India, and drop it so as to break the shell.

Testudo elephantina, the gigantic land tortoise of Aldabra, found only in Aldabra, a small island in the Indian Ocean, N.W. of Madagascar; is now nearly extinct. One specimen, a male, weighed 870 lbs., and although known to have been more than 80 years old, was still growing at the time of its death. Other tortoises of great size occur in the Seychelles Islands. The colossal tortoise, Colossochelys atlas, discovered in the Siwalik tract, is extinct. Ancient mythological conception represents the world as supported on the back of an elephant, itself sustained upon a tortoise. This ancient wide-spread notion (common to the ancient Pythagoreans and the modern Hindus) had in it, before Falconer, an obvious incongruity, in that the greatest land animal of the world was figured as supported on the back of an animal of a size comparatively insignificant. His discovery of the Colossochelys, however, removed this incongruity. For in the very same formations in which it was discovered, relics were also found, identical with the existing Emys tecta; on this ground, Dr Falconer conjectured that human eyes might have witnessed the Chelonian monster alive, and watched its toilsome march. This association together of fossil animals and man as contemporaries was indeed remarkable, as it took place at a time so long anterior to that in which the antiquity of man began to receive attention from men of science generally.—*Siebold, Fau. Jap. Chelonii, per C. J. Temminck and H. Schlegel, in Magazine of Zoology and Botany*, i. 199; *Gunther, Reptiles; Smith, M. M. C.*

TORTOISE-SHELL.

Ecaille de tortue, .	FR.	Sisk, Kurakura,	MALAY.
Schilpad, ...	GER.	Sisik panu, . . .	,,
Kachakra,	GUJ., HIND.	Kulit-panu, . . .	,,
Scaglia de tartaruga,	IT.		

The scales of the turtle are extensively used in the manufacture of combs, snuff-boxes, in inlaying etc. The goodness of tortoise-shell depends mainly on the thickness and size of the scales, and partly on the clearness and brilliancy of the colours. The tortoise-shell of the Eastern Archipelago is considered superior to that obtained from Singapore, the African coast, the West Indies, the Laccadive and Maldive Islands. In Ceylon, at Point de Galle, the marginal pieces of tortoise-shell are used in the manufacture of bracelets and necklaces formed of a chain of shell; those resembling amber in appearance bear a higher price than such as are formed of the darker shell. In Ceylon there is a great demand for tortoise-she

for the manufacture of combs, which are worn by men as well as women among the Singhalese. In the numerous excesses into which English costume has been carried, the size of the back comb worn by ladies has never attained that of the Singhalese men, who also wear a narrow, long bent comb across the fore part of the head. Five pounds is a moderate price for a tortoise-shell back comb, which increases in value according to the size and quality of the shell. Hair-pins of tortoise-shell are worn by the Ceylon women, gold and silver being substituted for full-dress; these hair-pins are among the articles purchased by passengers in the steamboats. Tortoise-shell, termed Sisik panu, literally tortoise scales, is the only part of the turtles held of much value by the natives of the Indian islands. Turtle are found in all the seas of the Malay and Philippine Archipelagos, but the imbricated kind that yields the finest shell is most abundant in those of Celebes and the Spice Islands, as far as the coast of New Guinea. The parties chiefly engaged in their capture are the Baju, maritime hunters of the Archipelago, of whom the turtle is the principal game. These people distinguish four species of sea-turtles, to which they give the names of kulitan, akung, ratu, and boko. The last is the panu of the Malays, and the green esculent turtle, of which the carapace is of no use, the animal being valued only for its flesh to sell to the Chinese and Europeans, for among the Muhammadans it is unlawful food. The three first-named species all yield a marketable shell. The ratu, which signifies king or royal turtle, is said to be of great size, measuring from five to six feet in length, but is not often taken, and the shell is of inferior value. All the finest shell is afforded by the first, the kulitan, the name, in fact, signifying shell-turtle, and is from the karet, Caretta imbricata, the hawk's-bill turtle. The back of this creature is covered with 13 shields or blades, which lie regularly on each other in the manner [illegible] the middle of the back and four [illegible]ich furnish thousand guilders and upwards = £24 per lb. avoirdupois. The feet or noses of the tortoise-shell are only destined for the Chinese market; whenever the two hinder pieces are sound and have the weight of a quarter catty or thereabouts, which is very seldom the case, they may reach the value of fifty guilders and more. The whole shell of a turtle seldom weighs more than three catties, notwithstanding it is asserted that there sometimes occur heads of four and five catties. Tortoise-shells are also sometimes found, of which the shell, instead of thirteen blades, consists of a single undivided blade; the Orang Baju call this kind, which very seldom occurs, lojong or loyong.

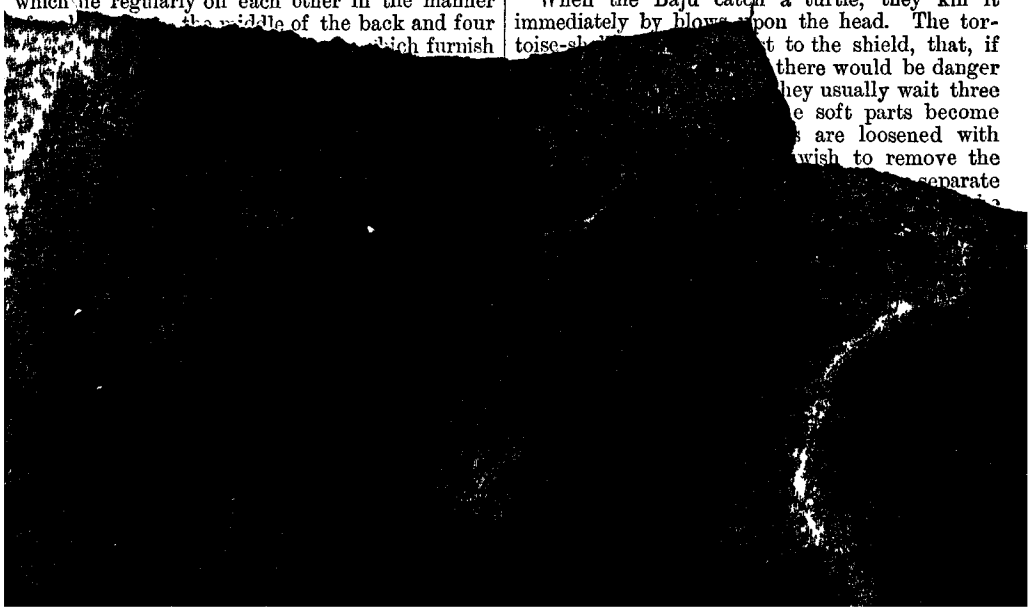
The akung also furnishes tortoise-shell (karet), but the shell being thin, and of a poor quality, much less value is attached to it.

The boko, called panju by the Malays, is the common sea-turtle, which is of no other use than to be eaten. To these sorts the panjubui ought to be added, being the common turtle, with a thick shell, like that of the proper turtle, but of poor quality, and therefore of trifling value; so also the akung-boko, which is distinguished from the common boko by its much larger head.

The ratu, lastly, furnishes a sort which is distinguished by its peculiarly great size, the Orang Baju asserting that it is usually twice as big as the largest tortoise-shell turtle, and therefore five to six feet long and even more.

The Baju catch the turtle by the hadung, the harpoon, and the net; or by falling upon the females when they resort to the strand to lay their eggs, which is almost the only way by which the inhabitants of the coast catch this animal. So soon as they have got the creature in their power, they turn it on its back, when it is unable to recover itself. It sometimes also enters the fishing-stakes.

When the Baju catch a turtle, they kill it immediately by blows upon the head. The tortoise-sh[illegible]t to the shield, that, if there would be danger hey usually wait three e soft parts become s are loosened with wish to remove the separate



M'Gillivray, Voyage, i. 51; *M.E.J.R.; Morrison, Comp. Des.; Crawfurd; Journ. Ind. Archi.*, 1839.

TORTOSA, the ancient seaport of Mount Libanus, is opposite the island of Aradus, the modern Raad. It was from this Tortosa that the wood of Lebanon was conveyed to Phœnicia, whence, for ship-building, it was carried on camels' backs to the Red Sea, and it is this town which the translators of the Hebrew Scriptures have rendered Tarsus.—*Rob.* ii. p. 70; *Catafago.*

TORTURE is perhaps practised in India, unlawfully, more particularly the various modes of compressing and binding the limbs and chest, and burning and branding. The latter practice still lingers throughout the Bengal Presidency, and prints of the chillum and hata are by no means rare. In Afghanistan is a form called squeezing of the head. A leathern strap, made to fit the head and the ends sewn together, has two sticks fixed to its interior sides. It is placed on the head so as to have both sticks facing the temples, after which the executioner begins twisting the strap; the sticks pressing on the temples produce an intense suffering. Another kind of torture is to hammer under the nails thorns and splits of reed. The Dandazani, practised at Benares, consisted in fastening a man's arms behind his back with a cord, which is twisted round by a stick. In Sundrazani, the victim was struck with a double flapper of thick leather. In the Awangilli, the victim had to stand erect with a foot on each of two round pots, so far apart as to render it difficult to retain that portion. — *Calcutta Review*, January 1871; *Elliot.*

TORUD GOPA. HIND. A dye-stuff, said to be prepared from the dung of cows which have been fed on 'keshu,' the flowers of the Butea frondosa. Used in ophthalmia, and to make the 'tika' on the forehead.—*Powell.*

TOSHA. HIND. Double felt of Amritsar; a mattress, a quilt. Tosha-khana, a wardrobe of royalty, a storeroom.

TOTA-KAHANI. HIND. A book containing the tales of a parrot; it is c[illegible]ian Tutinamah. Its original, [illegible] tales, is in Sanskrit.—

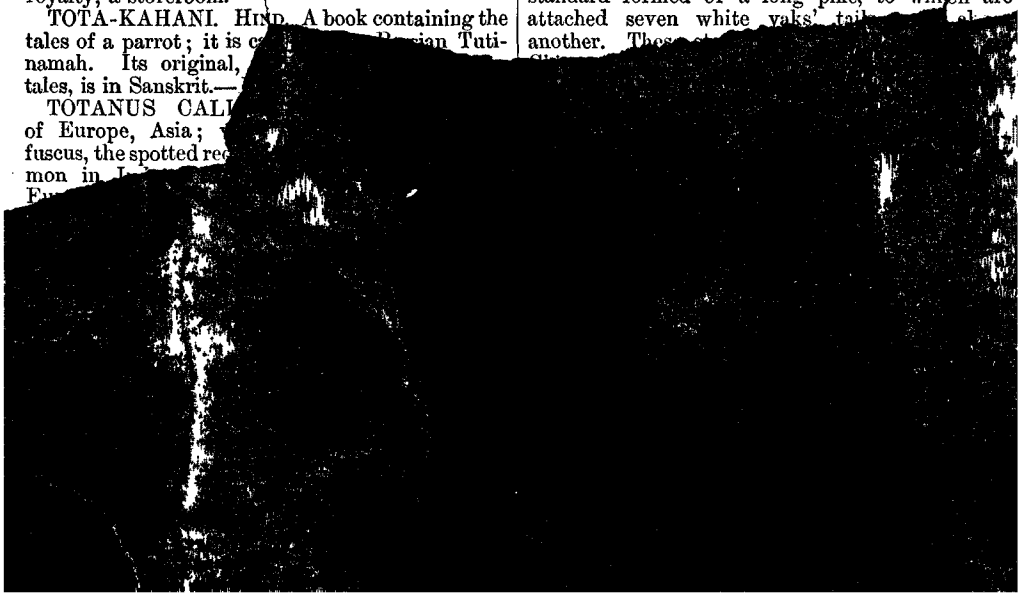
TOTANUS CALI[illegible] of Europe, Asia; [illegible] fuscus, the spotted red[illegible] mon in [illegible]

harems, the nargas, the sosan, the narcissus, the lily, etc., are in common use as names. In Australia, the totem, or, as it is there called, kobong, is almost in the very moment of deification. Each family, says Sir G. Grey, adopts some animal or vegetable as their crest or sign, or kobong as they call it; but it is more likely that these have been named after the families, than that the families have been named after them. A certain mysterious connection exists between the family and its kobong, so that a member of the family will never kill an animal of the species to which his kobong belongs should he find it asleep; indeed, he always kills it reluctantly, and never without affording it a chance of escape. This arises from the family belief that some one individual of the species is their nearest friend, to kill whom would be a great crime, and to be carefully avoided. Similarly, a native of Australia who has a vegetable for his kobong, may not gather it under certain circumstances, and at a particular period of the year. Here we see a certain feeling for the kobong or totem, though it does not amount to worship. In America, on the other hand, it has developed into a veritable religion. The clan name of a Rajput race, Sesodia, is from the hare. So also among the Khonds of India, the different tribes take their designation from various animals, as the bear tribe, owl tribe, deer tribe, etc. The Kol of Nagpur also are divided into 'keeli' or clans, generally after animals, which, in consequence, they do not eat. Thus the eel, hawk, and heron tribes abstain respectively from the flesh of these animals.—*Lubbock, Origin of Civil.* p. 173.

TOTTI, of the Tamil people, is a village servant who waits upon the villagers. The domestic Totti does the humblest part of the house work.

TOTTYAR, a race of Coimbatore, who settled there from the north.

TOU. In the midst of a Tartar camp is a standard formed of a long pike, to which are attached seven white yaks' tail[illegible] another. Thes[illegible]



Philip de Brito y Nicote seized this country in the name of the king of Portugal, and entered into an alliance with Maha-thi-ha-thu-ra-dhamma-raza, but he quarrelled with Nat-sheng-noung-thi-ri-maha-dhamma-raza, and captured Toung-ngu. Pegu was eventually conquered by the king of Burma in 1612, and Toung-ngu never regained its independence.

The population consists of Talaing, Arakanese, Khyeng, Ya-baing. The principal manufactures are silk, saltpetre, and gunpowder. The Ya-baings and Karens rear silk-worms.

TOUNG-THA, children of the hills, of Burma, speak numerous dialects, and worship the deities of the elements, and spirits of the hills and streams.

TOUNG-THU, a tribe occupying the valley of win, from lat. 18° to 20° N. The Toung- dwell between the Sitang and the Salwin, in Amherst Province, and are in their dialect e closely connected with the Yuma languages with the Burman. The Toung-thu has a large arial agreement with Karen, but it has special ties with the Kumi and other Yuma dialects, articularly with the Khyeng. The Toung-thu slamized Chinese, and are said to resemble the mese, but as their dress resembles that of the mese, this may create deception. Those who y a portion of Amherst Province are the people there who understand the plough. as a metal blade. They are esteemed good tors.

UNG-YA. BURM. A form of hill cultiva- arried on by burning the jungles. The -ya of Burma and Arakan is the Dhai-ya Central Provinces, the Joom of the hill of Chittagong, and Kumari of S. India.

UR, Cytisus cajan.

. . . .	CAN.	Tur-dhal, ...	HIND.
pea, . . .	ENG.	Tovaray, purpoo, .	TAM.
dhal, . . .	,,	Kandi papu, . . .	TEL.

s is sown in fields at the commencement of ins in June, and sometimes much later; it e in December. The seeds are sometimes ground into flour, or split like dry peas; for the latter they are an excellent substitute. It is partly sown along with ragi, like bullur, and partly in full in dry lands.

TOURMALINE has many valuable and beautiful forms, amongst them the rubellite of Ava and Siberia. Tourmaline and rubellite are boro-silicates of several bases. Tourmaline is a corruption of the Ceylon name. It varies very much in transparency. On account of its property of polarizing light, it is used largely in the manufacture of polarizing instruments. *Yellow tourmaline* from Ceylon is but little inferior to the real topaz, and is often sold for that gem.

White tourmaline of an inferior quality is often offered for sale in Moulmein under the name of Ceylon diamonds, but they are usually made from green tourmaline by exposing it to heat.

Red tourmaline or *rubellite* occurs in Ceylon, Burma, and Siberia. It is a fine stone, and of great value when free from cracks and flaws. The finest have all the richness of colour and lustre belonging to the ruby.

Yellowish-grey and *hyacinth-brown* varieties are chiefly brought from Ceylon.

Schorl or black tourmaline is found in Madura in great abundance, also in quartz near the mouth of Tavoy river on the east side, and also at the foot of the eastern mountains near the head-waters of the Dahgyaine, north-east of Moulmein. In both places the crystals are numerous, and in Tavoy they are large.

Green tourmaline, when clear and fine, is valuable for gems, and specimens which cannot be distinguished by the eye from beryl are brought with the Ceylon diamonds. Beryl scratches quartz, but tourmaline is scratched by quartz.—*Mason*; *Dana, Mineralogy*; *Bristow, Mineralogy*.

TOUS-LES-MOIS, Canna edulis, *Ker*. Starch from the tubers is commonly used by invalids. The microscopic granules of Tous-les-mois are larger than those of any other starch used as food.

TOWER OF SILENCE is a designation of the elevated structure raised by the Parsees, on which are lodged the remains of their dead. In Bombay, on the N.E. crest of Malabar Hill, are situated two towers of silence. From the Gowalia Tank Road towards the north, a winding avenue leads to the gateway at the top, on which is an inscription that none but Parsees may enter there. The gateway is also reached by a sort of giant staircase, half a mile long, which, starting from the Gaundavi Road, close to Back Bay, comes almost straight up the hill. The grand staircase is shaded by palms and other trees, and it is the route along which the dead are borne. The visitor on passing the portal is in a kind of small court-yard, from which he can only advance by mounting some half-dozen steps. On the right is the Suggree, a low stone building open on all sides, in which prayers are offered for the dead. When the mourners are numerous, they group themselves round the building, see all that goes on within, and take part in the prayers. The dead are never taken within the Suggree. Beyond the garden, on the undulating summit of the hill, looking towards Malabar Point, is the park-like grass-covered tract in which, at irregular intervals, are the towers of silence, where the dead are laid. The towers, of which there are six, are round, and on an average from thirty to forty feet high, and about as much in diameter; one or two are, perhaps, higher. They are built of stone, the walls being some three feet thick, and they are all coloured white. There is no window, and only one door, covering a small aperture about a third of the way up. To this aperture access is obtained by a narrow stone causeway, up which the bier-bearers of the dead alone may venture; no one, except the bearers who are set apart for the purpose, approaches within thirty paces of them. Inside, on the lock pavement, spaces are marked out on which the dead are placed to await the vultures, and pathways are marked out for the bearers to walk upon without defiling the place where their unconscious burdens are to rest.

When a Parsee dies, his body is at once washed and purified, and if there be time, it is carried to the towers before sun-down. If death take place, however, after, say, three o'clock, when there would not be time to gain the towers and pray becomingly before dark, the body is kept till the early morning. Having been rendered undefiled, it is clothed in white, and prayers are offered at the house by the family and friends. None may henceforth touch it. The women of the family take a last look, and the light bier on which it has been placed being covered with a white shrou[illegible] it is carried by the bearers to the hill. No vel[illegible]

can on any account be used; no one must even follow in a vehicle; the whole journey, no matter what the distance, must be made on foot. All who form part of the cortege must have been washed and clothed in white, and to touch any one would be to become defiled. The women in some cases wear mourning—black, but the men never. No woman attends a funeral; the female relatives of the dead always remain at home on that day, but they may and do go afterwards to the garden near the towers to pray.

Carrying the body and following it in procession, holding scarfs passed from one to the other, those forming the cortege wend their way slowly to the foot of the steps leading to the top of Malabar Hill; ascending these, they reach the crest in a quarter of an hour, and the priests go through the sacred ceremonies in the Suggree. When the prayers are over, the body is borne to the foot of the causeway leading to the door of one of the towers. Here the face is uncovered so that all may take a last lingering look; it is covered again, and the form disappears into the tower.

The towers are scattered over a large and park-like enclosure, secluded by its elevation from every eye. Outside the lofty wall which encircles the whole space, there are hundreds of acres of land, partially cultivated, which the Parsees claim, and which, while in their possession, they have carefully kept as a sort of neutral territory between the domain of outsiders' bungalows and that of the towers. What goes on inside, therefore, no one can see; but what happens is this. Some fifty vultures make their abode in the lofty palms within the enclosure; seldom indeed do they go beyond the trees in the rough ground outside the vast compound. There is nothing of a sacred character ascribed to these useful but unclean birds. They are regarded simply as creatures who remove the dead, and the grounds about the towers of silence have nothing of the hideous taint of the charnel-house. A magnificent view bursts upon him who stands on the Suggree steps and looks across the island and the bay beyond. The white walls of innumerable bungalows and public buildings are seen through a forest of palm trees, over the tops of which you see, in the middle distance, the great sea, which is the harbour. Beyond rise Elephanta and other mountain islands; towards the south is the fort, with its public buildings glistening in the sun; while Back Bay with Colaba beyond make up another and only a less beautiful picture.

TOWQ. ARAB. A collar or ring, worn round the neck. See Togha.

TOWYAH. SIND. A grain measure of quantity, ranging from 3¾ lbs. to nearly 7½ lbs. for different grains.

TOXOTES JACULATOR. *Pallas.* The food of several examined, consisted of remains of crustacea. In the Straits of Malacca this fish occurs, but not numerously, at all seasons. It is eaten by the Malays, who record its habits in the denomination ikan, signifying a fish, sumpitan, a blow-pipe.

TOY CART, a Sanskrit play, the Mrichikata, by Kalidasa, translated by Professor Wilson. This play is supposed to have been written by king [S]udraka; over what kingdom he reigned is not [a]scertained with certainty. Professor Wilson remarks in his introduction to the Toy Cart, p. 9, that it may be safely attributed to the period when the sovereign Sudraka reigned, whether that be reduced to the end of the 2d century after Christ, or whether we admit the tradition chronologically, and place him about a century of our era. These specimens of the Hindu drama show how little is the change in the customs of the Hindus since the plays were written.

TOYS.

Spilgoed, ...	DUT.	Mayinan, . . .	MALAY.
Jouets, Bimbelots, .	FR.	Timangan, . . .	,,
Spielzeng, . . .	GER.	Shai-i-bazi, . . .	PERS.
Spielsachen, . . .	,,	Igrushki, ...	RUS.
Rumakra, . . .	GUJ.	Dijes, ...	SP.
Khel, Khelowni,	HIND.	Juguetes de minnos,	
Trastulli, ...	IT.	Bommigal, . . .	T.
Parmayinan, . .	MALAY.	Bommalu, . . .	T.

Playthings for children to amuse themselves.

TRACHILOBIUM HORNEMANNIANUM the copal tree of Zanzibar. The gum cop[al] gum anime from it is found in the eart[h] the east coast of Africa, and often wher[e] copal-yielding trees now exist. Specimens o[f] leaf, flower, etc., obtained from the semi-[fossil] gum, agree in all respects with those of the l[iving] tree. The peculiar and more valuable prop[erties] of the buried gum anime are supposed to be[long] a chemical action, the result of a long retenti[on] the earth.

Copal, called gum anime in the London m[arket] occurs on the E. coast of Africa fr[om] Pan[gani] Mboamaji, and an endless supply is obtai[nable] The whole of the Zanzibar coast produc[es] real copal of commerce. Raw or jackass [copal] is exported in considerable quantities from [Zanzi]bar. The ripe or true copal is valued [for] colour. The clearest and most transparent [pieces] bring the highest prices, after them the [pale] amber, lemon and dark-yellow, and red. S[ome] times the gum, like amber, contains dro[ps of] water, bees, tics, flies, and other insects. [The] diggers do not excavate to the depth of a [man's] waist, and the copal occurs in a red sand underlying blue clay. The Tr. Hornemannianum tree yields now a second-class gum-resin, but the same tree did yield the anime resin which has been buried for thousands of years under the soil, and there been changed. In many cases a change in the level of the land seems to have taken place since the old trees yielding the Sanifariol anime died, for copal is often found in the ground where the tree is now lost or rare.—*Dr. Kirk; Capt. Burton.* See Resins.

TRADES and Tradesmen. Amongst the races in the East Indies many are keen traders, engaging in extensive transactions with distant countries. The Bhattiah, Natha-Kothi, Marwari, and Banya Hindus, the Parsees, the Povinda, Bora, Moplah, and Labbai Muhammadans, the Bugis of the Archipelago, are not surpassed in enterprise by the mercantile men of any race. The trade of the Arabian Sea, Red Sea, the Persian Gulf, the east coast of Africa, and of the Eastern Archipelago has been in the hands of the races of Southern and Eastern Asia from the times that the Buddhist religion prevailed, and the Marwari race, who are of the Jain sect, still pursue it; and it is a proof of the tenacity with which races follow mercantile pursuits, to find the Marwari from the desert of India spread throughout the

country as its great financiers, with transactions in all parts of Asia.

The Bhattiah Hindu race occupy all the great commercial centres from the north of Rajputana to the western coast of India, and to the shores of Arabia and of Africa, as far south as Mozambique, residing there for years together, or as temporary visitors during the trading season. They belong to a Vaishnava sect who follow the teaching of Vallabhacharya. Amongst them are to be found the keenest of traders, and yet the most sensual of voluptuaries; intellects remarkable even among Hindus for acuteness and subtlety; sometimes an obtuseness of moral consciousness which would startle a galley-slave, but in rare exceptions a simple devotion to truth which would do honour to a Christian martyr. Hindu merchants, tradesmen, and artisans of India are mostly all associated in classes, sects, castes, or guilds, who do not intermarry, and seldom eat with others. The blacksmith, goldsmith, coppersmith, carpenter, and stone-cutter are the five artisan castes, komsala or kansala, in contradistinction to the five learned castes. The artisan castes all wear the poitu or sacrificial cord; they do not revere Brahmans, and they carry their dead to the grave and inter them in a sitting posture; the leather-workers' dead are deemed unclean.

Such social customs of the Hindu traders, however, are peculiarities of their respective guilds, and in no way affect their business habits or occupation in their intercourse with the, to them, outer world. For over two thousand years the people who have been dwelling on the coasts of the Arabian Sea, sometimes at one town, sometimes at another, have been actively engaged in commerce with the nations of Western Asia and Europe, and when disturbed by conquering races at one place, they have found shelter at another. The British have only been in India since the 17th century, but in that time three great cities, which had absolutely no previous nucleus, have grown up around their fortresses.

In 1881 Bombay had a population of 773,196; Madras, 405,848; and Calcutta and its suburbs, 684,658. Kurachee, in the year 1840 a small fishing-place, has now 73,560 inhabitants; and in the thirty years from 1852, Rangoon has grown from 25,000 to its present (1881) population of 134,176. India, with a population in British territory and in Native States of 253,891,821 souls, has 3,057,522 mercantile men, general dealers, carriers by land and sea, or engaged in storage; and in Bombay, Calcutta, and Rangoon will be found the representatives of every civilised race on the surface of the globe, all earnestly engaged in trade. That they are largely immigrants is shown by the fact that British Burma, in a population of 3,736,771, has 245,239 more men than women.

The closing years of the 15th century saw Portuguese ships rounding the Cape of Good Hope, and a century later companies began to be formed by European nations for trade with the East.

The Portuguese trade was a royal monopoly. An English E. I. Company was formed in 1600, and a Dutch Company in 1602. There have been six French companies,—1604, 1611, 1615; Richelieu's in 1642, Colbert's in 1644, and Company of the Indies in 1719. A Danish E. I. Company was formed in 1612, and another in 1670; a Scottish Company in 1695, Spain's Philippine Company in 1733, Austria's Ostend Company from 1723 to 1784, and a Swedish Company, 13th June 1731. But it is since 1833, when steamboats began to run in Indian seas, and since Count de Lesseps completed the Suez Canal in 1868, that its commerce has received its chief development, and its foreign trade in the past forty-three years has grown as under:—

	1839-40.	1881-82.
Imports.		
Cotton twist, yarn, and manufactures,	£2,660,000	£23,990,000
Other articles,	3,170,000	25,120,000
Treasure,	1,950,000	11,320,000
Total,	£7,780,000	£60,430,000
Exports.		
Raw cotton,	£1,920,000	£14,940,000
Opium,	1,210,000	12,430,000
Grain of all sorts,	670,000	17,510,000
Other articles,	8,800,000	37,080,000
Treasure,	570,000	1,100,000
Total,	£13,170,000	£83,060,000

China, the other great eastern country with which European and American nations have been trading, has only in recent years been communicating information as to its external trade; and it may be of use to mention here, for future observation, that in the eleven years 1872 to 1882, the values of its imports have been ranging as under, in Haikwan taels, viz.:—

1872,	70,222,000	1876,	72,391,000	1881,	93,884,000
1874,	67,241,000	1879,	84,796,000	1882,	79,715,000

Coal, in 1882,	253,099 tons.	1,220,000	H.T.
Cotton, raw,	178,478 pikuls.	1,917,000	,,
Cotton manufactures,	...	22,707,000	,,
Ginseng,	4,731 ,,	763,000	,,
Metals,	...	4,700,000	,,
Opium,	65,709 ,,	26,746,000	,,
Malwa,	20,335 ,,	13,090,000	,,
Patna,	15,379 ,,	5,958,000	,,
Benares,	15,917 ,,	5,499,000	,,
Others,	5,977 ,,	2,300,000	,,
Sea-weed or agar-agar,	400,106 ,,	1,344,000	,,
Wool manufactures,	...	4,496,000	,,

TRADESCANTIA AXILLARIS. *Willde.*

Nir pulli, . . . CAN. | Gola gandi, . . . TEL.
Baga nella, . . . HIND. |

A native of moist pasture ground, used medicinally. The Tradescantia genus belongs to the Commelynacæ, or spider-wort tribe, natives of America and India; twelve species occur in the East Indies.

Tradescantia discolor, *L'Her*, Rhæo discolor, *Hance*, is known as the oyster plant, as its inflorescence is enclosed in two bracts resembling a bivalve shell.—*Roxb.* ii. p. 118.

TRADE-WINDS blow continuously from one direction, and are so called because of the facilities which they afford to trade by sea. They differ from monsoons, which blow one-half of the year from one direction and the other half from an opposite or nearly opposite direction. There are two trade-winds, the north-east on the north of the equator, and the south-east to the south. Like all winds, these are put in motion by the heat of the sun, and are directed by the daily rotation of the earth. The belt or zone of the S.E. trades is broader than that of the N.E. trades. Its current even crosses the equator, and invades the belt of the N.E. trades, and discharges itself into the region of equatorial calms. Ships *sailing* o[n] the ocean calculate on meeting the trade-wi[nds]

and monsoons in certain parallels of latitude, and sail for weeks with their ropes and sails unaltered. When the N.E. and S.E. trades meet, the equatorial calms are produced, in which constant rain prevails; it is the condensed vapour of the ocean. Trade-winds, in the Pacific Ocean, blow from the N.E. between lat. 9° and 27° N., and from the S.E. between lat. 3° and 25° S. But there is on the polar side of the north-east trade-winds an immense area of arid plains for the heat of the solar ray to beat down upon, also an area of immense precipitation. These two sources of heat hold back the north-east trade-winds, as it were, and when the two are united, as they are in India, they are sufficient not only to hold back the north-east trade-wind, but to reverse it, causing the south-west monsoon to blow for half the year instead of the north-east trade.

The south-east trade-wind seldom blows beyond lat. 10° S. between October and March. In the other months its influence is felt more to the north, but seldom up to the equator, and then so much altered in character that it may be said the zone between 10° S. and the equator is the region of œculian winds and calms. While the sun is south of the equator in January, February, and March, the space does not lie on a parallel, but occupies a diagonal belt from Sumatra to the Mauritius. In April, the winds, as a rule, are very light over all the Indian Ocean, northward of 10° S. This is the period when the great change of season occurs, and the many currents are each striving for mastery.

The Mauritius lies in the S.E. trade-winds, and there the influence of the sun during the day is to double the velocity of the wind, and to impress upon it a more truly easterly direction.

In the trade-wind regions at sea, evaporation is generally in excess of precipitation, while in the extra-tropical regions the reverse is the case, that is, the clouds let down more water there than the winds take up again; and these are the regions in which the Gulf Stream enters the Atlantic. Along the shores of India, where experiments have been carefully made, the evaporation from the sea amounts to three-fourths of an inch daily. The effect of diurnal rotation upon the currents of the sea is admitted by all—the trade-winds derive their easting from it; it must therefore extend to all the matter which these currents bear with them, to the largest iceberg as well as to the merest spire of grass that floats upon the waters, or the minutest organism that the most powerful microscope can detect among the impalpable particles of sea-dust. Investigations show that in the Atlantic Ocean the south-east trade-wind region is much larger than the north-east, that the south-east trades are the fresher, and that they often push themselves up to 10° or 50° of north latitude; whereas the north-east trade-wind seldom gets south of the equator. The peculiar clouds of the trade-winds are formed between the upper and lower currents of air. The zone of the north-east trades extends on an average from about 29° to 7° N. And if we examine the globe, to see how much of this zone is land and how much water, we shall find, commencing with China, and coming over Asia, the broad part of Africa, and so on, across the continent of America to the Pacific, land enough to fill up, as nearly as may be, just one-third of it.—*Maury's Physical Geography.*

TRAFALGAR, a word of Arabic derivation, from Tarf-el-Gharb, the side or skirt of the west, it being the most occidental point then reached by Arab conquest.—*Burton's Mecca*, i. p. 9.

TRAGA. HIND. A self-immolation practised by Bards and Charans, the self-shedding of blood to enforce demands. There has long prevailed in India a practice of hiring a person of a religious class, generally of the Bard or Bhat tribe, to threaten to injure himself unless redress were given. The person so hired threatened to kill or wound himself, or some other person, unless the demand he made were complied with. It has been put down by law. But the practice of traga, or inflicting self-wounds, suicide, and the murder of relations, formed a strong feature of the manners of the people of Rajputana. The practice was common in Kattyawar to the Bhat and Charan of both sexes, and to Brahmans and Gosain, and has its rise in religious superstition; and although tragas seldom wore a very formidable aspect, still they were sometimes more criminal, by the sacrifice of a greater number of victims. The traga ceremony borders much upon the Brahman practice of dharna, but is more detestable. The Charan, besides becoming security for money on all occasions, and to the amount of many lakhs of rupees, also become what is called fa'il zamin, or security for good behaviour, and hazir zamin, or security for the appearance.

Under the equal rule of the British, the practice has seldom been resorted to in their territories. A late instance, however, occurred on the 22d July 1861, at Nuriad, in the Bombay Presidency, on the occasion of the civil power proceeding to levy an income-tax. The Bhat and Charan claimed exemption from all taxation, and their threats being disregarded, they and their women cut and stabbed themselves in their faces, arms, and chests with their katars or daggers; several lost their lives. In 1806, a Bhat named Kunna, of Veweingaon, became security in a large amount to the Gaekwar's Government for Dasajee, the chief of Mallia; to enforce it, the traga of their child was made. A Charan is said to have slain his own mother to deter a chieftain appropriating land belonging to the Charan. Captain M'Murdo says that in 1844 traga was largely used in the country between the Indus and Gujerat.

Shahghassi Nur Muhammad was married to the daughter of Dhai Bibir, who was living when the British forces captured Kalat in 1839; when the town was entered, he put her and his other wives to the sword.—*Masson's Journey*, ii. p. 94; *Colburn's United Service Magazine*, 1861. See Sacrifice.

TRAGACANTH, Gum tragacanth.

Samagh-ul-aswad, ARAB.	Kattira, . GUJ., HIND.
Samagh-ul-katira, . ,,	Tragacantha, . . . LAT.
Gommi astraganti, . FR.	Kurn, ... PERS.
Traganth, ... GER.	Vadomocottaypisini, TAM.
τραγακανθα, . . . GR.	Badam vittu banka, TEL.

The gum tragacanth of commerce is a product of several plants. Tournefort adduced as its source Astragalus creticus of Lamarck, a native of Mount Ida in Crete. Labillardiere describes A. gummifer, a native of Mount Libanus in Syria. Olivier names A. verus, inhabiting Asia Minor, Armenia, and Northern

Persia. In Crete and surrounding islands, this gum is gathered about the end of June from the A. tragacantha. Arab authors describe it by the name kasira or katira, for which, in the north-west and in the Peninsula of India, a katira is substituted, produced by Cochlospermum gossypium, and another in Pegu, according to M'Clelland, by several species of Sterculia. Dr. E. Dickson, when in Kurdistan, collected plants which he ascertained to yield a tragacanth. Dr. Lindley determined that the white or best variety is yielded by A. gummifer, and the red or inferior kind by his A. strobiliferus. Gum tragacanth is largely employed in calico-printing, and it has many uses in the arts and in pharmacy. The finest kind occurs in twisted, vermicular, rounded, or elongated pieces, almost transparent, whitish, brittle, inodorous, with a slightly bitter taste. It is also found in large tears, of a vermicular form, a reddish colour, and mixed with impurities. The vermiform is the variety usually brought to England, while the latter is commonly employed on the continent.—*M'Cul.; Royle; M'Cl.; O'Shaugh.; Ainslie; Waterstone; Faulkner.*

TRAGIA CANNABINA. *Linn.*

Kanchkuri,	DUKH.	Sirru canchuri,	TAM.
Casaghinnie,	SANSK.	Chinna dula-gondi,	TEL.
Kurunduti,	TAG.	Revati dula-gondi,	,,

The plant, belonging to the order Euphorbiaceæ, occurs throughout British India. Its hair stings like that of the common nettle. The dried root has but little taste or smell, though with an agreeable odour when fresh. It is considered as diaphoretic and alterative, and is prescribed in decoction, together with other articles of the same class. An infusion of it is also given in fever.—*Ains.; Roxb.*

TRAGIA INVOLUCRATA. *Linn.*

Bich'huti,	BENG.	Shorigenam,	MALEAL.
Bet-ya?	BURM.	Dustparisha,	SANSK.
Canchorie,	HIND.	Dula-gondi,	TEL.

The hairs sting violently; the roots are given by the Hindu Baid, Vytia, and Vaida herbalists as an alterative for correcting the habit in cases of constitutional cachexia, and in old venereal affections attended with anomalous symptoms. Rheede, speaking of the root, says, 'Conducit in febre ossium, ac servit pro pruritu corporis.' He further adds, 'In decocto data, urinam suppressam movet.'—*Ains.; O'Sh.*

TRAGOPOGON GRACILIS, a plant of the Himalaya mountains; its leaves are eaten like lettuce.

Tragopogon porrifolius, *Linn.*

T. sativus, *Gat.*		Salsify,	ENG.

A plant of the order Matricariaceæ, an excellent vegetable, cultivated for its white roots, which are mild and sweet flavoured; requires culture similar to carrots; held in high estimation by the French. The young shoots are sometimes used as asparagus, which in flavour they resemble. It is raised from seed.—*Jaffrey.*

TRAGOPON, a genus of birds of the family Phasianidæ. T. duvaucelli, *Tem.*, now referred to Pucrasia macrolopha, *Lesson*, the purkhas pheasant of the Himalayas, and T. Hastingii, *Vigors*, is a synonym of Ceriornis melanocephala, *Gray*, the horned monal or Argus pheasant of the Himalayas.—*Jerdon.*

TRAGOPS BENNETTII.

Antilope quadricornis, *Blainville.*

Ravine deer,	ENG.	Chikara,	HIND.
Goat antelope,	,,	Kala-sipi,	MAHR.

The Kala-sipi, or black-tail, so called by the Mahrattas on account of the deep black colour of the tail, is of a bay-brown colour, and has the end of the nose and tail black; the face streaked; chest, belly, and inside of limbs white; the feet are black or brown. It is found on the rocky hills of the Dekhan, and, according to the report of Colonel Sykes, differs from many other antelopes in not being gregarious, there being rarely more than three or four found together in the same company, and not unfrequently a solitary individual.—*Eng. Cyc.* p. 241.

TRAGOSITA MAURITIANA, a beetle from the Mauritius, largely distributed through means of the sugar bags.

TRAI BIDOK and Trai Phum are Buddhist books of Siam. According to the Buddhistic doctrine, matter is eternal; the existence of a world, its duration, destruction, and reproduction, all the various combinations and modifications to which matter is liable, are the immediate result of the action of eternal and self-existing laws. The Trai Phum is much venerated in Siam. It is not an original work, received among the immense collection of canonical Buddhist books called Trai Bidok (in Burman, Bedegat), but a compilation, made in the Buddhist era 2026, A.D. 1784, when the king of Siam, in the presence of his nobles and retinue, proposed a series of questions to the chief hierarch, priests, and learned men, of which they were able to answer some, but some they could not answer.—*Rev. J. T. Jones in Jour. Ind. Arch.* v.

TRANQUEBAR or Tarangambadi, a seaport town in the Tanjore district of Madras, in lat. 11° 1′ 37″ N., and long. 79° 53′ 44″ E. In 1612, a Danish E. I. Company was formed at Copenhagen, and in 1616 their first ship arrived in India. It is said that the captain, Rodant Crape, to effect a landing, wrecked his ship off Tranquebar. He contrived to reach the raja of Tanjore, from whom he obtained land 5 miles long and 3 broad. Tranquebar was taken by the British in 1807, with other Danish settlements in India, but restored in 1814. It was bought by the British from Denmark in 1845, at the same time as Serampur, for a sum of £20,000. Tranquebar was the first settlement of Protestant missionaries in India; was founded by Ziegenbalg and Plutschau (Lutherans) in 1706. The best known of Ziegenbalg's successors was Schwartz (ob. 1798). Six per cent. of the inhabitants are Labbai Muhammadans.—*Imp. Gaz.*

TRANS, a Latin word in use amongst geographers of Europe to indicate a country on the further side of rivers or mountains, as Trans-Indus, Trans-Himalaya. Cis, another Latin word, is used to indicate the countries or region on the nearer side, as Cis-Himalaya, Cis-Indus.

TRANSIT DUTIES, or Sair, were in India exacted by every native chief, and were continued in part by the British Government, but were finally abolished in Lower Bengal in 1836; in the N.W. Provinces, between 1834 and 1836; in the Bombay Presidency, in 1837; in Madras, in 1844; and in other parts on their subsequent acquisition. Several of the native princes followed

example. The net revenue abandoned in Madras was £310,000 annually.

TRANSMIGRATION of the soul is believed in by all Buddhists and all Hindus. The Egyptians maintained that, after death, the immortal soul migrated into the bodies of birds, beasts, or fishes, and other animals, and that the gods took refuge in the bodies of animals, from the wickedness and violence of men. Pythagoras, and after him Empedokles, adopted these doctrines, and, according to Heraclides, Pythagoras used to say of himself that he remembered not only what men, but what plants and animals, he had passed through. Pythagoras also said he remembered that he had inhabited four bodies, and it is he to whom Virgil alludes in the lines—

'Ipse nam nemini, Trojani tempore belli,
Penthoides, Euphorbus, eram.'

Empedokles likewise declared of himself that he had been first a boy, then a girl, then a plant, a bird, and fish.

The Greeks and Celts worshipped Apollo under the title of Carneios, which, according to Theocritus, is derived from Carnos, who, having prophesied the misfortunes to the Heraclides in their inroads on the Peloponnesus, one of them, called Hippotes, slew him. One of the titles of Krishna, the Hindu Apollo, is Carna, 'the radiant,' from Carna, a ray; and when he led the remains of the Hericula in company with Baldeva (the god of strength) and Yudishtra, after the great international war, into the Peloponnesus of Saurashtra, they were attacked by the aboriginal Bhil, one of whom slew the divine Carna with an arrow. The Bhil claim to be Hyvansa, or of the race of Hya, whose chief seat was at Maheswar on the Nerbadda. The assassin of Carna would consequently be Hyputa, or descendant of Hya. As Krishna lay dying, he bid the Bhil not to be distressed, as he (Krishna) had slain the Bhil in a former birth.

The Bards of the martial Rajput races say that there are two distinct places of reward, the one essentially spiritual, the other of a material nature. The Bard inculcates that the warrior who falls in battle in the fulfilment of his duty, 'who abandons life through the wave of steel,' will know no 'second birth,' but that the unconfined spark (jote) will 'reunite to the parent orb.'

The doctrine of transmigration through a variety of hideous forms, may be considered as a series of purgatories. The aim of a Hindu's life is to make sure that it be the last of him. For it is virtual, if not defined and acknowledged, annihilation that the Hindu strives after; it is the destruction of consciousness, of individuality, of all the attributes and circumstances which make up what we call life.

In Buddhism, one of the established laws is the belief in metempsychosis, or the migration of the souls of animated beings.

The traditions of the Buddhists of the present day claim for Sakya, the Buddha, a recollection of 510 migrations.

In the Tibetan Buddhist creed, the doctrine of transmigration is shown, and final absorption into Buddha is put forward as the reward of a virtuous life. There has been some misapprehension regarding the Buddhas and Bodhisatwas, the [illegible]eneration of the Grand Lama being considered [illegible]n exceptional case of a Buddha returning amongst mankind. Mr. Hodgson truly calls the divine Lamas of Tibet Arhanta, but he believes that a very gross superstition has wrested the just notion of the character to its own use, and so created the 'immortal mortals, or present palpable divinities of Tibet.' In the Nouv. Jour. Asiat. xiv. p. 408, ii., Fra Orazio says that 'Lama sempre sara coll' istessa anima del medesime Ciangc'iub, oppure in altri corpi.' Remusat was not aware of this fact when he stated 'les Lamas du Tibet se considerent eux-memes comme autant de divinités (Bouddhas) incarnées pour le salut des homes.' But the explanation which Major Cunningham received in Ladakh, which is the same as that obtained by Fra Orazio in Lhassa, is simple and convincing. The Grand Lama is only a regenerated Bodhisatwa, who refrains from accepting Buddhahood that he may continue to be born again and again for the benefit of mankind. For a Buddha cannot possibly be regenerated, and hence the famous epithet of Sathagatha, 'thus gone,' and Sugata, 'well gone,' or gone for ever.

Tibetans believe in six forms in which a living being may be re-born, viz. Lha, TIB., Deva, SANSK., spirits or gods; Mi, or men; Lha Mayin, or evil spirits; Dudo or Johsong, brutes, beasts; Yidaga, imaginary monsters; and as the inmates of Nyalba or hell, or Naraka. All Hindus believe in the transmigration of souls. The fact of transmigration none of their systems dispute; it is allowed by all; as a man casts off his old garments, and puts on new ones, so that soul having left its old 'mortal frame, enters into another which is new.' This is based on the philosophic belief that the soul has a separate existence. There are, however, various opinions.—*Oriental Linguistic Studies; Hodgson; Sonnerat's Voyage; Cunningham, Bhilsa Topes; Elphinstone's India; Bunsen's Egypt; Tod's Rajasthan; Tennent's Christianity.*

TRANSOXIANA, literally beyond the Oxus, is the Mawar-un-Nahr of the ancient Arab writers. It consists of the northern half of the tract of country vaguely known as Central Asia, is chiefly a plain country extending from those eastern chains of hills, which, as the extreme spurs of the Tian-Shan, reach nearly to Samarcand, and sink with a rapid declension down to the shores of the Caspian Sea. With the exception of a few table-lands, and some bits of hard clay or loam, —called by the inhabitants Takin or dry, barren country,—the soil consists chiefly of black or yellow sand, and the only land really fit for cultivation is that lying on the slopes of the hills or on the banks of rivers and canals. In spite of this, the fertility of Bokhara and of the two other khanates has passed into a proverb, for their products are both excellent and various, and owe their source to the Zar-afshan river.—*Vambery's Bokhara*, p. 31.

TRAP, in geology, is a term applied to older volcanic rocks which have flowed over or between other rocks, assuming the form of stairs (Trappa, Sw., a stair), and distinguished as eruptive trap, overlying trap, interposed trap, and trap-dykes. Trap, in its mineralogical structure, is of augite, hornblende, or basalt. The greatest outburst of trap in the world is that which was first described by Colonel Sykes as the trap formation of the Dekhan. It extends from Nemuch, in lat. 24° 27′ N., to the banks of the Kistna, over an area of 250,000 square miles.

In Central India, volcanic trap-rocks are observed

to spread east and west from Nemuch in the form of basalt, basaltic greenstone, greenstone, and greenstone amygdaloid, and southwards by Ujjain and Saugor across the Vindhya, assuming the structure of columnar basalt in the steep descent to the Nerbadda. Crossing this river, the trap is seen to spread over all the Aurangabad province down through Kandesh and the Konkan to Bombay, and southwards to Malwan, in lat. 60° N., its southern limits being observed south of Punderpur, through Bijapur to the right bank of the Kistna, in the valleys near Homnabad, where it is found beneath, but never penetrating the laterite hills south and east of Beder, and at Maharajapetta, 30 miles west of Hyderabad. The eastern edge of this vast tract of trap-rocks, after crossing the Nerbadda to the south, skirts the town of Nagpur in Berar, passes Nandeir, and to the westward of the city of Hyderabad to its southern limit, just mentioned. South of this, as well as to the eastward, the trap only appears as great dykes, from fifty to a hundred yards broad, which run east and west parallel with each other. These dykes can at places be traced for 150 miles, bursting through the granite and other rocks, tearing the highest of the hills asunder, and filling the chasms and crevices with its dark and compact structure. In these dykes the elements of the trap-rock assume a variety of appearances,—greenstone, porphyritic greenstone, basaltic greenstone, hornblende rock, and basalt. They are particularly numerous in Hyderabad, the Balaghat, Ceded Districts, Carnatic, and Mysore, almost to the southern cape of the Peninsula, and, with very rare exceptions, run due east and west.—*Colonel Sykes; Carter's Geology; Barometrical Sections.*

TRAPA, a genus of plants belonging to the sub-order Trapeæ (Hydrocaryes, *Link.*), the water-nut tribe of plants. There are 5 species in Europe, Siberia, East Indies, and China. In some parts of India, great care is taken to preserve the seed for planting the following season, which is done by treading it into the beds of tanks and such places. The fruit is fit to be taken at or about the close of the rains. In China, the kernel is used as an article of food, being roasted or boiled like the potato. Mr. Fortune saw three distinct species or varieties, one of which has fruit of a beautiful red colour. Loureiro mentions T. Cochin-Chinensis, Siebold describes T. incisa, and Roxburgh T. quadrispinosa, from Sylhet.—*Fortune; Royle; Jaffrey; O'Sh.*

TRAPA BICORNIS, *Roxb.*, Ling-koh, Ling, Link, CHIN., grows abundantly in the lakes and ponds of Hu-peh, in China. It is distinguished from T. bispinosa by its two horns being recurved and very obtuse. In China, the fruits of Trapa bicornis are much sought after as food.—*Roxb.*

TRAPA BISPINOSA. *Linn.*

Singhara, . BENG., HIND.	Gaunri, ... PANJ.
Ling, ... CHIN.	Seringata, . . SANSK.
Two-spined water caltrops, ENG.	Parike gadda, . . TEL.
	Pandi gadda, . . ,,
Pani-phal, . . . HIND.	Kubjakam, . . . ,,
Karim-polam, MALEAL.	Sringa takamu, . ,,

This grows in both Peninsulas of India, in Bengal, Peshawur, Kashmir, the Panjab up to 5000 feet, in Nepal and China. Its flowers are small, white, flowering in May and June, fruiting in the cold season. Its fruit is sold in the bazar and eaten by the natives, and in China, the Panjab, Kashmir, and Gujerat it forms an important article of food. During the Holi festival, its flour is mixed with a dye procured from the flowers of Butea frondosa. The fruit in flavour resembles a chesnut, is eaten both raw and cooked, especially by the Hindus of N.W. India, as it is phalahar, *i.e.* may be eaten in their fasts. It abounds so much in starch, that it may be easily separated from the seeds. In Kashmir, miles of the lakes and marshes, etc., are covered with this plant. Moorcroft states that in his time in the valley it furnished almost the only food of at least 30,000 people for five months of the year, and that from the Wular lake, ninety-six to one hundred thousand ass-loads were taken annually, the Government drawing 90,000 rupees duty on it, and maharaja Ranjit Singh got more than a lakh of rupees from this plant. In the N.W. Provinces, the cultivation of the species is extensively carried on by the Dhimar castes, who are everywhere fishermen and palanquin-bearers, who keep boats for planting, weeding, and tending this water crop. The holdings of each cultivator are marked out in the tank by bamboos, and they pay so much an acre for the portion they till. The rent paid for an ordinary tank is about Rs. 100 a year, but Rs. 200 or 300 are paid for a large tank. But the plants cause such an increase of mud, that a tank is quickly spoiled by them, and the cultivation is not allowed where the tank is required as a water reservoir. When the tanks become dry in May or June, the nuts or bulbs are gathered into a small hole in the deepest part of the tank, and when the rains commence each shoot is broken off, wrapped in a ball of clay, and thrown into the water at different distances. They at once take root and grow rapidly, and cover the surface of the water with their leaves; their fruit ripens in October. The yield of a standard bigha is 2½ man = 205 lbs. 15 oz., which sell at 10 seers the rupee. The deeper the water the better the crop. Green singhara sells at one maund of 24 seers per rupee, and dry at 18 seers per rupee. Singhara flour sells at 8 and 10 seers per rupee. The produce of one seer of seed in a good season is about 20 maunds. The water-nut is as regularly planted and cultivated under a large surface of water, as fields of wheat or barley on the dry plains. The long stalks of the plants reach up to the surface of the water, upon which float their green leaves; and their pure white flowers expand beautifully among them in the latter part of the afternoon. The nut grows under the water after the flowers decay, and is of a triangular shape, and covered with a tough brown integument adhering strongly to the kernel, which is white, esculent, and of a fine cartilaginous texture. The nuts are carried often upon bullocks' backs two or three hundred miles to market. They ripen in the latter end of the rains, or in September; and are eatable till the end of November.—*Roxburgh; Voigt; Sleeman's Indian Official*, i. p. 102; *Powell; Stewart.*

TRAPA NATANS. Fau-ling, CHIN. This European species grows also in China. It is remarkable for its fruit with four spines, being of a blackish colour and large size; its seed is good to eat, whether raw, roasted, or in soups, and is somewhat like a chesnut in taste. It was known to the Romans by the name Tribulus. Pliny says (lib. xxi. c. 58), 'About the rivers Nilus and

Strymon, the inhabitants gather it for their meat.' —*Eng. Cyc.; Fortune; Honigberger.*

TRAPA QUADRISPINOSA. *Roxb.* This plant is grown in Sylhet, and its fruit is like that of T. bispinosa, *Roxb.* T. tricornis is the Ki-shih of the Chinese.

TRAP TREE, a species of Artocarpus which furnishes the gutta used as birdlime. The fibre of the bark is used at Singapore for fishing-lines, cordage, and nets.—*Royle.*

TRAP-TUFFA. A variety of this rock, sometimes white, sometimes greenish or purple, found in Bombay and many other parts of India, resembles laterite in the quality of being easily cut when raised, afterwards hardening on exposure to the air. It is used as a building-stone, and suits well for basins, troughs, and aqueducts; it is not very extensively employed.

TRAVANCORE, a principality in the extreme S.W. part of the Peninsula of India, ruled by a maharaja of the Kshatriya race. At the close of the 17th and commencement of the 18th century, the present territory was under several petty chiefships called Etadda Pulleymar, the capital of one of which was Tiruvancod, between Udiagherri and Anjengo. The present race of ruling sovereigns claim descent from Cheraman Perumal, who was reigning in the south about A.D. 352. During the 16th and 17th centuries they continued steadily to suppress the smaller states, the last of which were swept away by Wanji Perumal, who reigned from 1729 for 30 years.

No authentic history of Travancore in early times is extant; but tradition states that the whole Malayalam coast was reclaimed from the sea by Parasurama, and colonized by certain Brahmans, known as Namburi, whose rule, after lasting for a considerable time, terminated in B.C. 68. The Brahmans then elected Kshatriya chiefs to rule for periods of twelve years. This system of electing a new ruler every twelve years lasted for four centuries. The last and greatest of these rulers, Cheraman Perumal (Viceroy of Chera kings), at his death divided his dominions among his vassals.

Travancore is also called Veynad, also Tirupapur Swarupam; the eastern coast people call it Kerala, also Malealam; and it is also called Kurma Bhumi, in contradistinction to the east coast, which is styled Jnana Bhumi, also Punnea Bhumi. The uterine brothers of the maharaja are designated princes by the British, with the honorific prefix of Highness. There are ten titular designations in that kingdom, all hereditary; they are suffixed to the names of the persons holding them. The revenue in 1877–78 amounted to Rs. 55,26,199, of which the land revenue furnished Rs. 16,32,012, and the customs Rs. 12,26,661. The tenures by which lands are held are Janm, Madambimar, and Sirkar. The Janm is a hereditary freehold, but lapses on sale to the Government. The Madambimar are freehold, but held at raja bogum or sovereign's pleasure.

Travancore was overcome by Tipu in December 1798, but he withdrew from it on learning the approach of Lord Cornwallis to Seringapatam. From that time until 1808 there were internal dissentions, but in that year a war broke out against the British, which was suppressed, and in 1811 the Resident, Colonel Munro, assumed the duties of a Dewan, until 1814.

There are several seaport towns, but Anjengo and Tanguncherry belong to the British. The Perriar is the finest river in all the western coast. It is navigable for small craft for sixty miles, but during the dry season its mouth is closed. There is a succession of marine lagoons connected by navigable canals extending for 200 miles along the Travancore, Cochin, and British coast, from Chowghat to Trevandrum, and to connect these, after the middle of the 19th century, the Travancore State began to cut through a promontory 6 miles in breadth.

It is a fertile, well-watered country. The raja resides at Trevandrum. The main chain of mountains runs southward for 150 miles to Cape Comorin, with occasional deep depressions, and terminates in a bold, precipitous mass 3000 to 4000 feet high, within three miles of the cape itself. They are loftiest at the extreme north of the district, where they stretch east and west for sixty to seventy miles, separating the districts of Dindigul and Madura, and rising into peaks of 8000 to 9000 feet, which overhang the plain of Coimbatore, and they retain an elevation of 5000 to 6000 feet throughout their extent to the southward. The southernmost peak of note is the sacred Agasteshwara Malai, the source of the Tambraparni river. At the head of the Travancore Hills stands Anaimudi (8837 feet), the highest peak south of the Himalayas, and near it are several other peaks of 8000 feet. South of this group is the lower region of the cardamom hills; even south of this, although the hills become low and narrower, the country is thinly inhabited almost to Cape Comorin. Here, on the Parnlai and Kodai, there are anicuts constructed by Pandiyan kings. There are eighty-two distinct castes in the State, including subdivisions, and Brahmans amount to about one-fiftieth part of the whole population, the Sudras forming nearly one-third of it. The agricultural class amount to about three-fourths of the entire population. 83 per cent. of the population speak Malayalam, 17 per cent. Tamil.

Travancore shares with Malabar the Marumakkatayam law of descent, and its many peculiar customs, social and religious. Among the Namburi Brahmans the eldest son alone marries and inherits; the other children have no claim to the family estate or a share of its produce. Their girls remain unmarried to any age, and even die unmarried. Nair girls are all married formally when children; but when they grow up they may choose men either of their own or the Brahman caste, and live with them, and the titular husband has no claim. The succession among the Nairs, as in Malabar, follows the line of sisters, and children by the sisters. A man without a sister is without a legal heir, and must adopt a sister to perpetuate the family. The succession to the throne of Travancore is governed by the same law, though the maharaja claims to be a Kshatriya. The children of a Nair are therefore heirs to their maternal uncle, performing the religious rites at his decease, and succeeding to his estate. The Namburi and Nair are very cleanly, and bathe several times daily. The Brahmans burn their dead, but the Nairs bury or burn their dead, according to the custom and means of each family. The burning or burial in all cases takes place in some corner of their own gardens. The tuft of hair, which among the people on the east coast is worn

on the back of the head, is here worn on the crown, and allowed to hang forward. There is the utmost liberty of conscience, and many immigrants. The native Christian population consists of 63 per cent. Syrians, part Roman Catholics of the Syrian rite, and the rest Nestorians; Roman Catholics of the Latin rite, 24 per cent.; the remainder Protestants. The large Christian population is a distinctive feature of the country. The Syrian Christians date from the earliest centuries of our era; the Roman Catholics of the Latin rite are the result of the European missions of the Jesuits and Carmelites during the last 300 years.—*Imp. Gaz.*

TRAVELLER'S TREE of Madagascar, Ravenala Madagascariensis, *Sonnerat.* Its leaves are about 15 feet long.

TREBECK, GEORGE, a companion of Moorcroft, died at Muzar, a town of 500 houses within the limits of the khanate of Balkh. He left a favourable impression amongst the people of the countries through which he passed. Moorcroft set off on his journey at the end of 1819.—*Moorcroft's Tr.* i. p. 24.

TREBIZOND is said to have been founded B.C. 707 by a colony from Sinope, the capital of Pontus. It derived its wealth from the munificence of the emperor Adrian. It was taken and pillaged in the first expedition of the Goths from the Ukraine in the reign of Valerian. Trebizond dates are the fruit of Elæagnus orientalis, *L. f.*, used in Persia as dessert.—*Vigne*, i. p. 6.

TREE.

Shajr, ...	ARAB.	J'hara, ...	GUJ.
Nakl, ...	BENG.	J'har, ...	HIND.
Murut . . of	BORNEO.	Puhn, ...	MALAY.
Guas, IDAAN of	,,	Mara, . . .	MALEAL.
Keioh, KAYAU of	,,	Darakht, . . .	PERS.
Pokoh, MALAY of	,,	Vrukchum, . .	SANSK.
Basoh, MILANAU of	,,	Gass, Gaha, . .	SINGH.
Bin, ...	BURM.	Maram, Cherri, .	TAM.
Tung, ...	CHIN.	Chettu, Manu, .	TEL.

Age.—The ancient cypress tree of Soma in Lombardy is said to have been full grown in the time of Julius Cæsar. The oak of Ellerslie, the conqueror's oak in Windsor forest, and the cedars of Lebanon, the baobabs of Senegal, the dragon tree of Orotava, the Wellingtonia of California, and the chesnut of Mount Etna, have all been famed. The Wellingtonia rises 300 feet high, has a girth of 30 feet, and one of them was estimated to be 6000 years old.

An 'if' at Fortingall in Scotland is said to be 3000 years old. A tree at Foullebec on the Eure, in France, when measured in 1829, appeared to be 1100 or 1200 years old. The yew trees of Fountain Abbey are believed to be 1200 years old. The olives in the garden of Gethsemane were full grown when the Arabs were expelled from Jerusalem. Rashid-ud-Din, writing A.D. 1310, mentions the existence of a tree at the confluence of the Jumna and the Ganges, which is still there, enclosed by part of the fortifications. The planting of the Bo Tree in Ceylon, a ceremony coeval with and typical of the introduction there of Buddhism, is one of the most striking passages in the Mahawanso; and a tree of unusual dimensions, which occupies the centre of a sacred enclosure at Anaradapura, is still reverenced as the identical one which the sacred books record to have been planted by Mehinda 307 years before the Christian era, consequently in the year 1900 it will be 2207 years old. So sedulously is it preserved, that the removal of a single twig is prohibited; and even the fallen leaves, as they are scattered by the wind, are collected with reverence as relics of the holy place. On the altars at the foot of these sacred trees the Buddhists place offerings of flowers, and perform their accustomed devotions. Another account says, it was planted in the 18th year of the reign of king Devenipatissa, or B.C. 288. A Bo Tree is to be seen within the precincts of every Buddhist temple in Ceylon; one is frequently met with in deserted localities, or near the sites of ancient villages; but the occurrence of a solitary Bo Tree, with its circular buttress of stonework round the stem, indicates the existence, at some former period, of a Buddhist temple. It is the Ficus religiosa.

Mythic.—The tree which stood 'in the midst of the garden of Eden,' was emphatically styled 'the tree of life,' and another 'the tree of knowledge of good and evil.' It was under the oak of Mirah that Joshua (Joshua xxiv. 26) set up the great stone containing the written law; the oak near Bethel which marked the grave of Deborah (Genesis xxxv. 8) was significantly called Allon-bachuth; the palm tree (Judges iv. 5) under which another Deborah, the prophetess, dwelt; the oak under which sat 'the man of God' (1 Kings xiii. 14); the oak in Ophrah under which the angel of God appeared unto Gideon, and conversed with him; also the humble bush in which the Lord revealed himself to Moses in flaming fire on the mountain of Horeb (Exodus iii. 2). We read also in Genesis xviii. 1 that the Lord appeared unto Abraham in the oaks or at the oak of Mamre, for so the Hebrew text and the Greek Septuagint (προς τη δρυι τη Μαμβρη) exhibit what in the English text is rendered 'the plains of Mamre.' Abraham's terebinth at Mamre is mentioned by Eusebius to have been worshipped down to the time of Constantine, and is said to be still growing at Eshcol. Abraham planted a grove at Beersheba, to be witnesses to a solemn covenant and to constitute a sacred open-air temple. The trees have perished, but the wells he excavated are still called after him.

The Asherah, rendered groves in 1 Kings xviii. 19, 2 Kings xxiii. 7, was a wooden phallus. Amongst the Celts, the wychelm, elder, and mountain ash seem to have been regarded as possessing occult powers; and the date, pine, cedar, cypress, sycamore, banyan, Bo Tree, the oak of the Druids, the misletoe, the great ash tree Yggdrasil of the Celts and Teutons, the box, and the white thorn, have all been objects of reverence. Amongst the Romans, trees were consecrated to particular divinities (Virg. Ecl. vii. 61):

'Populus Alcidæ gratissima; vitis laccho,
Formosæ myrtus Veneri; sua laurea Phœbo.'

In Pliny's Natural History (lib. xii. cap. 1, 'de arborum honore') we read, 'Arborum genera numinibus suis dicata perpetuo servantur; ut Jovi esculus, Apollini laurus, Minerva olea, Veneri myrtus, Herculi populus,' etc. Wreaths and fillets, and chaplets or garlands, were often suspended from the sacred branches; whilst among some nations the practice prevailed of staining trees with blood which had just flowed from the expiring victim, not unfrequently human. Lucan gives a description of the sacred wood near Massilia or Marseilles (Phars. iii.):

'Lucus erat longo nunquam violatus ab ævo,
Omnis et humanis lustrata cruoribus arbor,' etc.

Ovid mentions (Metam. lib. viii. 689) the wreaths hanging from a sacred tree, and the addition of recent offerings:

——— 'equidem pendentia vidi
Serta super ramos; ponensque recentia dixi,' etc.

And his story of Eresicthon (Metam. lib. viii.), who impiously violated the ancient woods of Ceres, cutting down her sacred oak, which was in itself equal to a grove, and hung round with garlands, fillets, and other votive offerings:

'Ille etiam Cereale nemus violasse securi
Dicitur, et lucos ferro temerasse vetustos.
Stabat in his ingens annoso robore quercus,
Una, nemus; vittæ mediam, memoresque tabellæ!'
'Sertaque cingebent; voti argumenta potentis.'

Statius (Theb. lib. ii. 736, etc.) records a vow, promising that an hundred virgins of Calydon, who ministered at the altars, should fasten to the consecrated tree chaplets or fillets, white and purple interwoven:

'Centum ibi virgineis votæ Calydonides aris
Actæas tibi rite faces, et ab arbore casta
Nectant purpureas niveo discrimine vittas.'

And the same poet gives an account (Theb. lib. ix. 585) of the celebrated Arcadian oak, sacred to Diana, but itself adored as a divinity, and so loaded with rustic offerings that 'there was scarcely room for the branches:'

'Nota per Arcadias felici robore sylvas
Quercus erat, Trivia quam desecraverat ipsa
Ejectam turba nemorum, numenque colendum
Fecerat
Vix ramis locus,' etc.

Here may also be noticed the veternosis in arboribus tænias of Arnobius (Contr. Gent. lib. i.), and the arbor vittata of Prudentius (Contra Symmachum, lib. ii.); the sacred tree bedecked with fillets or garlands.

The earliest representations of the tree of life are the date palm, the fig, and the pine or cedar. The date palm is figured as a tree of life on an ancient Egyptian sepulchral tablet, now in the Berlin Museum, certainly older than the 15th century B.C. It is described in the Hebrew Scriptures as growing in a garden planted by the hand of God, and it was connected with Adam's abode in innocence and immortality; but of another tree of good and evil also growing there, he was forbidden to eat. The gardens of Alcinous and Laertes, of which we read in Homeric song, were supposed transcripts of that blissful region. It was the Mesamphalos of the earlier Greeks, and the Omphalium of the Cretans, dominating the Elysian fields, upon whose tops, bathed in pure, brilliant, incomparable light, the gods passed their days in ceaseless joys, and whither the disembodied spirits of the brave and good winged their way. It was the sacred Asgard of the Scandinavians, springing from the centre of a fruitful land, which, watered by the four primeval rivers of milk, severally flowing in the direction of the cardinal points, 'the abode of happiness and the height of bliss.' It is the Haramberezaitim of the Zoroastrian Parsee, upon which the golden throne of Ahrimano is set, and at the base of which are ranged the glorious mansions of his Azad or ministering spirits, and of the blessed whom they serve.

Tree and Serpent.—In the earliest record of Semitic thought, we find the tree and the serpent inseparable,—a tree of knowledge, and a serpent more subtle than any beast of the field.

In ancient Sarmatia and modern Poland, trees and serpents were worshipped by the peasantry up to the limits of the nineteenth century. A relic of the tree-worship, the Stock-am-Eisen, the apprentice tree, is still or was recently standing in the heart of Kenna. In Norse mythology, the Yggdrasil ash tree was represented with one of its roots over the well of knowledge, and with a serpent, Nidhog, gnawing its stem. The figure of the serpent on the pole in Numbers xxi. 8, 9, was the Caduceus of Esculapius.

Groves of trees were planted by the ancient Egyptians within the courtyards of their temples. The law of Moses (Deuteronomy xvi. 21) forbade the Hebrews to plant any tree near the altar of the Lord; but the Alexandrian Jews, in later times, planted groves near their synagogues. Tacitus mentions the sacred groves of Germany; those of the British Druids are known to all readers. De Brosses derives the word Kirk from Quercus, an oak. In the eighth century, St. Boniface found it necessary to cut down a sacred oak; and even recently an oak copse at Loch Siant, in the Isle of Skye, was held so sacred that no person would venture to cut the smallest branch from it.

The Ansariah of the Latakia mountains hold in great veneration the anemone, with its variety the adaryun (shaqaiq-wo-annomān) and the myrtle (as also rihān). This reverence has connection with the worship of Adonis, who at his death was changed by Venus into an anemone. They also reverence the bay tree, the Daphne of the Greeks and Turkish dafne, and this is in commemoration of the goddess Daphne, who, when flying from the enamoured pursuit of Apollo, was converted into a laurel tree. The Bohdda Tharanat of the Burmese is the Canna Indica. Its flowers are red, or sometimes white. Buddhist Burmese believe that it sprang from the Buddha's blood. His brother-in-law Dewadat, offended at not obtaining a separate assembly, rolled down a stone from a hill, which, however, broke into fragments, and only a small piece struck Gautama's toe, and the blood from it became this beautiful flower.

At the present day, also, Muhammadan belief is associated with the tauba tree (see Hosea iv. 13). It is their Sidrat-ul-mantaha of Paradise, the heavenly mansion of the angel Gabriel, which bears a leaf for every human birth throughout the universe, and loses a leaf for every death. The Hindus have their Kalpa tree; and in their mythology four shady trees grew on Mount Meru,—the Nauclea cadamba, Ficus Indica, F. religiosa, and a species of Eugenia. In Swarga, the heaven of the Vedic god Indra, there grows a tree called Kat-paga Veerutcham, which sprang from the ambrosia that was churned by the gods. Individual trees, throughout India, are regarded as habitations of spirits both good and bad, and noonday is the particular period at which their influence is exercised. The demons in whom the non-Aryan races believe, are supposed to take up their dwellings in trees, and this is shared in by many Muhammadans. Hindus invoke their deceased parents beneath the banyan or pipal. Each of the Dii majores of the Hindus claim a peculiar tree. The Ficus Indica is sacred to Siva, the Ficus religiosa to Vishnu, the Butea frondosa to Brahma. The Nerium odorum,

Guettarda speciosa, Calophyllum inophyllum, Chrysanthemum Indicum, Origanum marjoranum, and Artemisia astriaka, are sacred to Siva and Vishnu. The Tulsi is sacred to Vishnu, the Bel to Siva, the Shami and the Darlu to Ganpati. Hindus, as a religious act, plant the Ficus religiosa, Ficus Indica, Ægle marmelos, Jonesia asoca, Mimusops elengi, Ficus venosa, Ficus glomerata, Mangifera Indica, Tamarindus Indica, Dalbergia sissoo, Xanthochymus pictorius, Melia azadirachta, Michelia champaca, Mesua ferrea, Borassus flabelliformis. At the time of planting these trees, no religious ceremony takes place, but when they are dedicated to public or sacred uses, the prutisht'ha ceremony is performed. The Hindu who plants one ushwut'hu, one nimbu, two chumpuku, three nagukeshwuru, seven talu, and nine cocoanut trees, and devotes them with their fruit, shade, etc., to public uses, is promised heaven. In Europe, flowers are dedicated by Christians to the Virgin Mary, and lady's grass, lady's slippers, and others take her name.

Tree-worship prevails throughout Central Africa to the south of Egypt, and in Bruce's time the Shangalla worshipped trees, serpents, the moon, planets, and stars. Amongst the races on the Assam border, the Sij plant, Euphorbia ligularia, is worshipped as Manasa, the serpent goddess; and some of the wild tribes in the Chittagong Hills worship the bamboo (Phulhari bans), and use it in their human sacrifices. The Kayu Tojoak in Singapore is a dark-leaved small tree, to which superstition affixes a sacred character; most old and isolated trees are there held to be karāmat, or sacred. Small white flags are stuck up near them, and often propitiatory offerings made to the spirits supposed to reside on the spot. In some parts of Sumatra, the jawi jawi, or banyan, and some other old trees, are believed to be the dwelling or rather the material frame of spirits of the woods, like the dryades and hamadryades of the Greeks and Romans. Herodotus tells us that Xerxes, after crossing the river Meander, when proceeding on the road to the city of Callatebos, found a plane tree, which, on account of its beauty, he decorated with golden ornaments; and leaving to guard it one of his troops, called the Immortals, advanced on the next day to Sardis, the chief city of the Lydians. And so in Siberia, the Jakut have sacred trees on which they hang articles of iron, brass, copper, etc. The Ostyaks also, as Pallas informs us, formerly worshipped trees. In the seventeenth century, Chardin noticed at Isfahan an ancient plane tree all bristling with nails and points, and hung with rags, as votive offerings from darvesh. Throughout all Persia, he adds, these darakht-i-fazil are venerated by the multitude. Hanway mentions one of these near a caravansary, the rags being offered by persons ill with ague. It is not merely in case of sickness (though a very frequent occasion) that the modern Persians invoke the spirits supposed to dwell in certain trees, by hanging on the branches pieces torn from their garments, but on every undertaking which they deem of magnitude, such as a commercial or matrimonial speculation, the building of a new house, or a long journey; and now, as when Sadi wrote 600 years ago, offerings are daily made by votaries desirous of having children. The Persian Dev-daru tree bears in Arabic a name nearly equivalent, Shajarat al jin, or 'Tree of the Genii;' and even Shajarat Allah, or 'God's tree.' It is a kind of sarv or cypress.

Morier, in the account of his Journey (i. p. 230), mentions that close to the tomb of a Persian saint was a small bush on which were fastened various rags and shreds of garments, which were generally fancied to have acquired, from their vicinity to the saint, virtues peculiarly efficacious against sickness. In Palestine also sacred trees are covered with rags. These rag trees are to be seen in every part of British India. The Japanese hang offerings on the enski tree, chiefly pictures of a man and woman with their backs turned to one another. A decoction of its wood is given as a love philter.

Travellers from Point de Galle to Colombo, in driving through the long succession of gardens and plantations of cocoanut trees, will observe fruit trees of different kinds, round the stems of which a band of leaves has been fastened by the owner. This is to denote that the tree has been devoted to a deity or demon, and sometimes to Vishnu or to the Kattregam temple. Occasionally these dedications are made to the temples of Buddha, and even to the Roman Catholic altars, as to that of St. Anne of Calpentyn. This ceremony is called Gok-band'hna, 'the tying of the tender leaf,' and its operation is to protect the fruit from pillage till ripe enough to be plucked and sent as an offering to the divinity to whom it has thus been consecrated. It is similar to the taboo of Polynesia. After applying a few of the finest as an offering to the spirit, the remainder is appropriated to the use of the owner. When cocoanut palms are so preserved, the fruit is sometimes converted into oil, and burned before the shrine of the demon.

Rain, Humidity.—Dr. Priestley, St. Pierre, Studies of Nature, and Humboldt in his Personal Narrative, directed attention to the importance of protecting the forests of a country like as fuel preserves, and as a means of regulating the available rain supply. They were followed in the early part of the 19th century by Boussingault, who, while residing in South America, had opportunities for ascertaining the climatic influence exercised by trees. In India, the subject was followed up, in 1840 by Assistant-Surgeon Balfour, in 1846 by Surgeon Gibson. In the year 1847 the Court of Directors of the E. I. Company requested the Government of India to investigate the 'effect of trees on the climate and productiveness of a country, and the results of extensive clearances of timber,' and the British Association referred this subject to a sub-committee. Since then, General Cullen, Surgeon Smith of the Madras Presidency, Mr. Dalzell, the forest conservator of the Bombay Presidency, have continued the inquiry, one of the latest writers being Dr. Brandis, conservator of the Bengal forests. The literature on the subject has become extensive, but has been summarized by Mr. N. A. Daniell (1863), by Surgeon-General Balfour (1878), largely by Professor Rolleston (1880), who wrote on the modifications in the external aspects of nature produced by man's interference. Dr. Wellington Gray of Bombay also wrote; and now it may be said that all scientific men recognise that in a forest-clad region the air is more moist and cooler, the rainfall is more equal, the soil is preserved, springs and rivulets are regulated, and birds, the destroyers of insects, are protected.

The rainfall in British India fluctuates from year to year as much as 50 per cent. on either side of the average, but on the coast the annual average has not diminished. If the quantity falling in the monsoon months in Bombay city for the 60 years 1817 to 1876, averaging 76·1 inches, be arranged in four periods, the result is as follows:—

1817 to 1831 = 81·55 in.	1847 to 1861 = 77·44 in.
1832 to 1846 = 70·14 ,,	1862 to 1876 = 79·37 ,,

The range extending from 33·97 inches in 1824 to 121·98 inches in 1828.

If the Madras rainfall for 64 years be examined in four periods, we find—

1813 to 1828 = 51·53 in.	1845 to 1860 = 50·61 in.
1829 to 1844 = 44·88 ,,	1861 to 1876 = 46·61 ,,

Or if in three periods—

1813 to 1833 = 47·63 in.	1855 to 1875 = 47·04 in.
1834 to 1854 = 50·71 ,,	

Mr. Marsh says (p. 300), 'The forest's general effect is to equilibrate caloric influences, and moderate extremes of temperature.'

Boudin says (Geographie et Statistique Medicales, vi. p. 229), 'Enfin le deboisement doit être considere comme equivalent à la destruction d'un nombre de paratonnerres egal au nombre d'arbres qu'on abat; c'est la modification de l'etat electrique de tout un pays; c'est l'accumulation d'un des elements indispensable à la formation de la grele dansun localité ou d'abord cet element se dissipait inevitablement par l'action silencieuse et incessante des arbres.'

Trees break the force and fall of raindrops, and prevent the over-rapid flowing off of (Rolleston, p. 31) rain-water, and the over-violent washing away of soil.

Professor Wellington Gray tells us (p. 10) that '3000 square inches of cabbage leaves will give off a pint of water daily.'

Professor Pfaff says (Ebermeyer, p. 186), 'From 18th May to 24th October, an oak with 700,000 leaves, each of a square surface of 2325 millimetres, evaporated 12 kilogrammes.'

Vaillant (ibid.) says, 'An oak 21 metres high gives off 2000 kilogrammes of watery vapour in a fine day.'

Hartig (ibid.) says, 'A German morgen (=2·3895 acres) carrying 1000 trees of nine different kinds of conifers and broad-leaved trees of 20 years' planting, exhales daily during the period of vegetation at least 3000 lbs. weight of water.'

Professor Prestwich (Water-bearing Strata, p. 118) says, 'The leaves of a tree of average size give off 2½ gallons of watery vapour daily.'

Mr. Lawes says, '3 plants of wheat or barley gave off 1½ gallon = 250 grains of water for every grain of solid residue in the adult plant.'

M. Fautrat (Observations Meteorologiques, 1877-78, pp. 14-16) has come to the following conclusions:—'1. That when it rains more rain falls over a wooded than over a non-wooded area, and that whilst trees of all kinds possess the power of condensing vapour, broad-leaved trees produce less effect than is produced by the narrow-leaved coniferæ. 2. That, as regards the hygrometric condition of the air, the air over a wooded area contains more watery vapour (p. 18) than an unwooded area, but that the coniferæ have more watery vapour in their circumambient atmosphere than the broad-leaved trees. If the vapour dissolved in the air was visible as are mists, we should see the forests surrounded with a vast screen of moisture; and around the coniferæ this envelope would be more marked than over the broad-leaved trees. What is the source of this vapour? Does it come from the soil; is it the result of evaporation from the leaves, or is it due in the coniferæ to the action of the thousands of points which the whorls of their leaves develope every year? This is a complex question, which the present data of physical science do not enable us to answer. . . . We must therefore ascribe to the soil, and to other unknown causes, this remarkable property which pines have of attracting watery vapour.'

Rolleston says the leaves of the coniferæ wet readily, and intercept one-half of the rain which falls upon them, whilst the broad-leaved trees intercept but one-third (p. 37).

G. H. Rowell (Cause of Rain, 1839 and 1872, Brief Essay on Meteorological Phenomena, 1875) supposes that the molecules of watery vapour are completely enveloped in a coating of electricity, to which they owe their buoyancy. And he supposes this coating and buoyancy to increase and decrease in ratio with the temperature of these molecules. On this theory, efficient conduction of electricity will suffice to precipitate watery vapour either as rain, or as mist, or as dew.

Becquerel's view is that the plague of hail which has so often been observed to follow upon the destruction of the woods of a country, is to be ascribed to the loss of the lightning conductors, which the cut down trees represented while standing, and to the absence consequently of the incessant though insensible agency of the trees.

Professor Grandeau says (Chimie et Physiologie, p. 340), K. E. von Baer (Reden und Studien, 1864, 1873, and 1876), and Oscar Peschel (Neue Probleme, 1876), seem to regard as hopeless any attempt to clothe treeless districts with trees.

It seldom happens that the core of trees is exactly in the centre; they seem in Europe to thicken most rapidly in the direction in which they are most exposed to light and heat.

In Europe the thickening is always on the south side of the tree. In India, so far as it appears, it is in general mostly due west. In all likelihood the excess of solar heat furnishes the explanation in both cases. North of the tropics the sun always shines more or less from the south, and gives out more heat from this than from any other direction. From the tropics to the line, the sun is so nearly vertical, that the mass of heat contributed to a tree or any other body perpendicular to the earth, is from east or west. But from dawn till noon the temperature of the sun is comparatively moderate,—it is from midday till sunset that the vast mass of heat is thrown off, the rays shooting from the westward. In this direction a tree thickens on the same principle that it expands in Europe to the southward.

The teak tree often becomes in part petrified,—that is, the deposition of silica becomes so abundant as to turn a portion of the trunk into stone, usually resembling the petrified wood of Egypt, Sind, Gujerat, Burma, and Trevicary, etc. In Upper India this is not at all confined to the bamboo or the teak, both remarkable for their siliceous secretions, forming in the former a beautiful enamel all over the stem,

furnishing the sharp points of the leaves, and making the upper surface of the leaves of the latter eminently serviceable as sand-paper. The Ghunbhar wood found in the Nepal and Chittagong forests contains such quantities of silica, that the carpenter who contracts to saw it by the foot, makes it a condition in his bargain that it shall contain no stone. The ebony, the tamarind, the sissoo, and the sitsal or jungle rosewood, contain these secretions, though in much smaller quantities. The most mysterious circumstance connected with the specimens from the petrified forests, is that for every atom of carbon or other organic matter that has been removed, an atom of silica has come in its room, the structure remaining so perfect that under the glass it could not be discovered whether it was a petrified or living specimen under inspection.

The extension of fruit-bearing trees amongst the people is one deserving special attention. Advantages must arise to the great mass of the pop[illegible]ulation from increasing the capabilities of the cou[illegible]ntry in this respect.

T[illegible]hroughout the central and western parts of Peni[illegible]nsular India, the chief cereals and pulses are grov[illegible]n in the cold season of the year. The cultivato[illegible]s regard hedges and trees as injurious to crop[illegible] which are annually enclosed by the branches of th[illegible]rny trees; consequently, when the crops are off t[illegible]e ground, the whole territory has a treeless aspec[illegible], and in many places firewood bears a very high [illegible]price. • There are great tracts, however, which could be beneficially planted with trees.

The [illegible] natives of Central Asia, even in their most sangu[illegible]inary wars, have refrained from injuring the fruit t[illegible]rees. Deuteronomy xx. 19, 20, forbade the Israel[illegible]tes to cut down any fruit tree in their sieges. When the Khalif Abubakr sent his general Abu S[illegible]ufian to invade Syria, his instructions were not to cut down any palm trees or burn any fields of co[illegible]rn, to spare all fruit trees, and to slay no cattle but such as were required for the use of his army. And at the present day the Afghans in their c[illegible]onstant inter-tribal fights have never injured the mu[illegible]lberry trees, on the fruit of which they so largely subsist.

Nothing irritates Burmese people more than to cut down fruit trees planted by their ancestors; these are the only things they possess in the shape of family heirlooms, which descend from father to son, and from mother to daughter. Women weep over this kind of destruction. A sacred tree of Burma, the thah-byay-bin, seems to be the jack-tree. In cholera times its leaves are kept in a pot or are scattered about the house.

In many British colonies, so prodigal has been the destruction of timber that the authorities have been compelled to adopt measures of restriction. This has been the case notably in Natal (where the depredations of the natives have been considerable), in Victoria and Western Australia, Queensland (where an annual licence fee has been imposed on wood-cutters), and in Ceylon. The climate of Jamaica is said to have become drier of late years in that portion of the island where the greatest clearances have been made; while in St. Helena, where young plantations occupy old clearances, the island suffers less from drought than immediately after the colonization of the island and the wholesale felling of the trees.

The most ornamental flowering shrubs are those belonging to the genera Rosa, Rhododendron, Azalea, Kalmia, Andromeda, Vaccinium, etc. Among the evergreen shrubs are the holly, the ivy, the jasmine, the box, various heaths, etc. Shrubs are often planted together, forming what are called shrubberies, and when the kinds are judiciously selected and arranged, these collections add greatly to the beauty of the gardens and pleasure-ground where they are introduced.—*Fergusson, Tree and Serpent Worship; Rolleston; Eng. Cyc.* See Fruit; Timber.

TREE FERN. Several tropical plants receive this name, as several species of Cyathea, viz. arborea, dealbata, aculeata, and muricata; also Hemitelia horrida and Karsteniana, Alsophila armata of the West Indian Islands, Angiopteris pruinosa, Marattia, Blechnum Brasiliense, Alsophila excelsa of Norfolk Island, and A. Cooperi of Queensland. Abundance of root fibrils are thrown out from the lower portion of some of their stems, and in some species beautiful scales clothe the stem. Mr. A. R. Wallace (Malay Archipelago) met with species bearing their elegant heads of fronds more than 30 feet in the air.

TREPANG.

Sea-slug, ... ENG.	Holothuries, . . . FR.
Beche-de-mer, . . . FR.	Richode, . MAHR., PORT.

This is one of the Holothuriadæ, an edible sea-slug, collected in large quantities throughout the Indian Archipelago, especially among the Eastern Islands. China is almost the only market. There are many varieties, which vary greatly in size, sometimes a foot in length, with a girth of three inches. Some sell at £9, 7s. 6d. per 133⅓ lbs.; the trepang (Lotong) of Borneo, at £4, 3s. 4d. per 133⅓ lbs.; the trepang (Buangakulit) of Singapore, £3, 15s. per 133⅓ lbs.; the trepang (Pandans) of Borneo, £5 per 133⅓ lbs. The inhabitants of Celebes, receiving advances from the resident Chinese, have been long in the habit of making annual voyages in their quest of trepang. Gutted, dried in the sun, and smoked, it is considered cured, and fit for its only market, that of China, to which many hundred tons are yearly sent for the consumption of the curious epicures of that country. The fisheries of the trepang for China resemble that of the anchovy to the people of Europe. See Holothuria.

TRETA YUGA, SANSK., from Tree, three, and Yuga, a definite period of time. The four yuga are numbered according to the quantity of religion in each; thus the satya has four parts; the treta, three; the dwapara, two; and the kalee, one. The Treta yuga is the Hindu silver age, and comprises a period of 1,296,000 years. See Yuga.

TREVACARRY. In the chain of mountains which pass by Gingi, fossils are found. Those of Trevacarry, a village 21 miles from Pondicherry, are worthy of observation.—*Sonnerat's Voyage*, p. 5.

TREVELYAN, SIR CHARLES EDWARD, K.C.B., of the Bengal Civil Service, wrote on the condition of the people of India, 1839. He served in the Home Treasury Office, in 1859 was Governor of Madras, subsequently Financial Secretary of India. Bold in design, energetic in execution, earnest in manner, thirsting for

earning and knowledge, in conversation he ever took for granted that all were equal to himself. —*Thurlow*, p. 34.

TREWIA NUDIFLORA. *Linn., Roxb.*

Tetragastris ossea, *Gærtn.*	Rottlera Indica, *Willd.*
Trewia macrophylla, *Roth.*	R. Hooperiana, *Blume.*
T. macrostachya, *Klotzsch.*	
Pitori, . . . BOMBAY.	Kat koombla, . S. CAN.
Kanshi, . . . MALEAL.	

A middling-sized tree, common throughout the plains of the Madras Presidency, also in Bengal, Ceylon, Java, and Sumatra; the timber is soft, and of no value; root used medicinally.—*Beddome, Fl. Sylv.* xxiv. p. 281.

TRE-YANG-DONG-YANG, a celebrated rock fortress of Burma. It is said once to have been used as a fortress by the Karens against the Burmese, and to have been held for a long time, until, the supply of water and provisions being exhausted, they were starved to death. (There is no spring in the basin.) From this incident arose the name of the place, Dong Yang, Rock of Weeping, and Tre Yang for the brook below, Brook of Weeping.

TRIAD. The triads of the nations are many. Geryon, the three-headed, is famous in classical antiquity:

'Qualis Atlantiaco memoratur littore quondam,
Monstrum Geryones immane tricorporis iræ,
Cui tres in pugna dextræ varia arma gerebant
Una ignes sævos.'

'Thus on the coast, from hoary Atlas named,
Stood triple Geryon: in his three right hands
Three weapons fierce he brandished, vengeful fire.'

The triad of the Greeks, so frequently referred to by Proclus, has been largely examined by Cudworth. The inhabitants of Northern Europe had various trinities. That of the prose Edda is Odin, Vile, and Ve; of the Voluspa, Odin, Hænir, and Ledur. The Scandinavians swore by Odin, Friya, and Njord.

The Nornir or Destinies were three. Among the Druids the number three was sacred and mystical; hence their writing-rods of three sides, and the fondness of the ancient British bards for the triad, tribanau, or triplet—

'Eiry mynydd—gwangeus Iar—
Gochwlban gwynt ar dalar—
Yn yr ing gorau yw'r Car.'

'Snow of the mountain! the bird is ravenous for food—
Keen whistles the blast on the headland—
In distress the friend is most valuable.'

The triad of the Babylonian and Assyrian was Ana, Bel, and Hea, lords, respectively, of the heavens, of the visible world, and of the sea and infernal regions. Ana was originally worshipped at Erech, but in later times the goddess Ishtar took his place at this city; Bel had his chief seat at Nipur, and Hea at the city of Eridu.

The triad among the Hebrews was represented by the three yod, or by the high priest extending the thumb and two forefingers as he stretched his right hand over the assembled multitude. The Pope of Rome adopts this form.

Trinity of Christians, God the Father, God the Son, and God the Holy Ghost.

The Egyptian triad was of three brothers.

The triad of the Southern Buddhists has Gautama as the chief, represented by three perpendicular lines, sometimes united at the bottom (tharagon). Buddha, Dharma or the Law, and the Church or Congregation, are represented by the Trisul or Triratna. San-she-Joo lae, the Tathagatha of the three ages, is the Buddhist trinity of China. The Hindu trinity is Brahma, Vishnu, and Siva.

The Chaldees had two triads, each god with a wife or female power, like the sakti of the Hindus. Their first triad was Il or Ra, the supreme; Ana; and Hea, the god of life. Their second triad was Sin or Hurki, the moon-god; San or Sansi, the sun-god; and Vul or Iva, the god of the atmosphere.

Secret triad societies have been formed all over the Chinese empire, the members of which have seen with impatience the Manchu domination, and cherished the idea of overthrowing it to obtain a national government.

The members are initiated with secret ceremonies. It has a religious character, with political aspirations. The members name it Tien-te-jin, Heaven, Earth, Man. In the reign of the emperor Kea King, it was styled Tien-te-hwuy, *i.e.* the Celesto-terrestrial Society, but the name by wh they chiefly distinguish themselves is Hung K tch or the blood family.

Three pure ones are recognised by the Ta of China. uist

The Buddhist triad or mystic syllable A is thus interpreted:— M,

A, the Vija mantra of the male Buddha, the gene power. tive

U, the Vija of the female Dharma or Adi Praj type of productive power. , the

M, the Vija of Sanga, the union of the essen both. es of

Three precious gems of the Buddhists are B Dharma, Sangha, the lord, the law, the asse ddha,

A triple god is described by Kircher amo mbly. Japanese; and the celebrated triad of the H g the comprise Brahma, Vishnu, and Siva. ndus

The Ansariah recognise Miaana, Ism, Spirit, Name, and Door. See Trimurtti. Bab,

TRIANGLE. This, in Hindu mythology, the apex points downwards, is symbolic when Vishnu, considered as the principle of humi l of to descend being the property of water, lity; naturally assumes that fig ure. When w nd it ith the apex upwards, it is a symbol of Siva as fire, it being the unvaried form of the igneous element. —*Moor's Pantheon*, p. 23.

TRIANTHEMA CRYSTALLINUM. *Willde.*

T. triquetra, *Rottler.*	Papullaria crystallina, *For.*
Alethi, ... HIND.	Kooka-pal-koora, . TEL.

A plant of Arabia and India, used as a spinach. —*Roxb.* ii. p. 444.

TRIANTHEMA DECANDRUM. *Linn.*

Zallia decandra, *Burm.*

Gado bunya, . . BENG.	Swit punarnavi, SANSK.
Biskhopra, . . . DUKH.	Vallai sharunne, . TAM.
Gadabuni, . . . HIND.	Tella-galijeru, . . TEL.

A weed common in Peninsular India; its roots, size of a small finger, light brown outside, white within, are aperient. Four pagodas weight of bark of the root made into a decoction with one pound water, and boiled down to half a pound, will open the bowels.—*Roxb.; Ainslie; O'Sh.*

TRIANTHEMA INTERMEDIA. *Stocks.*

Marmay, . . . PANJ.	Wah, Waho, . . SIND.

Seeds used for food in times of scarcity. Dr. Stocks notices the Waho of Sind, T. intermedia, *Stocks;* also T. micrantha, *Stocks*, the Choti lani or Teysur lani of Sind.

TRIANTHEMA OBCORDATUM. *Roxb.*

T. monogyna, *Roxb.*		T. pentandra, *D. C.*	
Sabuni, ...	BENG.	Sharvalay kiray, .	TAM.
Lal and Swet-sabuni,	,,	Sharanne, . . .	,,
Nasurjangi, . .	DUKH.	Ambati maddu, . .	TEL.
Warma, ...	HIND.	Yerra galijeru, . .	,,
Punarnavi, . . .	SANSK.	Bodo-pail-kura, . .	,,

A troublesome weed, springs up everywhere; the young leaves used as spinach; when somewhat old, mixed with others, and used as greens. The root is found in bazars; colour pale, much wrinkled, bitterish, and rather nauseous to the taste; is considered cathartic, and given in powder to the extent of two teaspoonfuls twice daily with a little ginger. The fresh root also is given as a cathartic mixed with ginger.—*Jaff.; O'Sh.; Roxb.*

TRIAS OBLONGA. Many of the mango trees of Burma have this species of trias growing on them. It is the smallest plant of the orchid tribe in the Tenasserim Provinces.—*Mason.*

TRIBULUS, a genus of plants belonging to the natural order Zygophyllaceæ. T. alatus, T. lanuginosus, T. cistoides, *L.*, and T. terrestris occur in India. One or other species is common in the plains; some occur to from 3000 to 5000 feet in the Himalaya, and one is found to 10,500 feet in Tibet. T. cistoides grows in the gardens of India; it has some aperient properties.

TRIBULUS LANUGINOSUS. *Linn.*

T. terrestris Zeylanicus, *Burm.*

Khussuk-us-saghir,	ARAB.	Gokru-khurd, . .	PERS.
Peh-tsih-li, . .	CHIN.	Gokshuruka, . .	SANSK.
Woolly caltrops, .	ENG.	Sudu mostra, . .	,,
Gokuru, Gokru, .	HIND.	Sembu niringhi, .	SINGH.
Neringil, . .	MALEAL.	Nerinji, ...	TAM.
Bakhra, Bhukri, .	PANJ.	Chiri palleru, . .	TEL.
Kokullak, . .	,,	Yerra palleru, . .	,,

The woolly caltrops grows throughout India. It has large, bright yellow, sweet-scented flowers, and angular, thorny fruits all the year round. The generic name is from the Greek τριβολος, three-spiked or three-pointed. This is often confounded with the Pedalium murex. The seeds and capsules are highly mucilaginous, and in China are used in spermatorrhœa.—*Roxb.; Stewart; Smith; Jaffrey; Ainslie; Riddell.*

TRIBUTARY STATES or Tributary Mahals, the designation of 19 Indian chiefships, between lat. 20° 3′ 55″ and 21° 57′ 40″ N., and long. 84° 21′ 41″ and 86° 48′ 41″ E. Their names are Angul, Athgarh, Bankigarh, Baramba, Baripada, Boad, Daspalu, Daspur, Denkanal, Hindol, Hondapa, Keonjhur, Khandpara, Lakara, Narsingapur, Nilgiri, Nyagarh, Ranpur, Talchir, and Tigaria. About 50,000 Mons or Peguans pay tribute to Siam; and between latitudes 3° and 7° N. the Malays in the principalities of Patani, Calantan, and Tringanu on the east, and on the west those of Queda and Perak, are subject, through the governor of Ligor, to the Siamese sovereignty; but that sovereignty is by no means undisputed by the inhabitants in the less accessible parts. Many of the chiefships of British India are tributary to the British, paying annually money, or sending shawls, horses, elephants, etc. In the year 1880-81, tribute, chouth contributions for the pay of local corps, and succession fees, amounted to £742,209.—*Bowring's Siam*, i. p. 83.

TRICHILIA EMETICA.

El-caja, Roka, . ARAB. | Djous-el-kai (fruit), ARAB.

Common on the mountains of Yemen and in Senegal. The fruit is used by the Arabs in powder, mixed with oil, against the itch, and also for washing the hair.—*O'Sh.*

TRICHINOPOLY, a large town in the Carnatic portion of the Peninsula of India, in lat. 10° 49′ 45″ N., and long. 78° 44′ 21″ E.; population, 84,449. Its Hindu name, Tri-Sira-pelly, or place of the three-headed, is from a tradition. Muhammadans call it Nathar-Nagar, from a holy man called Nutter. It is a British military cantonment, and gives its name to a revenue district in the Madras Presidency, lying between lat. 10° 37′ and 11° 30′ 30″ N., and between long. 78° 12′ and 79° 30′ E. Area, 3515 square miles; pop. according to the census of 1881, 1,215,033 souls. The river Kaveri (Cauvery), and its branch the Colerun, are the most important rivers in Trichinopoly. These rivers almost rejoin each other about 10 miles east of Trichinopoly city.

The Cauvery river enters the district in the west; it is 1200 yards wide. About 12 miles west of Trichinopoly it is intersected by the island of Srirangam, on which is a magnificent Hindu pagoda, and the northern branch takes the name of the Colerun, which flows on to the sea near Porto Novo, the Cauvery branch flowing to the Tanjore district, which it waters. The irrigation is secured by two dams or anicuts, the upper at Srirangam, 874 yards long, across the head of the Colerun, including two islands, erected in 1836 by Captain (Sir Arthur) Cotton; and a lower dam across the same river, 60 miles farther to the eastward, which supplies the Veranum tank, and irrigates the Chellumbrum and Manargudi taluks of S. Arcot. The grand anicut is an ancient work constructed by a former sovereign of Tanjore. It secures the irrigation of Tanjore, and allows the surplus water to go to the Colerun.

Trichinopoly fortress was besieged in 1751-55 by Chanda Sahib and the French. Inside the fort is the Trichinopoly rock, a mass of gneiss, which rises, like many others in the district, abruptly out of the plain to a height of 273 feet above the level of the street at its foot. The ascent to this rock (Tayumanaswami-Malai) is partly by a covered stone staircase, and partly by steps cut in the rock itself. Upon it is a Siva temple, and at the top a small temple dedicated to Pillaiyar (Ganapati). Every year (August) a festival at this temple attracts a crowd of pilgrims. In 1849 (22d August), owing to some confusion in descending, a panic occurred, and at least 250 persons lost their lives in the crush. In 1871, in the population, there were 1,115,776 Hindus, 32,024 Musalmans, 50,822 Native Christians, 1400 European and Eurasian Christians, and 143 Jains. The most numerous Hindu castes are the Villalar (200,853) and the Vannian (398,410). Brahmans number 31,428. The non-Aryan races are numerous.

TRICHIURUS, a genus of edible fishes of S. Asia seas. T. lepturus, *Linn.*, the silvery hair-tail, is one of the largest of the flattened, small-scaled fishes. It occurs at Shan-tung, in the gulf of Peh-chi-li in China, in N. China, and Corea, and is largely salted, dried, and eaten. It is captured near the surface.

TRICHODESMA INDICUM. *R. Br.*

Chota kulpha, .	HIND.	Gao zaban, . . .	SIND.
Rat-mandoo, . .	KASH.	Nila kai, . . .	TAM.
Rati surkh, .	,,	Guva gutti, . .	TEL.
Kowri booti, . .	PANJ.		

It is used for purifying the blood, also as a diuretic, and a cure for snake-bites.—*Powell; O'Sh.*

TRICHODESMA ZEYLANICUM. *Brown.* Grows in Abyssinia, S. Asia, and extra-tropical Australia. It is a plant of Ceylon and the Peninsula, and is the Buro kulpha of Bengal, and the Borago Zeylanica of Linnæus. Dromedaries evince an extraordinary predilection for it. T. Africanum, *R. Br.*, and T. spinulosum, are found in the same region.—*Voigt; Von Mueller.*

TRICHODESMIUM ERYTHRÆUM, a filamentous alga which the Red Sea is supposed to have obtained its name from. It is of a blood-red colour, often covers large areas, and appears and disappears somewhat capriciously. It has as synonym, T. Ehrenbergii. During the year 1823, Ehrenberg spent several months on the borders of the Red Sea, at Tor, very near Mount Sinai, and there witnessed the surprising phenomenon of the blood-red coloration of the entire bay, which fronts the part of that town. The open sea, outside the coral reef, was of the ordinary colour, but the short waves of the calm sea bore to the shore, during the heat of the day, a mucilaginous matter of a blood-red colour, depositing it on the sandy beach, so that in the space of little more than half an hour, the entire bay was margined by a red border many feet in width. The coloration was owing to minute, almost invisible, flocci, some greenish in colour, others of an intense green, but mostly of a deep red. The water in which they floated was, however, perfectly colourless. This very interesting phenomenon was investigated at leisure, during several days, with every possible care. The colouring matter was examined with the microscope. The flocci were found to be composed of little bundles of oscillatoria filaments; they were in shape fusiform or elongated, were irregular, rarely more than a line long, and were invested with a kind of mucilaginous sheath. The flocci themselves did not exactly resemble one another, nor did they contain filaments. Whilst the sun was above the horizon, the flocci remained on the surface of the water in the glasses he had brought up; during the night they sank to the bottom, or when he shook the glass, though remounting to the surface some little time afterwards. T. Hindsii, also of a blood-red colour, has been found off the west coast of S. America.

Two minute species of Trichodesmium, which have been collected in the Atlantic, imparted a cloudiness to the water over a very large area, but were not coloured. They were so diffused that it was difficult to collect the excessively minute flocci, far smaller than those at Colombo, and colouring the sea there.

Dr. Collingwood mentions that he had never seen red Trichodesmium, or any tint of red. He had seen it yellowish-brown. He had seen the Indian Ocean red from myriads of minute red crustaceæ, and in the Formosa Channel from red gelatinous worms, but never by Trichodesmium. —*Ehrenberg on the Coloration of the Red Sea, in Poggendorf's Annals; Annals and Magazine of Natural History; Ceylon Observer.*

TRICHOGASTER FASCIATUS, the butterfly fish of the Bay of Bengal.

TRICHOGLOSSUS ENTELES and T. iris are pretty little lorikeets of Timor. T. ornatus, of Celebes, and T. Swainsonii, are beautiful brush-tongued parrakeets.

TRICHOPODUS TRICHOPTERUS. *Pallas.* Like the rest of the family, this fish is capable of sustaining life out of water, particularly if kept in wetted fresh leaves, or occasionally sprinkled with water. At Penang it is numerous in streamlets and ponds, where it is eaten by the poorest classes. The exquisite beauty of the metallic iridescent colours makes these fishes acquisitions in garden tanks. Like Osphromenus olfax, they are very pugnacious among themselves. A species of Trichopodus was discovered by Dr. Campbell in the rivers of the Sikkim passes in the northern frontier of Bengal.

TRICHOSANTHES, a genus of plants belonging to the Cucurbitaceæ. Several East Indian species, anguina, bracteata, cordata, cucumerina, dioica, and heteroclita, are known; some are used as vegetables, but others contain a purgative principle. T. amara, of St. Domingo, has bitter and astringent seeds, sometimes emetic.—*O'Sh.*

TRICHOSANTHES ANGUINA. *Linn.*

Chichinga, BENG., HIND.	Galar tori, Pandol, PANJ.
Jijinga, Jinga, ,, ,,	Pottola, ... SANSK.
Pai-len-mwæ, . . BURM.	Kadotri, ... SIND.
Snake gourd, . . ENG.	Rebhri, ... ,,
Chichunda, . . . HIND.	Podi-urilanga, . . SINGH.
Purwar, ... ,,	Pudalunkai, . . TAM.
Petala ular, . . MALAY.	Lingapotla, . . . TEL.
Petalri-ular, . . ,,	Pottlakaya, . . . ,,

This is generally cultivated for its long snake-like fruit, used in curries; is sown in the rains, and grown generally over a high pandall, in order that the fruit may have space to hang down; a small stone or weight is tied to the end to increase its length, which varies from a foot and a half to three feet or more. Raw, it resembles a cucumber in flavour, but is better dressed in a stew or curry, and often cut into lengths, and filled with a preparation of minced meat. This is peculiar to India, is of easy culture, and is to be seen on trellises around the doors of the native cabins; the fruit grows beautifully striped, small, and tapering, so that, hanging down from the trellis, they look like striped snakes suspended from the foliage of trees.—*Roxb.; Riddell; Jaffrey; Mason.*

TRICHOSANTHES BRACTEATA. *Lam.*

T. palmata, *Roxb.*	T. anguina, *Wall.*
T. kaki konda, *Roxb.*	Modecca bracteata, *Lam.*
T. laciniosa, *Wight.*	
Buro makal, . . BENG.	Abuva, Avva guda, TEL.
Anko-rute, . . . TAM.	Kaki donda, Abuba, ,,

This grows in both the Peninsulas of India, in Bengal, the Dehra Doon, and the Khassya mountains. It is a large climbing plant, with a globular fruit, which is regarded by the natives as poisonous, but the stem is much esteemed in diseases of cattle, and in inflammation of the lungs.—*Drs. Roxb., Voigt, Gibson.*

TRICHOSANTHES CORDATA. *Roxb.*

T. palmata, *Roxb.*	Bhooin-koomra, . BENG.

This plant grows on the banks of the Megna river, where the inhabitants use the root as a substitute for calumba root, and it has been sent to England as the true calumba of Mozambique. It has large white flowers. Its Bengali name is identical with that of the sweet potato, Batatas paniculata. The root is tuberous, perennial, growing to the size of a man's head.—*Roxb.; Voigt.; O'Sh.*

TRICHOSANTHES CUCUMERINA. *Linn.*

T. cordata, *Wall.*	T. palmata, *Roxb.*
Ban-potel, . . . BENG.	Podavalam, . . MALEAL.
Tha-b'hot-kha, . . BURM.	Pepudel, Pudel, . TAM.
Bitter gourd, . . ENG.	Chend potla, Patola, TEL.
Jangli chuchinga, . HIND.	Adavi chedu, . . ,,

This plant grows in the valleys of the Himalayas, in hedges in Bengal, in the two Peninsulas of India, and in Tenasserim. Its unripe fruit is very bitter, but is eaten by the natives in their curries, and is reckoned anthelmintic.—*Roxb.; Voigt; Mason; O'Sh.*

TRICHOSANTHES DIOICA. *Roxb.*

Bun-putol, . . . BENG.	Pulwul, ... HIND.
Ko-lau, Kwa-lau, CHIN.	Kommu potla, . . TEL.

This occurs wild in Bengal, but is cultivated there for its unripe fruit and tender tops, which are eaten in curries and reckoned very wholesome. An alcoholic extract of the unripe fruit is described as a powerful and safe cathartic in 3 to 5 grain doses, repeated every third hour till the desired effect is produced.—*Roxb.; Voigt; O'Sh.*

TRICHOSANTHES INCISA. *Rottl.*

Birme ke-jur, . . DUKH.	Chinna avagooda vayroo,
Sirroo corrutti-vayr, TAM.	TEL.

This has a light-coloured and very bitter-tasted root. Pounded small and mixed with margosa oil, it is applied to offensive sores inside the ears, and is also poured up the nostrils in cases of ozæna. The taste of the rind is singularly bitter, but in three-grain doses, thrice daily, it produced no sensible effect.—*Ains.; O'Sh.*

TRICHOSANTHES VILLOSA of Java, fruit acts like colocynth.—*O'Sh.*

TRIDACNA, a genus of molluscs of the family Tridacnidæ, comprising the genera Tridacna and Hippopus, the shells of which are the largest known amongst acalephous molluscs. T. gigas is sometimes 4½ feet long, weighing 500 lbs. T. safrana is of a beautiful blue round the edges; a third species is T. squamosa. There are known six recent and one fossil species. Tridacna shells are used in some of the islands of the Pacific Ocean, at Lesson Island, at Ualan, at some of the Live Islands, and in New Guinea, to form adzes. —*Woodward; Figuier.*

Tridacna gigas, the gigantic clam shell, was formerly of such value, that the Republic of Venice presented one to Francis I., who gave it to the church of St. Sulpice in Paris, and it is still used there as a basin for holy water. It is the Benitier of the French. Its shell is transversely oval, with great imbricato-squamous ribs, the scales short, arched, and lying near together; the interstices of the ribs are not striated. The size and weight of this immense bivalve, the largest and heaviest known, combined with the beautiful marble-like appearance and whiteness of the inside of the valves, have always caused it to be sought for as an ornament for grotto-work or for garden fountains; and, indeed, the valve of a large individual forms a very picturesque basin for catching the clear falling water, and transmitting it through the deep interstices of its indented edge to the reservoir below. This species can hardly have been the Tridacna of Pliny (Nat. Hist. xxxii. 6), but his Pedalia or oysters, a foot long, from the Indian Sea, may have been one of the Tridacnæ of modern authors. At Carteret Harbour, New Ireland, the natives obtain many very large individuals, whose flesh they eat raw. This species occur at Tongataboo, at the Moluccas, at Timor, and at Waygiou, and appear to inhabit rather shallow water.

Hippopus maculatus, *Lam.*

Chama hippopus, *Linn.*	Tridacna maculata, *Quoy.*
Hippopus maculatus, *Lam.*	Bear's paw clam.

This well-known but beautiful species, now much used in the ornamental arts for inkstands, etc., has a traversely ovate shell, which is of moderate size, ventricose, ribbed, subsquamous, and white spotted with red or purple; the lunule is heart-shaped and oblique. The naturalists of the Voyage of the Astrolabe found this species at Carteret Harbour, New Ireland, and also at Vanikero, where they collected specimens left dry on the reefs. It spins a byssus.—*Eng. Cyc.; Woodward*, p. 453.

TRIDANDI, a Saiva mendicant, who carried in his hand three wands, to illustrate his command over his thoughts, words, and acts. This practice, however, has ceased to be observed. They are in habits like Gosains, and do not marry. Their bodies after death are buried, not burned.—*Wils.*

TRI-DASA. SANSK. 3 times 10; the 33 Hindu divinities, viz. 12 Adityas, 8 Vasus, 11 Rudras, and 2 Aswins.—*Dowson.*

TRIDENTS are affixed to taffrails of junks, to tops of houses, to ward off evil; with the same object three earthenware guns are placed in China on a house, also a cock.

TRIDODYA, in the Doab, a sort of finger-ring.

TRIFOLIUM, a genus of plants belonging to the natural order Fabaceæ. Many species are known. They are the trefoils or clovers so largely used in Europe as fodder for cattle. Dr. Irvine mentions T. Indicum, called in Hindi Bun-mether, Jhunjurie or Goolabi, as very common in Ajmir, Marwar, and Jeypore. Camels are fond of it; other cattle do not eat it. T. repens, the white or Dutch clover, is said to be the shamrock worn by the Irish as a badge. Leaves with three divisions have from remote times been regarded with superstitious reverence. T. pratense, *Linn.*, is the ordinary red clover of Europe, Asia, and Japan.—*F. Von Mueller; Voigt*, p. 210.

TRIGARTHA, lit. 3 strongholds, the modern Kangra and Jalandhar Doabs.

TRI-GARTTA, the modern Doab and Kangra.

TRIGLIDÆ, the gurnard family of fishes, of the order Acanthopterygii. The family is arranged into four groups.

FIRST GROUP. Heterolepidina.

Gen. 8 Chirus, 2 Ophidion, 1 Agrammus, 1 Zaniolepis.

SECOND GROUP. Scorpænina.

Gen. 25 Sebastes, 21 Scorpæna, 1 Glyptauchen, 8 Pterois, 1 Pteroipichthys, 1 Tænianotus, 4 Centropogon, 2 Apistus, 1 Enneapterygius, 1 Pentaroge, 10 Tetraroge, 7 Agriopus, 8 Prosopodasys, 9 Aploactis, 1 Trichopleura, 1 Hemitripterus, 1 Amphiprionichthys, 2 Synancidium, 2 Synanceia, 2 Micropus, 3 Minous, 6 Pelor, 1 Chorismodactylus.

THIRD GROUP. Cottina.

Gen. 2 Podabrus, 2 Blepsias, 1 Nautichthys, 1 Scorpænichthys, 26 Cottus, 10 Centridermichthys, 1 Icelus, 1 Triglops, 2 Hemilepidotus, 2 Artedius, 1 Ptyonotus, 1 Polycaulus, 29 Platycephalus, 1 Hoplichthys, 2 Bembras, 8 Prionotus, 6 Lepidotrigal, 14 Trigla.

FOURTH GROUP. Cataphracti.

Gen. 10 Agonus, 2 Aspidophoroides, 6 Peristethus, 4 Dactylopterus, 1 Cephalacanthus.

Dactylopterus volitans is of the Mediterranean, and D. orientalis of the East Indies. The flying

gurnards raise themselves into the air by means of their pectoral fins, and swing themselves forward for a hundred feet.

TRIGONA LÆVICEPS, *Smith*, of Burma and Singapore, the bee which buries the Vatica robusta and other dammer resins. It is the Kalliada of the Malealam hill-men. The Burmese call the resin Pwai-nyet.

TRIGONELLA, a genus of plants of the natural order Fabaceæ or Bean tribe. There are about thirty species. T. cœrulia, corniculata, fœnum-græcum, and ornithopodioides occur in India. T. corniculata, *Linn.*, T. elatior, *Sm.*, a native of France, but cultivated in India. It has small yellow flowers, and fruits in the cold season.

TRIGONELLA FŒNUM-GRÆCUM. *L.*

Halbeh, Shimlet, .	ARAB.	Shemlit, ...	PERS.
Mentia, ...	CAN.	Uluwa, ...	SINGH.
Fenugreek, . . .	ENG.	Vendium, . . .	TAM.
Methi, ...	HIND.	Menti kura, Mentual,	TEL.

This plant is a native of the south of Europe, but is cultivated in Asia Minor and in India. Mucilage, starch, fixed oil, and colouring matter constitute the greater part of its seed, which are used by the native practitioners in dysenteric affections, cough, and special diseases, and the Arabs employ it in poultices and fomentations. It is cultivated for a pot-herb, considered very wholesome. It imparts a very strong odour and taste to curries, and the seeds are said to be slightly tonic. They are also used as coffee after roasting, and to form a yellow dye, and are said to be emmenagogue.—*Powell.*

TRIGONOMETRICAL SURVEY of India was begun at Cape Comorin in 1800. Its originator was Colonel Lambton, who has been succeeded by Sir George Everest, Sir Henry Waugh, Colonel J. T. Walker, and Colonel Thuillier, and about three-fourths of the whole of British India has been surveyed. It is calculated that by the year 1886, the whole of the vast area of India, 1,382,624 square miles, will have been completed by the Grand Trigonometrical Survey, and by the Topographical and Revenue Surveys, though portions may require resurveying. In the triangulations of India, chains of triangles have been carried along the principal meridians and the course of the eastern and western frontier, and these were connected together by other chains, the northernmost of which followed the Himalayan frontier line, while others were carried along certain parallels of latitude at convenient intervals. Colonel Everest's meridional arc is the axis of the system. Base lines are measured at the extremities of the longitudinal chains, and at the points where the chains cross Colonel Everest's arc. The great quadrilateral figure which connects Dehra Doon with Kurachee comprises four base lines and about 2500 angles, appertaining to 8 chains of triangles.—*Ann. Ind. Admin.*

TRIGONOMETRY as known to the Hindus appeared to Professor Playfair to have been drawn up by one who was deeply versed in the subject, and who knew more than he thought necessary to communicate. It is probably a compedium formed by some ancient adept in geometry, for the use of others who were mere practical calculators.—*Elphinstone*, p. 128.

TRIGONOSTEMON LAWIANUS. *Nimmo.*

Dimorphocalyx glabellus, *Thw.*	Croton Lawianus, *Nimmo.* Welle wenne, . . SINGH.

A very common middling-sized tree in the dense, moist western forests of the Peninsula from Canara down to S. Travancore, up to 3500 feet elevation on the Bombay Ghats and in Ceylon.—*Beddome, Fl. Sylv.*

TRIKALA, of the Cis-Sutlej, is wheat and barley sown together. It is called guji in the Panjab.

TRIKANDA, a Sanskrit vocabulary in three chapters.

TRIKUTA, SANSK., from Tri, three, and Kuta, a mountain peak. Tri-kuta-devi, three-peaked or trident goddess, a triple-peaked mountain in the Outer Himalaya, south of Chaneni, held sacred by the Hindus. It is a curious three-peaked hill, the last culminating point of the range separating the Chenab from the Ravi.—*Thomson's Tr.* p. 311.

TRI-KUTA. Colonel Tod tells us that the infant Bappa, son of Nagadit, when only three years old, was conveyed to the fortress of Bhandere, where he was protected by a Bhil of Yadu descent. Thence he was removed for greater security to the wilds of Parassur. Within its impervious recesses rose the three-peaked (trikuta) mountain, at whose base was the town of Nagindra, the abode of Brahmans, who performed the rites of the great god. In this retreat passed the early years of Bappa, wandering through the alpine valleys, amidst the groves of Bal and the shrines of the brazen calf. The most antique temples are to be seen in these spots,—within the dark gorge of the mountain, or on its rugged summit, in the depths of the forest, and at the sources of streams, where sites of seclusion, beauty, and sublimity alternately exalt the mind's devotion. In these regions the creative power appears to have been the earliest, and at one time the sole object of adoration, whose symbols, the serpent-wreathed phallus (lingam), and its companion the bull, were held sacred even by the children of the forest. In these silent retreats Siva (Mahadeva) continued to rule triumphant, and the most brilliant festivities of Udaipur were those where his rites were celebrated in the nine days sacred to him, when the Jain and Vaishnava mix with the most zealous of his votaries. But the strange gods from the plains of the Yamuna and Ganges have withdrawn a portion of the zeal of the Gehlot from their patron divinity Eklinga, whose dewan or vicegerent is the rana. The temple of Eklinga, situated in one of the narrow defiles leading to the capital, is an immense structure, though more sumptuous than elegant. It is built entirely of white marble, most elaborately carved and embellished; but, lying in the route of a bigoted foe, it has undergone many dilapidations. The brazen bull, placed under his own dome, facing the sanctuary of the phallus, is nearly of the natural size, in a recumbent posture. It is cast (hollow) of good shape, highly polished, and without flaw, except where the hammer of the Tartar had opened a passage in the hollow flank in search of treasure. Amongst the many temples where the brazen calf forms part of the establishment of Bal Cesar, there is one sacred to Nanda alone, at Naen, in the valley. This lordly bull has his shrine attended as devoutly as was that of Apis at Memphis; nor will Eklinga yield to his brother Serapis. The changes of position of the Apis at Naen are received as indications of the fruitfulness of the seasons, though it is not

apparent how such are contrived. There are perhaps in India millions of the idol Nandi, the bull or calf vahan of Siva, and it is always placed in a seated posture looking towards the lingam. —*Travels*, 136; *Tod's Rajasthan*, i. 222.

TRIKUTA, a mountain in Kashmir, forming part of the range bounding the valley of Srinuggur on the south; lat. 32° 58′ N., long. 74° 37′ E. The summit is covered with snow almost throughout the year. According to Thornton, on its northern flank a spring gushes from the rock in regular pulsations,—hot in winter, but cooled by intermixture of the melting snows during the summer months. The Hindus regard this spring as holy, and pay pilgrimages to it from considerable distances.—*Imp. Gaz.*

TRI-LINGAM, said to be the origin of the name Telinga. It means three lingams.

TRI-LOCHNA. SANSK. Three-eyed, a name of Siva.

TRILOKA, the three worlds, heaven, earth, and hell, or earth, sky, and heaven. In Hindu mythology, fourteen spheres are recognised. Triloka-Darpan, or Mirror of Three Worlds, a geographical tract of the Buddhas.—*As. Res.* iii. 299.

TRIMBAK, a small town in the Nasik district of the Bombay Presidency, in lat. 19° 54′ 50″ N., and long. 73° 33′ 50″ E., 20 miles S.W. of Nasik town; population (1872), 3763. Trimbak is visited by all the pilgrims who go to Nasik, and has a special fair in honour of Trimbakeswar Mahadeo, held on the occasion of the planet Jupiter entering the sign Leo, which event happens generally once every twelve years. The town is 4255 feet above the sea. The hill fort at Hursh, 3 miles W. of Trimbak, is 5659 feet. Otur, near Trimbak, is 4096 feet.—*Imp. Gaz.*

TRIMBUK JI, an officer under the last Peshwa of the Mahrattas, who was imprisoned by the British in Tannah, from which he escaped by the aid of a Mahratta groom. This servant had to groom a horse of the officer commanding. It was picketed under the window of Trimbuk Ji's place of confinement. While grooming, he sang songs containing directions for Trimbuk Ji of the following character:—

'Behind the bush the bowmen hide,
The horse beneath the tree;
Where shall I find a knight will ride
The jungle paths with me?
There are five and fifty coursers there,
And four and fifty men,
When the fifty-fifth shall mount his steed,
The Dekhan thrives again.'

Trimbuk Ji escaped, but was recaptured and confined in the fortress of Chunar.—*Heber*, ii. p. 335.

TRIMULGHERRY, a small hamlet eight miles N. of Hyderabad in the Dekhan, near which a cantonment for European soldiers has been located.

TRIMUL NAIK or Tirumulla Nayak, of the Naik dynasty, reigned A.D. 1621 to 1657. He erected a choultry at Madura for the reception of the presiding deity of the place in its periodical migrations. It is 333 feet long by 105 feet in width. It took 22 years to erect, 1623 to 1645, and is said to have cost a kror of rupees = a million sterling.—*Fergusson* p. 362.

TRIMURTTI, SANSK., an idol of the Hindus, of one body with three heads, is the term employed to designate the triad of gods of the Hindu mythology, Brahma, Vishnu, and Siva, whose attributes are those of the Creator, the Preserver, and the Destroyer. The consort of Brahma is Saraswati; of Vishnu, Lakshmi, Padmi, or Sri; and that of Siva is Parvati, Bhawani, or Durga. The attendant vahan or vehicle of Brahma is a Hanasa or goose, that of Vishnu is a Garuda or eagle, and Nandi or the bull pertains to Siva. Meru is the station of Brahma, the sun that of Vishnu, and Jupiter that of Siva. The symbols of the three deities are respectively Time, Water, and Fire. Their common titles, A. U. M., are, for Brahma, Parameswara; for Vishnu, Narayana; and Mahadeva for Siva. Vishnu under the figure of the sun, by the saligram and the nine avatars, while the lingam and numerous epithets are the usual figures indicating Siva. Brahma of the Hindu theology is supposed to be the analogue of the Saturn of the west, while Jupiter represents both Vishnu and Siva. The trimurtti is known in the Peninsula as mu-murti (Mur, TAM., three). In the philosophy of Hinduism, Brahma, Vishnu, and Siva, god and the world, are one, nevertheless legends relate their fights and quarrels. Many Saiva Hindus believe in the three as triune, but Vaishnava Hindus are rarely in accord in this, and the bulk of the Hindu religionists regard Siva or Iswara, Vishnu, and Brahma, or his essence Parabrahma, as distinct deities.

Of this triad, the modern Hindus scarcely recognise Brahma, who has at present not a single temple throughout all India (or at least only one), although Saraswati, his female companion, continues to be reverenced. The worship of Vishnu seems to have come from Central Asia, and that of Siva from the basin of the Lower Indus through Rajputana, and both displaced the nature-worship of the Vedas. In the existing state of Hinduism, however, every Hindu has a separate belief, and Siva, Vishnu, with their avatars and various forms, their sakti or female powers, hero-worship, the worship of deified beings, devil-worship, and the worship of the lingam, are the prevailing cults. Indra, once regarded as the king of heaven, is almost unheard of and unknown. Amongst the earliest dissenters from Indra were the Yadu race, under Krishna's influence. The reasons leading him to this are not known, but the Mahabharata makes him say to Nareda, his father, 'Why worship Indra as the supreme god? O father, we are Vaisyas, and our cattle live upon the pastures; let us therefore cease to worship Indra, and pay our devotions to the mountain Govardhana.' Up to that time it was to the heaven of Indra that the good who died proceeded. Up to then the two gods, Indra and Agni, rain and fire, were the chief deities worshipped by the Vedic Aryans.

Indra, the sovereign of the gods, was the most powerful of the Vedic deities, the god of the firmament, the hurler of the thunderbolt, who smote the rain-cloud and brought down waters, who delighted in the soma juice, in eating, in drinking wine, and in war. Indra, according to Bunsen (iii. pp. 537, 538, iv. p. 459), is the prototype of Zeus, and was a personification of ether. Soma was offered to him in sacrifice.

Agni, the personification of fire, was worshipped as the destroyer of forests, as useful in the sacrifice and in the household. 'When generated from the rubbing of sticks, the radiant Agni

bursts forth from the wood like a fleet courser.' 'When excited by the wind, he rushes amongst the trees like a bull, and consumes the forest as a raja destroys his enemies.' 'Such as thou art, Agni, men preserve thee constantly kindled in their dwellings, and offer upon thee abundant food' (Rig Veda, i. 73).

Varuna was the Vedic god of the waters, and god of the ocean, but the name was sometimes applied to the sun, and sometimes used a personification of day. As with other gods, when addressed he was regarded as supreme, and capable of forgiving sin:—

'Let me not yet, O Varuna, enter the house of clay; have mercy, Almighty, have mercy!
'If I go along trembling, like a cloud driven by the wind; have mercy, Almighty, have mercy!
. . . . . .
'Thirst came upon the worshipper, though he stood in the midst of waters; have mercy, Almighty, have mercy!'

Surya, or the sun, called also Savitra, Mitra, Aryaman, and other names, was a Vedic god, who is still adored by Brahmans and Zoroastrians. The Solar race of Kshatriya, who appear in the Ramayana, derive their origin from the sun; but in the higher spirit, the sun is regarded as divine, as pervading all things, as the soul of the world and supporter of the universe. In a verse of the Rig Veda (iii. 62 and 10), this idea is supposed to be indicated. It is 'O'm! Bhūrbhuvāssuvāhā, O'm! Tatsa vit'hru varēnnyâm, B'hargo devâssyâ dhimahi dhiyo yonaha pracho dayath. O'm! Earth, air, heaven, O'm! let us meditate on the supreme splendour of the divine Sun; may he illuminate our minds.' Brahmans regard this verse as an invocation to the several deities who are implored by the worshipper, to aid his intellect in the apprehension and adoration of God.

In connection with the sun are the twelve Aditya, sons of Aditi, the universe. In the later Vedic age they were identified with the twelve signs of the zodiac, or the sun in its twelve successive signs.

Soma, also Chandra, the moon, is chiefly celebrated in the Vedas in connection with the soma plant, but in the Mahabharata is the mythical progenitor of the great Lunar race of Bharata.

The Aswini, apparently a personification of light and moisture, as sons of the sun, also as the sun's rays, and noticed as the physicians of the gods. They are described as young and handsome, and riding on horses.

Vayu or the air, and the Maruts or winds, are personified and invoked. The Maruts are depicted as growing amongst the forests, compared to youthful warriors bearing lances on their shoulders, delighting in the soma juice like Indra, and, like him, the bestowers of benefits on their worshippers.

Ushas or the dawn, the early morning, the first pale flush of light. Ushas is compared to a mother awakening her children, to a lovely maiden awakening a sleeping world, to a young married maiden,—'like a youthful bride before her husband, thou uncovereth thy bosom with a smile.' As a goddess, she is styled the (Rig Veda, i. 123, v. 2) mighty, the giver of light; from on high she beholds all things; ever youthful, ever reviving, she comes first to the invocation.—*Rig Veda; Bunsen's Egypt.*

TRINCOMALEE, on the E. coast of Ceylon, has the finest bays and harbours in that island. It has the most secure harbours in the Indian seas but its present importance is not great. The country around is almost deserted. The town is built on the neck of a bold peninsula on the north side of the bay, stretching between the inner and outer harbours, rising at its southern extremity into lofty precipices covered to their summits with luxurious forest. The dockyard is in lat. 8° 33′ 30″ N., and long. 81° 13′ 10″ E. Trincomalee was taken by the British in the end of 1795, but Ceylon was incorporated after the peace of Amiens, 27th March 1802. Trincomalee wood is the Berrya ammonilla, *Roxb.*—*Findlay.*

TRINGA, a genus of birds common in Europe and Asia. T. sub-arquata, the curlew sandpiper of the northern regions to beyond the equator and Australia, is very common in India.

T. canutus, the knot of the northern regions; rare in India.

T. platyrhyncha, the broad-billed sandpiper of Europe, Asia, Sumatra, Borneo, and Timor; not uncommon in India; rare in the United States of America.

T. minuta, the little stint of Europe and Asia, is very common in India.

T. Temminckii, Temminck's stint of Europe, Asia, and N. Africa; common in India.

T. alpina, or T. variabilis, the dunlin of the arctic northern regions, Japan, Timor (Temminck), Guiana; is not rare in India.

TRINGANU, a fertile and well-wooded district, containing gold and tin, between the Malacca Straits and the Gulf of Siam, containing about 50,000 souls. Tin is used as money. The raja has borne before him, as marks of royalty, six spears with gold ferules.

TRINGANY RIVER, on the east coast of the Malay Peninsula, in lat. 5° 21′ N., and long. 103° 4′ E., has a little trade in pepper and gold. The roadstead is safe from March to September.

TRINOMALY, a town in the S. Arcot district, in lat. 12° 15′ N., long. 79° 9′ E., celebrated for its beautiful and extensive pagoda, which stands to the east, and at the foot of the Trinomaly Hill. Pilgrims resort to it in November, and 78,000 persons are known to have been present. The town frequently changed hands in the 18th century. Between 1753 and 1791 it was besieged on ten separate occasions, and was six times taken, thrice by assault. From 1760 it was a British post, on which Colonel Smith fell back in 1767, as he retired through the Chengama pass before Hyder Ali and the Nizam. Here he held out till reinforced, when he signally defeated the allies. The last time it was taken was in January 1791 by Tipu. It submitted unconditionally to Tipu, but the devastation and outrage were horrible.

TRIONYX, a genus of reptiles of the order Chelonia and class Testudinata. T. Guntheri, *Gray*, is known; also T. Ægyptiacus, Euphraticus, and ocellatus. The following species occur in India:—

T. Sinensis, *Wiegm.*, China, Chusan, Formosa.
T. Gangeticus, *Cuv.*, Ganges, Penang.
T. Javanicus, *Sch.*, Ganges, Penang, Dekhan.
T. ornatus, *Gray*, Siam, Cambodia.
T. sub-planus, *Sch.*, Singapore, Penang.

TRIPASSOOR, a small decayed town in the Carnatic, in lat. 13° 7′ N., and long. 79° 52′ E., with a fort now in ruins. It was formerly a station for cadets, and afterwards a small number of Chelsea pensioners resided in it. It is 25 miles west of Madras. The level of the plain is 183 feet above the sea.

TRIPATUR or Tirupatur, chief town of Tirupatur taluk, Salem district, Madras, in lat. 12° 29′ 40″ N., and long. 78° 36′ 30″ E.; population (1871), 12,837. Tirupatur was captured by the British, and retaken by Hyder Ali in 1767.—*Imp. Gaz.* ix.

TRIPATTY or Tirupati, in lat. 13° 38′ N., and long. 79° 27′ 50″ E., a town, a hill, and a Hindu pagoda, 80 miles west of Madras, in the N. Arcot district. Tripatty is divided into two parts, the Upper Tripatty and the Lower Tripatty. The former is a small village, with a temple, situate on a fertile and elevated valley between two hills of moderate height. The construction [illegible] the temple above is very simple, but it is the [illegible]est shrine in Southern India. It has jewels [illegible] other things worth 50 lakhs of rupees, and [illegible]ash it has an equal amount. It is here [illegible] pilgrims of all creeds and castes flock every [illegible] from all parts of India. The number of [illegible]ims on ordinary days amounts to two or three [illegible]red; but during the annual festival, forty or [illegible] thousand people gather together on the hill. [illegible]ame of the up-hill idol is Streenivasen, and [illegible]e one below, Govindaraja Perumal. The [illegible]ms always first ascend to the Upper Tripatty [illegible] perform their vows, and then come down, [illegible] visit to the idol below, and return to their [illegible]s. The principal part of the vow in the up-[illegible]emple consists in shaving completely the [illegible] of men and women indiscriminately. A [illegible]large part of the pilgrims who visit this [illegible] walk up the hill, but the rich go in small [illegible]le cots. The annual festival held here is [illegible]arge, and to it (in 1772) is attributed the [illegible]ecorded cholera epidemic in India. Up to [illegible] the pagoda was under the management of [illegible]ritish Government, who derived a consider-[illegible] revenue from the offerings. Now, however, the whole is given over to the mahant or abbot; and in 1873, at Surgeon-General Balfour's suggestion, the mahant established a dispensary at Lower Tripatty. In the year 1870, a party of police ascended the hill in search of a person accused of murder; and Mr. Gribble (Cal. Rev.) described it as a second-rate temple. The idol is of stone, about seven feet high, with four arms, holding in one right hand a chakra, and in the left a chank shell. The other right hand points to the earth, and the other left hand holds a lotus. Its early history is not known, but it is supposed to be of ancient date. Hindus visit it as pilgrims from great distances, usually in bands and of all ages under a leader, the members calling out 'Govinda,' a name of Vishnu. Offerings are made with every possible object and of every degree of value,—gems, jewels, gold and silver cloths, always the hair of the head, and from the lame a silver leg, from the blind a gold or silver eye. Its revenues are derived from offerings (kannikai), arjitum or receipts, for purifications (abishekam), offerings (naividium), and processions (wahanum), and there are villages and lands held by the officers of the temple. The chief period of pilgrimage is during the Brahmantsowin, or legendary nine days' celebration of the idol's nuptials with Padmavati, daughter of a king.

TRIPHASIA TRIFOLIATA. *D. C.*

T. aurantiola, *Lour.* Limonia trifoliata, *Linn.*	L. diacantha, *D. C.*
China naringi, . BENG. China orange, . . . ENG.	Manilla lime-berry, . ENG.

A very handsome shrub, with middle-sized, white, fragrant flowers, and a bright-red, pleasant fruit, like an orange in miniature; often found in Chinese preserves. Worth cultivation for the exquisite fragrance of its flowers. Its fruits are small but of pleasant sweetness.

T. monophylla, *D. C.*, occurs in Timor, and a species occurs in China and Cochin-China. The genus belongs to the natural order Aurantiaceæ, and the species are found in the East Indies, Cochin-China, and China; thorny shrubs with simple or trifoliate leaves. The fruit of T. trifoliata is acid in taste, and is both preserved and eaten as a fruit.—*Mason; Voigt; Von Mueller.*

TRIPITAKA. The sacred canon of the Buddhists is called the Tripitaka, *i.e.* the three baskets. On Buddha's death, 500 of his disciples assembled in a cave near Patna, and collected his sayings. This was the first council. They chanted the lessons of their master in three great divisions,—the words of Buddha to his disciples, his code of discipline, and his system of doctrine. These became the three collections of Buddha's teaching, and the word for a Buddhist council literally means 'a singing together.' The first basket contains all that has reference to morality, or Vinaya; the second contains the Sutras, *i.e.* the discourses of Buddha; the third includes all works treating of dogmatic philosophy or metaphysics. The second and third baskets are sometimes comprehended under the general name of Dharma, or law, and it has become usual to apply to the third basket the name of Abhidharma, or bye-law. The Sutras are ascribed to Sakya Muni. They consist of ethical and philosophical dialogues by Sakya, and they make mention of the gods Narayan, Jonardhan, Shiö, Brahma, Petomah, Borun (Vorun), and Songkar, other names for Shib, Kubir, Sokr or Vasob, and Vissoo Kormo. The Chinese copy of the Buddhist Tripitaka in the library of the India Office, consists of 2000 volumes. Mahinda, son of Asoka, is supposed to have carried the Attha-katta, ancient commentaries in Pali, to Ceylon, and to have translated them into Singhalese, which Buddhaghosha, about A.D. 430, retranslated into Pali. According to another account, the doctrines were first reduced to writing by the Ceylon priests during the reign of king Vartagamani, B.C. 88–76, and by a synod assembled A.D. 10–40 by the Turushka king Kanishka. For the former the language used was the vernacular, from which in the 5th century it was translated into Pali. For the latter, Sanskrit. Hardy, in his Eastern Monachism, has discussed the views held of Buddha in Ceylon. Changes must have been made very early, for eighteen heresies are deplored in the Mahawanso within two centuries from Sakya Sinha's death. In Ceylon, this faith has not been subjected to much persecution. In the 16th century, the Tamil invaders made every effort to destroy the books, but the priests sent

missions to Siam, properly ordained priests were imported from Burma, and by the 18th century Buddhism had regained its ascendency. The priests latterly have been actively diffusing a knowledge of their creed. They have printing presses, from which tracts, pamphlets, and serials issue in great numbers. They present some new and ingenious arguments, but the defiant and blasphemous expressions which they contain against the sacred name of Jehovah, are probably the most awful ever framed in human language. —*Cal. Rev.*

TRIPNO in form is similar to the horoscope of almanacs, somewhat resembling the Muhammadan Takwim. The subject is the duration of the Yoga, Nakshatra, Tithi, Wara, and other astronomical divisions of time. The object of it is devotional. —*Burton's Scinde*, p. 400.

TRIPOLI, a mineral, first brought from Tripoli and Africa: It is composed of silica, alumina, and oxide of iron, and consists almost entirely of fossil deposits of the siliceous coats of diatoms, which from their hardness form an excellent means of polishing metals, marble, glass, etc. The town of Richmond, in the United States, is built upon a stratum of these bodies twenty feet in thickness; in California and America generally, in Bohemia, throughout Europe and Africa, and in Great Britain, are found similar deposits, varying in the different species present.—*Gosse's Natural History*, p. 27.

TRIPOLY, meaning three cities, is the name of a city of Syria — Tarāblus-ush-Sham, and of a city of Barbary—Tarāblus-ul-Gharb. The latter has a spacious, safe harbour. The Syrian Tripoli is also a seaport town on the Mediterranean, on a plain at the foot of a branch of Mount Lebanon. It has the remains of buildings erected by the Crusaders, who took it A.D. 1108. It had previously been a famed seat of oriental literature. The three Syrian cities are supposed to refer to three colonies from Tyre, Sidon, and Aradus, which settled in three neighbouring places, and subsequently joined one another. The present town is built at the foot of the lowest hills of Libanus, about half an hour's distance from the sea-shore. The river Kadesha (Holy), otherwise called Nahr-Abu-Ali, flows through it, dividing the town into two equal parts, of which that to the south is the more considerable. It is enclosed by walls of no great height or strength. It is called Tarāblus-ush-Sham, or Eastern Tripoli, to distinguish it from Tripoli in Barbary, which is called Tarāblus-ul-Gharb, or Western Tripoli.—*Robinson's Travels*, ii. p. 69; *Catafago.*

TRIPUNDRA. SANSK. A triple transverse line on the forehead of the worshippers of Siva. It is made with the vibhuti or ashes taken from the fire of an Agnihotra Brahman, or they may be the ashes of burnt cow-dung from an oblation offered to the idol. See Gop Chandana; Vibhuti.

Tripura, the district of Tiperah, from Tri, three, and Pura, a town. Tripura comprises the three towns of the three maternal uncles of Ravana.

Tripurari, the same with Mahadeva.

Tripureswari, a form of Durga.

Triratna, SANSK., three precious things of the Buddhist creed, the tree, the lion, and the wheel; also the three gems, Buddha, Dharma or the Law, and Sangha, the church or clergy; also the Buddhist triad.

Trisala, wife of Siddhartha, mother of Mahavira.

Trisanku, a prince of Oudh of the Solar line, elevated to heaven during his life by the sage Visvamitra.

Trishikha, SANSK., from Tri, three, and Shikha, the ascending flame.

Trisiras, SANSK., three-headed, the name of a son of Twashtri, also a name of Kuvera, god of wealth, also the same with Cerbura.

Trisul or Triratna, a Buddhist symbol, degraded at Jaganath to an idol.—*As. Res.* ix. p. 127, xvii. p. 252, iii. p. 409.

TRISUL, a triple-peaked hill in Kamaon, on the boundary of Garhwal; the east peak is 22,342 feet above the sea; the middle peak, 23,092 feet; and the west peak, 23,382 feet.

TRISULA, the trident of Siva. It is considered to be in continual motion over the face of the universe to guard and preserve its creatures. To oppose its course would be to incur immediate death. Its motion would appear to be regular, but varying according to the days in the w Thus on Monday and Saturday, Siva is sai hold his trident from the east. No one sh on these days, travel in that direction. It i lucky to proceed towards the westward on Su and Fridays, to the northward on Tuesday Wednesdays, to the eastward on Saturday Mondays, and to the southward on Thur The trisula or trident symbol of Siva wa used on a copper paisa weighing 98¼ grai circulation in the province of Benar only. special emblem of Siva constituted the l of the Bhattaraka. Varieties of the trisul, b trident continued to be emblematic on th of the early part of the 19th century in M Jalaor, Sagar, Srinuggur, Kalpi, etc.—*Pri Ant.; Wilson.* See Trident.

TRITICUM, a genus of plants belonging Gramineæ. Several species are extensively in S.E. Asia. They furnish the wheat, a s grain largely used for food since the most a times. There are numerous sorts of cult wheat, from which must be distinguish three primary varieties, viz.:—

Var. a. muticum, T. hybernum, *Linn.*, the w wheat or unbearded wheat.

Var. b. aristatum, T. æstivum, *Linn.*, the summer wheat or bearded wheat.

Var. c. adhærens, T. spelta, *L.*, wheat with fragile axis and adherent grain.

Metzger enumerates as distinct kinds of cultivated wheat, T. dicoccum, durum, monococcum, polonicum, spelta, turgidum, and vulgare.

Wheat is grown largely as a winter crop in Coimbatore, Salem, Mysore, Berar, Sind, Oudh, Rajputana, Central India, and in the Panjab plains, T. æstivum being the common species, and T. durum the more frequent about Ludhiana and Multan, of many varieties, white or red, generally bearded; but beardless wheat is common in some parts. Twelve samples of red and sixty-two of white wheat were exhibited at the Lahore Exhibition. Red wheat holds a very much lower place in the estimation of the Panjab natives, and sells at a cheaper rate, than white, the former being consumed by the poorer classes and the bulk of the population, whilst the use of the latter is restricted to men of wealth. Several varieties of white wheat are also grown. The gilgit or paighambri, a small, round, fancy

grain, is also called Mullane or Rai Munir, from the places where it was first grown. There are also daud khani, ghoni, kabr, and vadanak (kanag dagar, Shahpur), the last-named being a particularly fine large grain.

Some kinds are grown to great heights in the Himalayas, wheat being one of the chief crops up to 9500 feet on the Chenab, and, according to Dr. Cleghorn, occurring to 15,000 feet on the Sutlej, good to 11,500 feet, and grown to 13,000 feet in Ladakh. At Ambala, wheat and also barley are sometimes sown as early as August and September, so as to be in flower in December; but in this plan it is frequently killed by frost.

The various kinds of wheat have been known from a very early period, and mention is made of wheat as a food in the earliest records of the history of man. Both the Egyptians and the Jews made use of wheat as an article of diet, and this food is early mentioned in the Bible. It was also used by the Greeks and Romans, and Theophrastus and Pliny make frequent mention of it. When the fruit is ground, the testa, or seed-coat, is separated from what is called the flour. This flour consists of the powdered albumen and embryo of the seeds. The proximate vegetable principles which this flour contains are starch and gluten. The starch is a highly carbonized vegetable principle, whilst the gluten is characterized by possessing nitrogen. Foods that contain carbonaceous matters are fattening, whilst those that contain nitrogen are strengthening. It is thus that wheat-flour has come to be the staple article of diet of the finest races of men in the world. The other cereal grasses contain the same principles, but the gluten or azotized principle is not in so large a quantity as in wheat, as the following analysis of 100 parts of the organic matter of wheat, rice, and barley will show:—

Wheat,	70·00 starch.	23·00 gluten.
Rice,	85·07 ,,	3·60 ,,
Barley,	79·00 ,,	16·00 ,,

The chemical composition of wheat greatly varies, however, according to the soil in which it is grown. In 100 parts, the following was found to be the composition of eight samples:—

	Baroach.	Gujerat.		Bombay Bazar.			Madras.	Calcutta.
Moisture,	12·40	10·88	13·28	13·41	13·32	12·56	10·80	11·78
Nitrogenous matter,	14·68	13·30	13·19	12·84	14·90	14·26	12·98	12·73
Starchy matter,	69·78	73·23	70·87	70·99	65·84	70·26	73·51	72·58
Fatty or oily matter,	1·16	1·29	1·20	1·17	1·14	1·06	1·03	1·01
Mineral constituents,	1·98	1·30	1·25	1·59	2·10	1·86	1·68	1·90

—*Powell; Stewart; Dr. Cleghorn; Eng. Cyc.*

TRITICUM ÆSTIVUM. *Linn.* Summer wheat.

Burr,	Arab.	Rozat, Zud,	Ladakh.
Godhama, Gono,	Beng.	Shruk,	,,
Marghoom,	Bombay.	Tokar, Tomar,	,,
Ghawat-ghoom,	,,	Kunuk,	Panj.
Gyung-sa-ba,	Burm.	Gandam,	Pers.
Siau-meh,	Chin.	Soomuna,	Sansk.
Kum'h,	Egypt.	Kauk, Giho,	Sind.
Gehun,	Hind.	Godumbay arisi,	Tam.
Dro, Do, Tro, To,	Ladakh.	God'humulu,	Tel.

This is found in the Sutlej valley between Rampur and Sungnam at an elevation of 13,000 feet; highest limit, 15,000 feet. Both bearded and awnless varieties occur; kunuk denotes the flour, not the grain. Rice is not observed above 6000 feet. This variety is cultivated in many parts of British India. Two sorts are grown in Mysore, called Hot-te godhi and Jeve godhi, the latter being covered with husks like paddy. Jeve godhi is only grown in the lands bordering on the Pennar, and the gardens in the Bangalore division. The Hot-te godhi is largely cultivated in dry lands in the Chittuldroog division, and the vicinity of Hurrihur. This is the wheat usually employed for making loaf bread. It is exported to the Neilgherries.—*Roxb.; M. E. J. R.; Cleghorn, Panjab Report; Ainslie.*

TRITICUM DURUM. *Desf.* True bearded wheat. It is grown in Switzerland, Italy, Sicily, Spain, and in the Panjab, and it is frequent about Ludhiana, Multan, etc.—*Edgeworth.*

TRITICUM HYBERNUM. *Linn.* Lammas wheat, winter wheat. Is grown in the Panjab and in the N.W. Himalaya.—*Roxb.*

TRITICUM REPENS.

Meh-huh, ... Chin. | Couch grass, . . . Eng.

TRITRAN or Three Corners of the people of Sind, is the Katar of the Persians and Afghans. The latter people are very fond of it, especially the lower orders in the country villages.—*Burton's Scinde*, p. 294.

TRIUMFETTA ANGULATA. *Lam.*
T. rhomboidea, *Jacq.*, *Hook.*

A plant of Berar, belonging to the natural order Tiliaceæ, yields a fibre.

TRIUMFETTA LOBATA. *M'Clelland.*

Phet-wun, . . . Burm. | Po-lo-ma, . . . Chin.
Bet-won, ... ,,

This fibrous plant is annual, and grows to a height of five or six feet. It presents a small yellow flower in December, consisting of five petals, and in February presents a small round capsule covered with stiff bristles.—*M'Clelland.*

TRIVANDRUM or Tiruvantipuram, the capital of Travancore State, in lat. 8° 29′ 3″ N., and long. 76° 59′ 9″ E. Within its fort are the residences of the maharaja and his relatives and officers; also the temple of Padmanabha (the Lotus-navelled), a name of Vishnu. The chief out of the 45 utparas (feeding-houses) maintained by the State is also at Trivandrum, and is known as the agarasala.—*Imp. Gaz.* ix.

TRIVENI, the triple braid, a name of Prayaga. It is the mystical union, at Allahabad, of the three sacred rivers, the Ganges, Jumna, and Saraswati, severally the consorts, or energies, of the three great powers, Siva, Vishnu, and Brahma. Triveni, or the three-plaited locks, is a mythological junction, a female triad, similar to that of the Trimurti of male powers. The Ganga or Ganges, Yamuna or Jumna, join near Allahabad, and the Saraswati, now a dry bed, is also supposed to join the other two underground. A Hindu dying near the imagined confluence of these three streams, or even those of the Ganga and Yamuna, attains immediate beatitude; consequently self, or self-permitted, immolations, sati, etc., were meritorious on this peculiarly holy spot. The junction of the three waters at Allahabad is a sacred prayag, and an annual mela is held in March for purposes of ablution. Junctions of any sort, especially of waters, are held sacred by Hindus, and above all, the union of these sacred rivers Ganga and Yamuna or Jumna near Allahabad, the latter river having previously received the Saraswati below Dehli, so that, in fact, all three do unite at this famed sangam or confluence. But the Hindu poet feigns a subterrene flow of

the Saraswati, and a mystical union at the sacred point, where bathing is deemed peculiarly efficacious, and where zealots are persuaded that suicide is of a most meritorious description. Major Moor once saw, at Poona, a well-modelled group in clay, where Radha's locks, tripartite, were plaited into the mystical Triveni by the amorous Krishna, who sat rapturously admiring the work of, and in, his hands. Other rivers are, however, held sacred by the Hindus, viz. the Godavery, the Sindhu or Indus, the Krishna or Kistna, and the Brahmaputra. — *Campbell; Tr. of Hind.; Cole. Myth.; Moor, Pantheon.*

TRIVENI or Tribeni, the Three Streams, is a village in the Hoogli district of Bengal, in lat. 22° 59′ 10″ N., and long. 88° 26′ 40″ E., at the junction of the Hoogli branch of the Ganges, the Saraswati, and the Jamuna. North of the Saraswati is the Tribeni ghat, a magnificent flight of steps. Tribeni was one of the four samaj or places famous for Hindu learning, the others being Nadiya, Santipur, and Guptipara. Formerly there were over 30 Sanskrit schools in Tribeni. At Tribeni, the Makara Sankranti or Uttarayan festival, the day on which the sun enters Capricorn, takes place in January, on the last day of the Hindu month of Paush, and the first day of the succeeding month of Magh. Offerings are made to progenitors, to the domestic genii, and to the universal gods. The ceremonies are performed in the house by the family priest. (1) The great bathing festival on Saugor Island is held at this time; (2) Bisuva Sankranti is held in honour of the sun at the vernal equinox, in February; (3) Varuni, the great bathing festival of Bengal, in honour of Varuna, the god of the waters, held in February or March; (4) Dasahara, held in June, in commemoration of the descent of the goddess Ganga from heaven to save the souls of the 60,000 sons of king Sagar, who were reduced to ashes for the crime of assaulting a Brahman sage; (5) Kartik, in honour of Kartikeya, son of the goddess Durga. All these gatherings are utilized for purposes of trade.

This very old place is spoken of by both Pliny and Ptolemy. It is a school of great repute for indigenous Sanskrit. The great pandit Jaganath Turkopunchanum, who was Sanskrit tutor to Sir William Jones, and who compiled the digests of Hindu laws under the patronage of Lord Cornwallis, was a native of this village.— *Statistical Account of Bengal*, iii. p. 322; *Tr. of Hind.* i. p. 16.

TRIVIKARY, a village in the South Arcot district, about 13 miles W.N.W. of Pondicherry. It has extensive fossil trees, silicified, around what seems to be a crater. About three or four miles E. and N.E. of Verdur, a village 10 miles W.N.W. of Pondicherry, are extensive fossiliferous limestone strata, containing molluscs and fishes of the Squaloid family and Placoid order. Similar strata occur at Paroor, 10 miles W. of Verdachellum, and at Ootatoor, 25 miles N.W. of Trichinopoly. The deposits at the three places, Verdur, Paroor, and Ootatoor, are connected with each other geologically. The country around Trivikary consists of a coarse sandstone, containing remains of large trunks of fossil trees, to the westward of which the primitive gneiss formation of the Peninsula appears, and to the east extensive cretaceous beds, with numerous remains of ammonites and other chambered shells which stretch for some distance towards the sea, after which the sandstone again appears, and continues until covered by the alluvial formation of the valley of the Tembakam-nala, which reaches to the sea-shore at Pondicherry. In some very well-defined sections of the sandstone rocks in deep gullies cut by the supplying streams of the Usatari tank, four miles to the east of Pondicherry, are clear indications of cretaceous fossils underlying the sandstone. The Usatari sandstone beds, instead of being under the cretaceous rocks, rest very unconformably upon them. A careful comparison between the formations at Trivikary and those at Usatari has shown that the Trivikary sandstones are identical with those at Usatari, therefore newer than the cretaceous beds, and unconformable to them.

TRI VIKRAMA, a name of Vishnu. It means he who took the three steps, and alludes to the sun's rising, culminating, and setting. See Avatar; Vamana; Vishnu.

TROCHISANDRA INDICA. *Bedd.* A very handsome, lofty tree, with a beautiful foliage. It is very abundant in the dense, moist forests of the Animallays at an elevation of 3000 to 6500 feet. It is said by the natives to yield a valuable timber. It flowers in December and January, and ripens its fruit in April and May.—*Beddome.*

TROGLODYTES. Mr. Stanley, in crossing Africa near the sources of the river Congo, came upon a country occupied by a diminutive race. The Troglodytes of Herodotus were a small-sized race of men dwelling in Ethiopia, and their food is described as that of lizards, serpents, and other reptiles; their language like the screaming of bats. Sharpe, in his History of Egypt, is of opinion that the Troglodytic Arabs held a strip of country of about four hundred miles in length on the African coast of the Red Sea, separated from Ethiopia by mountains and deserts. They were a wandering, unsettled race, described by their neighbours as savages (Diod. Sic. lib. iii. p. 33), whose wars arose for right of pasture rather than for ambition or property. They fought with slings and darts, and outran horses in their speed; they lived in caves, and killed the aged, the lame, and the sick. Other tribes, however, more civilised (Pliny, lib. xii. p. 42), afterwards traded with the Sabæans of the opposite coast, and supplied the Egyptians with the myrrh, balsam, olives, topaz, and metals which their country or their trade produced. Like their neighbours the Egyptians, the Troglodytæ worshipped images and animals, particularly the turtles peculiar to their shores, while the more civilised tribes were worshippers of one God.— *Melp.* p. 341; *Tod's Travels*, pp. 84, 85.

TROLLIUS ASIATICUS, a flowering plant of the order Ranunculaceæ. T. Europæus grows throughout the north of Europe in moist pastures in sub-alpine districts. The flowers are large and handsome. In Scotland they are called luckengowans or cabbage daisies, and are gathered on festive occasions for making garlands and decorating the cottages of the peasantry.

Trollius Chinensis, *Smith*, Kin-lien, CHIN., is the golden lotus of Chinese writers. It grows to great perfection in Tai Chau in Shen-si. It has persistent yellow flowers.—*Smith, M. M. C.*

TROMBAY, in lat. 19° 2′ N., and long. 72° 56′

E., in the Konkan, N. of Bombay. Trombáy is conspicuous for the mountain called Neat's Tongue, which attains the altitude of 1000 feet. It is nearly connected with Bombay.

TROPÆOLACEÆ, the natural order of plants known as the Indian cresses, comprising genera several species of which are ornamental. The species of Tropæolum are climbing plants, T. aduncum is the hooked nasturtium, T. azureum is the purple nasturtium, the fruit of T. minus is pickled and eaten, and T. pentaphyllum and T. tricolorum are also known. T. tuberosum is cultivated in Peru for the sake of its tubers, which, though disagreeably acrid when fresh, are not amiss when cooked. After being boiled, they are allowed to freeze, and then eaten before thawing, and while crisp. T. majus, *Linn.*, the Indian cress or nasturtion, is a showy annual, flowers and leaves of which are eaten as salads, and the seeds pickled in salt and vinegar as a substitute for capers.—*R. Brown.*

TROPHIS ASPERA. *Retz.*

Achymus asper, *Soland.*	Epicarpurus orientalis, *W. Ic.*
Streblus asper, *Lour.*	
Sheora gach'h, . . BENG.	Barranki, Bari venka, TEL.
Dahya, ... HIND.	Sahadra, . . . URIYA.
Kurrera, . . . MAHR.	

This tree is very plentiful in Ganjam and Gumsur, attaining a height of 30 feet, and a circumference of 2 feet. In Gujerat the wood is reckoned of good quality for small purposes, for it will seldom square above 4 inches. It is said to be used in Ganjam for bandy wheels. Its scabrous leaves are used to polish horn and ivory, etc. The bark is used medicinally, the leaves and sap are used for wounds and for a disease of the eye termed jokia in Orissa, said to be peculiar to children. The berries are greedily eaten by birds. *Dr. Gibson; Captain Macdonald; Royle; Voigt; Ell. Fl. Andh.*

TROPIC BIRDS. Phaeton candidus, *Linn.*, is the white tropic bird, and P. phœnicurus, *Linn.*, the roseate or red-tailed tropic bird. The former has chaste and delicate satiny plumage. They are called by sailors the boatswain or straw-tails, from the two white or red projecting tail-feathers, which they name the marline-spike, and are used as ornaments in the Society Islands. The Spaniards call them rabijunco or rush-tails. They are interesting to sailors, because met with far from land, to which seamen believe they nightly return to roost. The red-tailed species is met with in the Bay of Bengal, the Indian Ocean, and throughout all the Indian-Australian tropics. The white tropic bird also occurs in the Bay of Bengal and tropical seas, and is said to breed in the Mauritius on trees. They have been seen 1000 miles from land (G. Bennett, Gather. pp. 88-91). They breed about the end of August or beginning of September; their nests are merely circular excavations. When sitting they are easily captured; and in the Mauritius and Polynesia, in the S. Pacific, the people catch them, pull out the two long tail-feathers, and then release the bird.—*Michelet on Birds; Jerdon's Birds.*

TROPIDONOTUS, a genus of innocuous snakes. Jerdon mentions T. monticolus, plumbicolor, piscator, schistosus, and stolatus. T. macrophthalmus, 39 inches long, has a large eye, is often mistaken for a cobra. T. quincunciatus, the dhone of Bengal, is very aquatic in its habits.

TROUT. A sort of carp is usually called the Himalayan trout. It has two long string-like appendages projecting on each side of the mouth. They can be caught with a hook baited with dough; the largest does not exceed 3 lbs. in weight. The flesh is soft, very pale, and almost tasteless.—*Adams.*

TRUBU, MALAY, is the roe of the Alausa troli, a fish of which the salted and dried roes form a very considerable article of trade in the western parts of the Malayan Archipelago. The fish seems to be local, and, like salmon and some other fish, to frequent rivers for the purpose of spawning. Its favourite resort is the muddy eastern coast of Sumatra, and more especially the narrow strait which divides Bancalis and some other low islands from the mainland, and into which the river of Siak disembogues. The river of Bukit-batu is a very small stream, close to the mouth of which stands the town of Bukit-batu or rock hill, which is a place of considerable trade, the grand staple being roes of the trubu fish or telur-trubu (trubu, roe, or egg). There, three or four hundred boats, with two and three men in each, often go out at a time to the fishery, which is outside the straits of the Tanjung-Jati, or teak tree promontory. The fishery of the trubu is referred to by De Barros as conducted, on the arrival of the Portuguese, just as it is at present. The rivers (of Sumatra), says he, contain a great variety of fish, and in some of them, such as that of Siaca (Siak), they catch small shads (saves), of which the people of the country use the roe only, and of these they have a greater abundance than we have of the fish themselves.—*Decade* 3, book 5, chap. i.; *Crawfurd, Dictionary*, p. 440; *Anderson's Mission*, p. 335. See Fisheries.

TRUFFLES, the Tuber cibarium, *Sibth.*, are found in the Panjab Himalaya towards Kashmir and above Kangra. Truffles are found in Europe by the aid of dogs, a few inches below the surface of the ground, in various parts of England, and on the Continent. The London supply is chiefly from Kent, Wilts, and Hants.

TSALAI. PUKHTU. A heap of stones piled over the graves of the Afghan holy men and martyrs.—*Bellew.*

TSALE or Tschalleh. TIB. Borax. Mentog, 'borax flowers,' is fine borax from Puga and Changthang, which needs no further refining.

TSAL-WEE. BURM. A chain of nobility, a badge of nobility among the Burmese, and it is supposed to be derived from the Brahmanical thread. The order consists of six classes, distinguished by the number of gold chains, united by bosses, that compose the order. 3 of fine open work is the lowest; 3 of twisted gold chain is the next; then 6, 9, and 12, the latter being the highest grade with the exception of that worn only by majesty, and which has 24 chains. The badge of the order is worn depending from the left shoulder across the breast and back under the right arm.—*Yule; Fytche*, p. 232. See Titles.

TSANDA, a goldsmith who gave Sakya the meal of rice and young pork which brought on diarrhœa, ending in death. Sakya died in a grove of sal trees (Shorea robusta) near the town of Kusinara.

TSAN-PE-NA-GO, a noble range of hills eastward from the town of Malé in Burma, which rise in bold and craggy peaks, and attain an ele-

vation of probably some 6000 feet. This range is also named Shwe-u-doung, and is sixteen miles to the westward of the ruby mines. Snow lies on them for five months in the year.—*Yule*, p. 181.

TSAN-PU or Sangpu, a river of Tibet, supposed to form the upper waters of the Brahmaputra. It rises on the northern side of the Himalayas, in about lat. 31° N., and long. 83° E., not far from the sources of the Indus and the Sutlej; thence it flows in an easterly direction through the whole length of Tibet, passing near the capital, Lhassa. The greater portion of its course has been explored. It is agreed that the Tsan-pu takes the name of the Dihang, under which appellation it enters Assam and becomes one of the three swift rivers which unite to form the Brahmaputra, in lat. 27° 50′ N., and long. 95° 50′ E.

TSAU-BWA. BURM. A chief of a clan; a lord, a ruler. The Kakhyen are divided into septs, each of which is headed by a Tsau-bwa, who is independent, except in so far as a dread of the Burman king can influence his conduct. The next in rank to the Tsau-bwa is called the Pawmyne. Both offices are hereditary. The Tsau-bwa of Ponlyne, a village to the north-east of Bhamo, was the first chief whom Major Sladen met.

TSAYA-DAU. BURM. The superior of a Buddhist monastery. Every kyoung or monastery has a tsaya-dau who regulates its affairs, and attends to the religious and moral training of its members. Over the kyoungs of a district is a gon-ok or bishop, and at Mandalay is a patriarch styled Thathana-boing, who is supreme in all religious matters. These orders have fallen into abeyance in British Burma.—*Fytche*, ii. p. 195.

TSEANG-KEUN is the highest title bestowed on the Manchu; Te-tai is the highest military title.

TSE-FOU-YOUEN-KOUEI. CHIN. A Chinese encyclopædia published under the dynasty of Song, in the year A.D. 1005.—*Huc's Christianity*, i. p. 78.

TSEH-LAN. CHIN. A species of iris. In Ho-nan in China, the rhizomes of several kinds of iris are eaten, or added to the infused tea-leaf to flavour it.—*Smith.*

TSE-TSE, a fly of Africa, the Glossina morsitans, *Westwood*, is not much larger than the common house fly, and is nearly of the same brown colour as the honey bee, with three or four yellow bars across the hind part of the body. Its alertness enables it to evade dexterously attempts to catch it by the hand. Its proboscis is a slender glossy style. Its peculiar buzz is well known to the ox, the cow, the horse, and dog, for with them its bite is death,—they waste away and die; but man, game, and all wild animals, even sucking calves, the mule, ass, and goat, are all exempt. Its object seems to be to replete itself with blood. In the ox, a few days after the bite, the eye and nose begin to run, the coat stares, a swelling appears under the jaw, and perhaps another at the navel; emaciation followed by flaccid muscles ends in death. It abounds on the banks of the Zambesi river of Africa. The Tsal-tsalya, or Abyssinian spear-fly, is mentioned in Isaiah vii. 18. It is the Tsee-tsee fly of Livingstone, the winged Tsal-tsal or spear-fly of Isaiah. It is the Zebûd of the Chaldæan version of the Bible, the Zimb of the Arabian version, and the Tsal-tsalya in the Ethiopian version. The Negroes call it Tse-tse, and the Greeks give it the name of Cynomya. Nearly all the central countries of S. Africa are more or less infested with it. It usually frequents the bushes and reeds on the borders of marshes.—*David Livingstone, M.D., Travels.*

TSHAMPA, a population lying between the mouth of the Mei-kong and the frontier of Cochin-China.—*Latham.*

T'SHAT T'SIC, a Chinese festival held during the fifteen days' observance of the Shu-yee burnt-offerings for paupers. It is held on the seventh day of the seventh month, in honour of the seven stars, which the Chinese regard as goddesses, one of whom visited earth and was married to a cow-herd, with whom she lived for a time.

TSHEN, the third recorded Chinese dynasty, began B.C. 1050, lasted 269 years. The emperor Yeu-Yang began to reign B.C. 781. His sixth year was B.C. 776. Confucius lived under his dynasty, and he recorded the observations of the solar eclipses from B.C. 481 upwards to 720.

TSHEN-BYOO-SHENG. BURM. Lord of the white elephant, a title of the king of Burma.

TSIEN. CHIN. A coin called Dehos by the Tartars, and Sapek by Europeans, is the only currency of the Chinese empire. Gold and silver are never coined, but circulate in ingots of different weights. Gold-dust and leaf-gold are also in use for commercial purposes.—*Huc's Journey*, p. 63.

TSIEN TANG, a river of China. The bore or eagre on this river, according to a Chinese proverb, is one of the three wonders of the world, the other two being the demons at Tang-chan and the thunder at Lung-chan. See Bore.

TSIN, a name of the empire of China, taken from the dynasty of this name. Applied to this country, there has nearly always been some form of Sin, Chin, Sinæ, China. The region in question was known to the ancients as the land of the Seres; to the middle ages as the empire of Cathay. The name Chin has been supposed to have come to Europe through the Malays, like many another word and name connected with the trade and geography of the far east, and to have been applied by them to the great eastern monarchy, from the style of the dynasty of Tsin, which a little more than two centuries before the Christian era enjoyed a brief but very vigorous existence, uniting all the Chinese provinces under its authority, and extending its conquests far beyond those limits to the south and the west. There are, however, reasons for believing that the name of China must have been bestowed at a much earlier date, for it occurs in the laws of Menu, which assert the China race to have been degenerate Kshatriya; and the name occurs in the Mahabharata, compositions many centuries older than the imperial dynasty of Tsin. Marco Polo says, 'I shall take another occasion to establish that the statement in the laws of Menu is partially true, and that people from India passed into Shen-si, the westernmost province of China, more than one thousand years before our era, and at that time formed a state named Tsin, the same word as China.'—*Lassen*, i. p. 857; *Panthier; Marco Polo*, p. 449.

TSIN, fourth dynasty ruling in China, began

B.C. 255, and lasted to 207, 49 years. About B.C. 221, the prince of Tsin, one of the vassal states into which the till then feudally governed China had been divided, made himself sovereign of the empire, under the title of Chi-hwang, also written Chi-hoang-ti. He was a great conqueror, and was successful in opposing the inroads of the northern barbarians, the Heung-noo or Huns, one of his measures to withstand whom was the erection of the celebrated Great Wall. Prior to the emperor Chi-hoang, the country had been under numerous principalities and commonwealths, but that warrior emperor brought them all under subjection, and it is supposed to be from his time that the country was called China, from Tsin or Chin, the name of his dynasty. It was this emperor also who built the Great Wall to keep off the incursions of the Tartars. It was done by forced labour; every third labouring man was compelled to work for his bare food as a remuneration. It extends from the sea to the most westerly province of Shen-si, about 1500 miles. It was built of earth faced with brick; it crosses mountains, valleys, and rivers, and was finished in five years. Its breadth admits of six horsemen riding abreast, and it has a tower every hundred yards. It was Chi-hoang-ti who introduced yellow as the colour of the royal family's clothes. The Chin dynasty was overthrown by Linpang, of the Han province, who was the first of the Han dynasty. With the destruction of the Tsin dynasty, great injury resulted to the Chinese annals.

TS'ING-MA. CHIN. Fibre of Sida tiliæfolia, also of Boehmeria nivea.

TSING-SZE. CHIN. The third literary degree in China, meaning advanced scholar, equivalent to LL.D. The examination for this degree is held every three years at Pekin.

TSING TSING. CHIN. A Chinese salutation, meaning I pray you! I pray you! Corrupted by Europeans to Chin Chin.

TSO-GAM, a salt lake in Eastern Ladakh, Tibet, in lat. 33° 70′ N., and long. 78° 34′ E., and 14,580 feet above the sea.

TSO-KUL, or Salt Lake, in lat. 33° 33′ N., and long. 78° 44′ E., in Pankong (referred to Pangur), south of the salt lake Tso-mo-gna-la-ri, and 14,400 feet above the sea.—*Cumming.*

TSO-MAPHAN, Manasarowara lake. Gya-Tso, the great lake, the ocean.

TSO-MITBAL, a salt lake, in lat. 33° 25′ N., and long. 78° 40′ E., in Pankong, south of the salt lake Tso-mo-gna-la-ri. It is 14,167 feet above the sea.—*Schl. Herm.*

TSO-MO-GNA-LA-RI, a salt lake, in lat. 33° 39′ 8″ N., and long. 78° 38′ 5″ E., in Pankong near Takung. It is 14,010 feet above the sea. It is divided into two parts by a river delta, analogous to the lakes of Brienz and Thun in Switzerland. The two are about equal in surface, but, according to native information, they differ in height about 40 feet; the upper lake, which contains nearly fresh water, almost drinkable, being therefore 14,050 feet.—*Schl.*

TSO-MO-RI-RI, a salt lake, in lat. 32° 45′ 4″ N., and long. 78° 16′ 6″ E. (referred to Nama Bingbo, on its southern border), in Spiti. It is elevated 15,130 feet above the sea.—*Schl. Herm.*

TSONG-KHA-BA, a Buddhist priest of Tibet, born A.D. 1417, at Si-King in Tibet. In the 15th century, the Sakya priesthood, known as the Brug-pa, also Hung-Kiao or the Red Church, had introduced marriage, but Tsong-kha-ba preached the celibate views of Sakya Muni, and insisted on the adoption of yellow robes. Before his death, A.D. 1478, he was the recognised spiritual leader of the Lamaist majority, and was acknowledged by the Ming emperor, who gladly welcomed him, because the Red Hierarchy had favoured supporters of the descendants of Kublai. Tsong-kha-ba left behind him two eminent disciples, on whom he laid commands, enjoining upon them that they should be born again, generation after generation, as hubil'han, to practise the doctrines of the Great Conveyance (Ta-ch'eng), in Sanskrit Mahāyāna, the esoteric form of Buddhism. Hubil-'han, in Chinese Hwa-shen, means transformed body, transformation, re-embodiment.

The two disciples were designated respectively Dalai Lama and Panshen Lama. From that time the spiritual and a large portion of the temporal authority in Tibet, which had previously been engrossed by the Red Hierarchy, has been wielded by the successive re-embodiments of Tsong-kha-ba's disciples, whose identity, on their reappearance in human form, has been merged, according to the legends that have subsequently arisen, in the personality of the two most exalted and revered of the divinities proceeding from the essence of Buddha himself. In the senior of the two, the Dalai Lama, the Bodhisattwa Avalokiteswara (the Chinese Kwan yin), is believed to appear on earth; and in the person of the second, the Bodhisattwa Manchusri is recognised, this deity having preliminarily occupied the form, it is also fabled, of Tsong-kha-ba himself. The second in succession of the Dalai Lamas, in the course of a long career, laid the foundation of the existing hierarchical system in Tibet, establishing his seat of ecclesiastical rule at Lhassa, and organizing a body of lesser spiritual dignitaries, under the designation Hut-ukhtu, who, like the two supreme religious chiefs, were to be continued by a series of re-embodiments. Like the Dalai Lama and Panshen Lama, these spiritual chiefs of the Tibetan priesthood became popularly known as Living Buddhas, in Chinese Hwoh Fu, a term by which they are at present commonly designated. During the latter half of the 17th century, the authority of the Dalai Lama gained entire predominance throughout the greater portion of Tibet; the Gialbo, or the descendants of the ancient kings, seem to have gradually faded into insignificance, whilst the authority of the Mongol princes grew more and more direct. Already, at a somewhat earlier period, Gushi Khan, the reigning prince of the Khoshot Mongols, had supported the Dalai Lama of the period against the claims of the reigning sovereign, and had been rewarded with the title of Nomen' Han, or Prince (Khan) of the Religious Law, an equivalent of the Sanskrit Dharma Raja. By the influence of Gushi Khan, the Dalai Lama and Panshen Lama in A.D. 1642 were induced to despatch an embassy with tenders of allegiance to the Manchu sovereign, whose forces were then on the eve of effecting the overthrow of the Ming dynasty in China; and from this period relations of intimacy took their rise, developing themselves in time into the assumption, on the part of the Chinese emperors, of the sovereign tutelage of the Buddhist papacy

in Tibet. This consummation was hastened by the wars undertaken towards the close of the 17th and in the early part of the 18th centuries by the Sungar chieftains, for the subversion of the authority of the Dalai Lama. The temporal administrator who, as regent under the Dalai Lama, had long conducted the government of Tibet, with the title of Deba, ruler or chief, was invested by Kiang Hi, in A.D. 1694, with the title of Tu-peh-t'eh-kwoh-wang, or king of Tibet. But the authority thus established was ere long attacked by an invasion of the Sungars; and the Chinese armies, which were despatched hereupon for the liberation of Tibet, remained as conquerors of the country.

For a time the government remained in the hands of puppet nominees of the Chinese emperor; but in 1725 an outbreak directed against one of these gave a pretext for the appointment of two High Commissioners to control the affairs of Tibet on behalf of the Chinese Government. Further attempts at revolt led, in 1750, to the entire suppression of the temporal sovereignty in Tibet, and the government of the country was placed, thenceforward, in the hands of the Dalai and Panshen Lamas, aided by a council of four laymen, entitled Kalon or Kablon, *i.e.* Ministers of State, under the direction in chief of the two Imperial Commissioners or Residents appointed from Pekin. The government has from that time forward continued to be conducted on this basis, the authority of the Chinese Government being rendered the more complete by the long minorities which are entailed at each successive re-embodiment of the two supreme ecclesiastical dignitaries.—*Mayer, Chinese Government.*

TSO-RUL, or Bitter Lake, in Ladakh, is about five miles to the north of Pankong; its waters are very bitter. It is about sixteen miles long and two broad.

TSUNG. CHIN. Any species of palm of the genera Livistonia, Chamærops, Caryota, Raphis. Tsung-tsing, a general term for several evergreen oleaceous trees on which the wax insect feeds.—*Smith.* See Wax Insect.

TSUNG-JIN-FU. CHIN. The imperial clan court, charged with the registration, payment, and jurisdiction of the imperial family. Tsung-shih, a court of justice taking notice of cases connected with the imperial family.

TSUNG LING. TIB. Literally Onion mountain, the Kara-korum or Kouen Lun mountains, which, as high as 17,000 feet, are covered with wild leeks.—*Cunningham.*

TSZE KOO. CHIN. A vegetable of China, which the people believe to be efficacious when married women desire female children.—*Gray.*

TUAR, a Rajput clan, who claim Anand Pal as one of their rajas. They were kings of Dehli while the Gahawar were rulers of Benares.

TUBA of Mindoro, or Tuac of Timor and the Moluccas, the sap of a palm, which is converted by distillation or fermentation into spirit or vinegar.

TUBA. MALAY. The seed of the Cocculus Indicus, used for stupefying and catching fish.

TUBER CIBERIUM.

Truffle, ...	ENG.	Paphor, ...	HIND.
Buinphal, . . .	HIND.	Kana kachoo, .	PANJ.

The common truffle grows in Europe, Japan, Kashmir, and Ladakh; found buried in the soil of woods, especially beech-woods, sometimes at the depth of ten or twelve inches or more. Truffle is known by its surface being warty, and of a black colour. It is one of the few species of the fungi that is an article of diet. They appear to have been used by the Greeks and Romans. The latter especially considered them a delicacy. The truffle when gathered for eating is about the size of a large walnut, and has a very peculiar smell. The flavour resembles in some measure that of the mushroom and morel.—*Eng. Cyc.; Stew.*

TUBE ROSE is called by the Malays the intriguer of the night. It emits its perfume after sunset, and in sultry evenings scintillations of electric flame.

TUEN NIN or Wa Shieu, a Chinese festival held on the 28th or 29th of the 12th month, in which thanks are given to the tutelary deity of the house.

TU-FEH. CHIN. Professional robbers, now merged into the word Tae-ping.

TUHFAH. ARAB. A rarity, a curiosity.

TUK. TURK. A flag or banner. Tukluk means one provided with flags, a standard-bearer. It is the Togluk of Weil, Hammer, and others.—*P. Arminius Vambery.*

TUKHARISTAN, a province of Balkh, lying east of the city of that name, and west of the Jihun. The chief town is Talikan. It received its name from the Tukhara, a northern tribe, probably identical with the Saka, by whom Bactria was taken from the Greeks.

TUKHM. HIND., PERS. Any seed.

Tukhm balangu, Lallemantea Royleana.
Tukhm-i-bunj-i-Rumi, Hyosciamus niger.
Tukhm dhalyan, rhus, *sp.*
Tukhm khatmi, Althæa rosea.
Tukhm gandah, an astringent seed from Dehli.
Tukhm khiyarain, Cucumis sativus.
Tukhm-i-kutan, linseed.
Tukhm sipidan, Sinapis Chinensis.
Tukhm khurma, kernel of Phœnix dactylifera.
Tukhm-i-balsan, Balsamodendron Gileadense
Tukhm-i-gawah-zimin, Berberis lyceum, Aristida aristata.
Tukhm-i-kanaucha, Salvia Moorcroftiana.
Tukhm-i-karpas, astringent and stimulating seed of a plant.
Tukhm-i-kasus, Hyosciamus niger, Polanisia viscosa.
Tukhm-i-turb, Raphanus sativus.
Tukhm-i-wasma, Indigofera tinctoria.
Tukhm-i-zard alu, Prunus Armeniaca, stones.
Tukhm malanga, Lallemantia Royleana, Salvia pumila.
Tukhm tumma, Cucumis colocynthis.

TUKI. TAM., TEL. A peacock; Diospyros ebenaster.

TUKKORAY or Zer-bum. HIND. Small kettledrums; one is called zer, the other bum.

TUKKUL, a system of temporary clearing.

TULIPA STELLATA. *Clegh.*

Lallee waroon, .	HIND.	Nulkia, ...	HIND.
Myhoula, . . .	,,	Peperi, ...	PANJ.

This tulip is abundant in the Kangra valley and the Kamaon Hills, whence its bulbs, which are edible, are exported. Also found in the Sutlej valley between Rampur and Sungnam, at an elevation of 5000 to 6000 feet.

Tulip tree of Australia is the Telopea speciosissima, the Waratah of the natives. It grows to about six feet high. Another tulip wood of Australia is Harpulia pendula, *Planch.* The tulip tree of India is the Thespesia populnea.—*Cleghorn's Panjab*, p. 68.

TULJAPUR, in the Hyderabad dominions, has a noted Hindu temple.

TULPUT. GUJ. Government lands, called Khalsa in Kaira and Ahmadabad.

TULSI. In Hindu mythology, Tulsi was a disciple of Vishnu. Desiring to be his wife, she excited the jealousy of Lakshmi, by whom she was transformed into the Ocimum herb. Ram tulsi is the Ocimum gratissimum ; Babuye tulsi, Ocimum pilosum, and Krishna tulsi is Ocimum sanctum ; only the last and the common tulsi, O. villosum, are held to be sacred to Vishnu, and used in his worship. The tulsi plant is employed in the funeral ceremonies of the Hindus. O. album is the safed or white tulsi, and O. basilicum is the kala or black tulsi. O. sanctum is regarded as sacred, and is made into a rosary by the Vaishnava Hindus ; and every Vaishnava household has a plant in its parterre, which is encircled daily in the morning and worshipped. In administering an oath to a Hindu, a few leaves of this plant, with some water from the Ganges, is held in the hollow of the hand of the deponent while the oath is being administered to him and repeated, and it is afterwards swallowed. Tulasi-ke-manke, HIND., beads of the tulsi ; Tulasi ki jar, also Tulasi MAM., the root ; and Tulasi patya, MAHR., is necklace.

LSI BAI was born at Mhysir, A.D. 1790, in use of Ajibah, one of the Man Bhao sect. ew up to be very beautiful, and was under otection of a Brahman, when a Mahratta urer introduced her to the notice of Jes- Rao Holkar, maharaja of Indore. She was ul, handsome, and alike remarkable for inating manners and quickness of intellect. F urpassed her in fluent eloquence and her power to persuade those who approached her to promote her wishes. She quickly acquired a great influence over Jeswunt Rao, which continued until he became insane, when she was appointed regent, and, not having any children of her own, she adopted a son of the maharaja by another woman. But her cruelty, her profligate character, her appointment of her paramour Ganpat Rao to a high office, and having executed her prime minister, an old, popular, and faithful servant of the State, led to a conspiracy, and, being suspected of a desire to call in the aid of the British, the chiefs of the army caused her to be beheaded, on the morning of the 20th December 1817, on the banks of the Sipra, and her body thrown into the river. She rode with grace, and, when on horseback she was always attended by a large party of the females of the first families of the State. Tulsi Bai and Ganpat Rao had been inclined to the British alliance, but Roshan Beg at the head of the disciplined brigades, and Ram Din who commanded the Mahratta horse, were perseveringly urging hostilities. On the 19th December 1817, Ganpat Rao and Tulsi Bai were seized. Ganpat Rao was imprisoned, and the following morning Tulsi Bai was beheaded. Next day Ganpat Rao and Tantia Jog were engaged against the British in the battle of Mahidpur, on the 21st December 1817.—*Malcolm's Central India ; Elphinstone's India.*

TULSI DAS, a celebrated Hindu writer, who died at Benares in A.D. 1625. He was a follower of Ramanand, and wrote the Ramayana in Hindi, which the Oudh Rajput and the military Brahman accept as a religious book.—*Ough.* p. 118.

TULSIPUR, a pargana in the Gonda district of Oudh, bounded on the north by the lower range of the Himalayas. All along the northern hills stretches the reserved Government forest, which is succeeded by a strip of undulating ground intersected by numerous hill torrents. The soil is fertilized by leaf-mould washed down from the forests, but the climate of this tract is very unhealthy. The most singular tribe in the pargana are the Tharu, with flat faces, scanty beards, and high cheek-bones. They claim descent from the Rajputs of Chitore, and with the advance of regular castes they retire farther northwards into the recesses of the forests. They are rapidly decreasing in number by emigration into Nepal, and now amount to barely 3000.—*Imp. Gaz.*

TULUKAN. TAM. Tulukkar, MALEAL. A Muhammadan ; a dialectal variation from Turka.

TULUVA, an ancient dominion of Southern India, lying between the Western Ghats and the sea, and between the Kalyanapuri and Chandragiri rivers ; lat. 12° 27′ to 13° 15′ N., and long. 74° 45′ to 75° 30′ E., with a coast-line of about 80 miles. It is now merely a linguistic division of that part of British India. Tulu is spoken by about 446,011 inhabitants of the tract described above, the centre of which is Mangalore. It is considered one of the six cultivated Dravidian languages, though it has no literature, and is written either in the Malealam or the Canarese character. Tulu has been to a great extent displaced by Canarese, the language of the conquering power about the 15th century. It now prevails, though not exclusively, from the north border of Malabar (Kavai), where it is much mixed with Malealam, to Udapi in the north. Mangalore, Mulki, and Udapi are the chief places where it is spoken. It is a dialect of the Canarese, and closely allied to the Toda, Badaga, and Coorg dialects. Malealam is a dialect of Tamil. By dialect is here meant that many centuries ago Tulu was the same as Canarese, and Malealam the same as Tamil. Tulu, Toda, Badaga, and Coorgi are far more closely allied to Canarese and Malealam to Tamil, than Canarese, Tamil, and Telugu are to one another.

The Tulu people are part of the Dravidian race. The law of succession prevailing amongst them is called Aliya Santana. This is in force amongst the Sudra tribes, and a tribe that follows it is probably Tulu. The race does not include Brahmans or low castes, who are mostly immigrants from the other parts of S. India, though in some cases they have imitated the Aliya Santana custom.

In S. Malabar descent to sons is the law ; but in N. Malabar, amongst the Nair, the artisan castes, carpenter, brass-smith, blacksmith, and goldsmith, also the Tiar, who are toddy-drawers, and the Mukwa, fishermen, are all polyandrists, and descent of property goes in the female line. In N. Malabar this law of descent is called Maruma-katayam, and the Muhammadan Moplah has conformed to this usage. In Canara a similar law, called Aliya Santana, or nephew inheritance, prevails, and is in practice more strictly carried out than in N. Malabar. In N. Malabar the adherents to Maruma-katayam form united family communities termed Tarwaad. The senior member of whatsoever branch is the head of the family, and is termed Karnaven ; the other mem-

bers are styled Anandraver. The remotest member is acknowledged as one of the family, and entitled to maintenance if living under subordination to the head of the family, and taking part in their religious observances. For the women there is nothing analogous to the state of widowhood as existing elsewhere. Whether in alliance with men or not, they reside in their own families. The Nair marries before he is ten years of age, but though he supports he never associates with his wife, who receives at her pleasure any caste men.—*Imp. Gaz.*

TUM, a weight in Mysore of 32 lbs., 2 irase.

TUMAN, in the Mongol language, signifies ten thousand. It was borrowed by the Persians and Arabs, and with them means a weight or sum of money, originally equal to ten thousand mithkals or Arab drachms of silver. In the year 1871 a tuman of Isfahan was equal to five rupees of British India.—*Yule, Cathay,* p. 117.

TUMAN of the Baluch, a village of tents. In Pushtu, a tribe.

TUMBA TREE BARK was used by the Juang women as a loin-covering.

TUMBIYA. HIND. A drinking-cup shaped like the gourd of this name; a vessel used in cupping.

TUMBUDRA, a river of the Peninsula of India formed by the junction of the two rivers Tunga and Bhudra. Both rise near the S.W. frontier of Mysore, on the eastern slopes of the high range of hills which border on South Canara. Their junction takes place in lat. 14° N., and long. 75° 43′ E., in Mysore, in front of the Brahman village of Kudali in Shimoga district. The total length of the Tumbudra is about 400 miles. The maximum flood discharge at Hurrihur is calculated at 207,000 cubic feet of water per second, the ordinary discharge at 30,000 cubic feet.—*Imp. Gaz.*

TUMBURA. HIND. A sitar (guitar) having catgut strings instead of wire.

TUMBURU. HIND. A celestial musician.

TUMIEN or Ta-men. BURM. The silk petticoat of the Talaing women. It is of bright hues.

TUMKEE, a small circular brass plate, played on by striking it with a piece of wood having a knob at the end.

TUMKOOR, a small village, the chief town of a district in the Nundidrug division of the Mysore kingdom, 44 miles from Bangalore, in lat. 13° 20′ N., and long. 77° 9′ E.

TUMMANUL, a Tamil book on omens, on divination by sneezing, crows, owls, asses, lizards. The Tamil people are great slaves to omens.

TUMMI. TEL. Leucas cephalotes, *Spreng.*; the Phlomis cephalotes of Roxburgh. The leaves are eaten; the flowers are sacred to Siva, and are offered in his temples. But there are many plants to which the term Tummi is indiscriminately applied.

TUMONGONG, amongst the Malays, a high officer of state, to whom the superintendence of internal police matters is entrusted. A hereditary elective officer of Johore.—*Journ. Ind. Arch.* p. 568.

TUMULUS. Tumuli are met with in Wales, Scotland, Ireland, France, Sweden, Russia, Tartary, and Africa. Those in Ireland and in the plain of Troy are precisely similar to others of the United States. In America they are scattered in profusion from Lake Erie to the Gulf of Mexico, and are found in Texas, New Mexico, and S. America; other antiquities also are found in the valley of the Mississippi. Tumuli are not numerous in Ohio, but are found in Kentucky, and more commonly in Tennessee and Mississippi. One of the largest is at Cahokia in Illinois, being a parallelogram 235 yards long by 170 broad, and 90 feet high. Cairns and tumuli are found on the peaks of the Neilgherries. They contain agricultural implements; and iron spear-heads, bells, and sepulchral urns, with figures of coiled snakes, tigers, elephants, dogs, and birds, sickles and gold rings, have been found buried under the piles of stones. It is supposed that the Kurumbar race formerly interred in cairns.

Over vast wildernesses in the northern regions of Asia, along the banks of the Irtish, and beyond the remote Yenesi, innumerable tumuli are scattered, containing the remains of ancient art and long extinct races of men. Implements of silver, gold, and copper, girdles of the precious metals, bracelets decked with pearls, fragments of porcelain, have surprised the travellers who have opened a few of the tumuli excavated. Similar tumuli spread over the north of Europe, contain remains either of the same people or of a more barbarous than the Asiatics. Hundreds these have been rifled by treasure-hunters, mere antiquaries little more enlightened have sought to make collections of curiosities without any view to promote science or history. See Barrow; Cairn; Cromlech; St'hupa;

TUNAOLI, a tribe of the Peshawur valley claim descent from the khalif Abbas.

TUNGA, river in Mysore, which unites with the Bhudra to form the Tumbudra. It rises beneath the peak of Gangamula in the Western Ghats, not far from the source of the Bhudra in Kadur district. The two rivers unite near Shimoga.

TUNGANI, a race of military settlers who came originally with conquerors from the west of Asia, and settled down in the country of Yarkand.—*Cayley.*

TUNG CHI, emperor of China, died from small-pox without issue, 12th January 1875.

TUNG-JIN-TANG. CHIN. Hall of united benevolence in Shanghai.

TUNG-SHU. CHIN. Several trees yielding wood-oils are so named, such as the Elæococca verrucosa, E. vernicia, and the Paulownia imperialis.—*H. and S.; Smith, M. M. C.*

TUNG-SI-LING, the eastern and western hills of China, the site of the imperial mausolea, those of the Manchu emperor T'ai Tsung, A.D. 1627-1643; Shun Che, 1644-1661; empress Shun Che; King Ling, 1662-1722; and others. —*Mayer's Chinese Government.*

TUNGUS, a general name applied to a population common to a vast area in Siberia and China. Their physiognomy connects it with the tribes of Northern Asia in general, and their language forms a transition between the monosyllabic and agglutinate forms of speech. These tribes under Chinese rule, in Manchuria, on the watershed of the Amur or Saghalin, are termed Manchu, and the Tungus, under the name Manchu, constitute the dominant population of China itself. The Manchu proper have a literature with an alphabet modified from the Mongol. They are agricultural

and industrial. With two exceptions, the tribes of the Amur belong to the Tunguzian stock. The language of the Gilyak, on the Lower Amur, differs from the Tunguzian dialects along the river, but the features of these Gilyak are still Mongol; they have small obliquely-set eyes, prominent cheek-bones, and scanty beards. With the Aino on Saghalin, the language differs both from the Tunguzian and Gilyak. Their features are decidedly not Mongol, and they are distinguished by a great profusion of hair. The Tunguzian tribes either are nomades, keeping herds of reindeer or horses, or they subsist upon the produce of their fisheries. The reindeer Tunguzians are called Oronchon or Oroke, a word signifying reindeer-keepers, and are met with on the Upper Amur and on Saghalin, and there is one tribe along the sea-coast still called Orochi or Orochon. The Manyarg, and the kindred Birar and Solon on the Nonni, who occupy the vast prairies above the Bureya mountains, keep large herds of horses. The Goldi, Olcha (Mangun), Gilyak, Orochi of the sea-coast, and Aino are fishermen and hunters; and the Goldi, especially those settled on the Sungari, cultivate; but the Manchu and Chinese, and the Daurian living amongst them, on the Middle Amur, till the ground to a larger extent.

Oronchon of the Upper Amur,	260
Manyarg and Birar,	3000
Daurian, etc.,	2000
Goldi on the Amur and Usuri,	3560
Olcha (Mangun) on the Amur,	1100
Negidal and Kile (Sanager),	1000
Orochi of the sea-coast,	1000
Oroke on Saghalin,	1000
Gilyak on Lower Amur and Saghalin,	8180
Aino on Northern Saghalin,	1000
Chinese on the Usuri, etc.,	1400

—*Ravenstein's Russians on the Amur; Latham.*

TUNIA JUM MAHALS, a forest tract in the hills of the Chittagong district, which the Chukma race occupy along with Mug, Reang, and Tiperah races, all more or less nomadic. Some one of these wild races till lately performed human sacrifices annually, and in the year 1852 several persons were tried for murder by sacrificing. The place of sacrifice was a cleared district in the jungle, and staked round with bamboos about 6 feet high. The sacrificial pole was a 'Phula bans' bamboo, scraped and stripped at the edges, the hanging strips giving a rude notion of ornament. During the celebration of these sacrifices at Agartollah, a gun was fired every evening at sunset, when every person hurried to his home.

TUNICATA, the Tunicaries, class VI. of the mollusca, viz.:—

Fam. I. Ascidiadæ.
Gen. Molgula.
Cynthia.
Pelonæa.
Chelyosma.
Poltenia.
Fam. II. Clavellinidæ.
Gen. Clavellina.
Perophora.
Fam. III. Botryllidæ.
Gen. Botryllus.
Botrylloides.
Didemnium.
Eucœlium.
Distomus.
Diazona.
Aplidium.
Polyclinum.
Parascidium.
Armorœcium.
Synœcium.
Sigillina.
Fam. IV. Pyrosomidæ.
Gen. Pyrosoma.
Fam. V. Salpidæ.
Gen. Salpa.
Doliolum.
Appendicularia.

TUNKI. HIND. A very thin chapatti, or flour scone, or cake; or large wafer made with butter.

TUNKRA, a pass in Sikkim, in lat. 27° 38′ N., and long. 88° 56′ E. Its crest is 16,100 feet above the sea. The ascent on north-west side, gradual, is over a snow-bed and glacier; descent on north-east steep, but grassy.

TUN-SURANA. BURM. In Burmese Buddhism, the three most precious gems, Buddha, the sacred books, and the priesthood. They are regarded as the three refuges, viz. 'I take refuge in Buddha; I take refuge in the law; I take refuge in the associated priesthood.' A novice entering a kyoung repeats these three, also the ten obligations. See Triad.

TUOOZ. ARAB. Having recourse to God against evil.

TUPAIA, a genus of the mammalia, insect eaters. They closely resemble squirrels, are almost confined to the Malay Islands, as also are Ptilocerus Lowii of Borneo, and Gymnurus Rafflesii.

Tupaia Elliotti, *Blyth*, the Madras tree shrew, occurs in the hills west of Madras, and in Matheran. Male, above reddish, brown inclining to olivaceous grey on the head, limbs, sides, and tail; the hairs grizzled red and brown or olive-grey and brown. Chin, throat, breast, and lower parts yellowish-white, continued along the underside of the tail, and a rudimentary streak of the same on each side of the neck, reaching to the shoulder. Ears oval, large; eyes large, dark-brown; snout elongated. Length, 14½ inches, of which tail 7½. Native name, Karri.

Tupaia ferruginea, *Blyth*, of Arakan and the Malay Peninsula, is insectivorous and frugivorous. It dwells in rudely-constructed lairs in the highest branches of trees; it is very agile, and makes enormous bounds.

Tupaia Javanica occurs in Java. T. murina occurs in Borneo. T. Peguana, the Sikkim tree shrew, occurs in Pegu. T. tana occurs in Sumatra. —*Blyth; Jerdon*, p. 66; *Wallace*, p. 141.

TU-PEH-TEH, also Tu-Bod, names of Tibet.

TUPHA. SANSK. A college.

TUPHA. TURK. A horse tail; the tails of the horse and of the yak, used as standards amongst the Turkoman. Tupha, Tugha, or Tau, according to Remusat, is the Turkish name of the horse-tail standard, but is applied also by the Chinese to the yak-tail, which respectively with those nations mark the supreme military command.—*Rech. sur les Langues Tartares*, p. 303; *D'Ohasson*, i. p. 40, *in Yule's Cathay*, i. p. 174.

TUPOZ, in Manilla, the intermediate layers of the stem of the wild plantain, Musa textilis, of which are made web cloths and gauzes four yards long, of different degrees of fineness.—*Simmonds.*

TUPPA, a musical measure which belongs to the North-West of India, being indigenous as far as the Indus and the countries watered by its tributaries, and common in Rajasthan, but the prefix of Panjabi shows its origin. Colonel Tod says he has listened at Caen to the viola or hurdy-gurdy, till he could have fancied himself in Mewar. —*Tod's Rajasthan*, i. p. 648.

TUPPA, amongst the Bhot race, a probationer for the Buddhist religion of Tibet. The ordinary monk or priest in Tibet is the Gylong, above whom are Lamas or presidents, and below whom are the Tohba and Tuppa. The Tuppa is a probationer who is admitted into the establishment to which he would attach himself at the age of 8 or 10, and receives instruction accordingly. At 15 he becomes a Tohba, and at 24 a Gylong, provided

his acquirements be satisfactory. There are two sects, the Gyllupka, who dress in yellow, and the Shammar, in red, the Shammar Gylongs being allowed to marry. The Bhot of the Tibetans have been extending westward. As a general rule, the Himalayas divide Hindustan from Bhotland, but there are Bhot in several parts south of the crest of those mighty mountains in Garhwal and Kamaon.

TUR, a small seaport on the coast of the Gulf of Suez, inhabited by Arabs. To the north of the town, at the foot of the low hills, Jabl Hamām and Sidna Musa, are warm sulphur springs, 92° to 94° Fahr. The Bell mountain, Jabl Nakous, is about 12 miles from Tur. The Wadi Hebran and Wadi-us-Slah lead from Tur to the monastery of St. Catherine.

TURAN, the name of a region bordering on Iran, in the north and north-east, which in the remotest times was inhabited by a race who are now spread into different parts of the world, and are known to ethnologists as Turanians and Mongolians. Turan and Turanian are terms of Persian origin. In their simple system of ethnography, the inhabitants of Central Asia divide all the world between two races, Iran and Turan, Iran or Irani meaning themselves, and Turani meaning everybody else; or, as they express it, Iran and an-Iran, Aryan and non-Aryan. This was the practice also of the Jews, and of the Greeks and Romans, who classed all other races as Gentiles and barbarians, as the Hindus now reckon all non-Hindus as M'hlecha, and as the Chinese, who place all outsiders as Fan. In the Zend books, the Turanians are styled the foes or antagonists of the Aryans. They are Firdusi's Turiya. Turvasu means one who possesses the treasures of his enemy, and Turvasa, one who conquers when he pleases.

According to Cuvier, the probable cradle of the Mongolian or Japhetic race is the Altai mountains, whence they have spread over Northern and Central Asia, southwards as far as Hindustan north of the Ganges, and eastwardly to the Eastern Ocean, where the race is distinguishable in the Japanese, the Corean people, and those of Siberia, and their divisions are known in modern times as Tungus, Turk, Mongol, and Fin.

Chevalier Bunsen observes (Report Brit. Ass. 1847) that the researches of our days have made it more than probable that the Tartar, Manchu, and Tungus belong to one great stock; that the Turkoman, Chud, Fin, Lap, and Magyar (Hungarian) present another stock closely united; and that both these families were originally connected with each other. He proposed to call this whole group of their languages the Turanian, and in lieu of Indo-Germanic or Indo-European, he proposed the term Iranian, following the antithesis of Iran and Turan established by Heeren and Carl Ritter. In the vast region extending from the chain of the Altai to that of the Himalaya, are the pasture lands where, during immemorial ages, the nomadic tribes of High Asia have fed their flocks and multiplied those hordes which from time to time descended in immense swarms on the fertile regions of Asia and of Europe. Perhaps the earliest of these invasions of the civilised world was that of the Hiong-nu, expelled from the borders of China by the powerful dynasty of the Han. These were the people who, after their inroad on the Gothic empire of Hermanrich, made their way, under Etzel or Attila, into the heart of France. Hordes from the same regions, under Toghrul Beg, and Seljuk, and Mahmud of Ghazni, and Chengiz, and Timur, and Othman, overwhelmed the khalifat and the empires of China, of Byzantium, and of Hindustan; and lineal descendants of the shepherds of High Asia still sit on the throne of Cyrus, and on that of the Great Constantine; while the branch which ruled in India under the title known to Europe as the Great Moghul, closed in 1862 by the death at Rangoon of the last emperor of Dehli, then a convict prisoner of the British. Until checked by the British in India and by the Russians in Central Asia, the race was predominant over the whole of the countries between China and the Mediterranean, and from the Caspian southwards to the Ganges and the Persian Gulf. But they seemed destined to partake only by conquest in the higher civilisation of the surrounding nations, older or younger ones, the Chinese presenting the one extreme, the Iranians the other. Little disposed to learn from them as neighbours or subjects, they become more or less civilised by being their masters. They cannot resist the inward force of the civilisation of their subjects, although they repel it as an outward power.

The Turanian people, but particularly the Turko-Tartar tribes, made themselves renowned in antiquity by their martial disposition, and by the wild, intractable rudeness of their habits, and they have appeared amongst surrounding nations as spoilers, destroyers, and plunderers. The Aryan tendency is to form national and political communities, marry one wife, and worship one supreme and spiritual deity. The Turanian tendency is to have little national or political cohesion, to marry one or more wives without much sentiment, and worship gods and heroes without much idea of a spiritual existence beyond that implied in the notion of ghosts and demons. Turanian races have a longing for spiritual excitements. Perhaps as the vividness of religious faith is common amongst mountaineers, the simple pastoral and secluded life common to most of the Turanian tribes may impart a tendency to reverie and visionary absorption. The great horse sacrifice is allowed to have been originally Turanian, whether derived directly from the Sakæ, or indirectly from Persia and Media, where the white horse was an important element in a campaign of Cyrus; and Mr. Atkinson found traces of this sacrifice still lingering on the southern borders of Siberia. See Aswa Medha.

Mr. Hodgson considers the Tamil, Tibetan, Indo-Chinese, Tungus, Chinese, Mongol, and Turk as so many branches of the Turanian family; and he regards the aborigines of British India as Northmen of the Scythic stem, but he remains undecided whether they owe their physiognomy to the Tungus, the Mongol, or the Turk branch of the Tartars or Scythians, and whether they immigrated from beyond the Himalayas at one period and at one point, or at several periods and at as many points. But all writers are of opinion that when the Aryans entered India, they found the country occupied by prior Scythic races, to whom their writers apply such contemptuous expressions as Dasya, M'hlecha, etc. These prior races seem

to have been pushed largely out of Northern India into and through the Vindhya mountains into the Peninsula of India and Ceylon, where their idioms, the Tamil, Telugu, Malealam, and Karnatica, are sister dialects of one speech; and Dr. Pritchard concurs in opinion with Professor Rask, who regards the languages of the mountain tribes of India, the Bhil, the Gond, the Toda, and others, as also of the Tartar stock, and mentions [illegible]ome curious analogies have been observed the Tamil and other dialects of the la and the languages of Australia. ogan, however, who had great opportun- contrasting and comparing the Dravidians various parts of India, remarks that, phy- ly, the population of Southern India is one of the most variable and mixed which any *ethnic province displays*. A glance at a consider- able number of Kling (Teling) and Tamilar of different castes and occupations, shows that the arieties when compared with those of similar semblages of men of other races, such as Euro- ans, *Ultra-Indians*, or Indonesians (including groes in the last two cases), are too great to w of their being referred to a single race of blood. Some are exceedingly Iranian, some Semitic, others Australian, some remind us Egyptians, while others again have Malaya, nesian, and even Simang and Papuan features. varied character of the races of the south of Peninsula may be seen daily in Madras, to all the races from the south of India resort. anians now occupy Central and Northern nd include, according to modern ethnology, rtar, Fin, Turk, and Magyar. Turanian languages are scattered over the whole of the northern part of Europe and Asia, from China to the Pyrenees, and from Cape Comorin across the Caucasus to Lapland. The Hungarian, Lapponian, and Finnish dialects are now classed as members of the great Turanian or Tartar family of tongues, which is spoken by all the tribes from the Himalaya to Okotsk and to Lapland, and includes the Hungarian, Crimean, and Turkish tongues. Farrar states that the terms Turanian, Nomadic, or Allophyllon of Pritchard, are names applied to all languages not belonging to the Aryan or Semitic, and which comprise all languages spoken in Asia or Europe not included under the Aryan and Semitic families, with the exception of the Chinese and its dialects. These are Tungus, Mongol, Turki, Samoyede, and Fin. The writers on this class are Rask, Klaproth, Schult, Castren, and Muller. The Turanian languages occupy by far the largest portion of the earth, viz. all but parts of India, Arabia, Asia Minor, and Europe; but except agglutination, there is not a single positive principle which can be proved to pervade them all.

The most characteristic feature of the Turanian languages is what has been called agglutination, or 'glueing together;' and what distinguishes the Turanian languages is, that in them the conjugation and declension can still be taken to pieces; and although the terminations have by no means always retained their significative power as independent words, they are felt as modificatory syllables.

The Turanian family of languages consists of two great divisions, the Northern and the Southern. The northern is sometimes called the Ural-Altaic or Ugro-Tartaric, and it is divided into five sections, the Tungusic, Mongolic, Turkic, Finnic, and Samoyedic.

The southern, which occupies the south of Asia, is divided into four classes, the Tamilic, the Gangetic (Trans-Himalayan and Sub-Himalayan), the Lohitic, the Taic, and the Malaic. These two divisions comprehend very nearly all the languages of Asia, with the exception of Chinese, which, together with its neighbouring dialects, forms the only representative of radical or monosyllabic speech. Japanese, the language of Corea, of the Koriakes, the Kamtskadales, and the numerous dialects of the Caucasus, etc., remain unclassed.

The Tungusic section of the northern branch extends from China northward to Siberia, and westward to 113°, where the river Tunguska partly marks its frontier. The Tungusic tribes in Siberia are under Russian sway. Other Tungusic tribes belong to the Chinese empire, and are known by the name of Manchu, a term adopted after they had conquered China in 1644, and founded the present imperial dynasty.

The original seats of the people who speak Mongolic dialects lie near the Lake Baikal, and in the eastern parts of Siberia, where we find them as early as the 9th century after Christ. They were divided into three classes, the Mongol proper, the Buriat, and the Olot or Kalmuk. Chengiz Khan (1227) united them into a nation, and founded the Mongolian empire, which included, however, not only Mongolic, but Tungusic and Turkic, commonly called Tataric, tribes.

In India, there are three or four distinct branches of this family of languages. In the north are the Himalayan dialects, of tribes from Upper and Lower Kanawar, on the Sutlej, to the Bhutani of the extreme east. Then we have the Lohitic class, comprising, with the Burmese and others of the Eastern Peninsula, the dialects of the Naga and Mikir tribes in Assam, and of the Bodo, Kachari, Kuki, and Garo in Eastern Bengal. Nearly related to this class is the Kol or Munda family, including the Kol, Santal, and Bhumij of Singbhum and Western Bengal, and the Munda of Chutia Nagpur. The fourth class is the Tamil or Dravidian, to which belong the Brahui of Baluchistan, the Gondi, the Tuluva of Canara, the Karnata of the S. Mahratta country, the Toda of the Neilgherries, the Malealam of Travancore, the Tamil, and Telugu. The Kur or Muasi, and the Korku in Hoshangabad, and westward in the forests on the Tapti and Narmada, until they come in contact with the Bhil of the Vindhya Hills, and the Nahal of Kandesh, belong to this Kol family; indeed, Mr. Hyslop held that the word Kur is identical with Kol.

According to Pritchard, the idiom of the islands comprised in the empire of Niphon, as well as that of the independent Liu-kiu Archipelago, bears some signs of affinity to those of the Ugro-Tartarian nations. Mr. Norris had assured him that the principle of vocalic harmony and other phenomena of the Tartar languages prevail in the idiom of the Japanese and Liu-kiu Islands. He also observed analogies between the Tamilian and other dialects of the Dekhan and the languages of Australia, with which we have obtained some acquaintance through the labours of Mr. Threlkeld and several other missionaries, and from the able researches of Captain Gray. Turkish is a Turanian dialect. Its grammar is purely Tataric or Turanian.

The Turks, however, possessed a small literature and narrow civilisation before they were converted to Muhammadanism; but as the language of Mahomed was Arabic, a branch of the Semitic family closely allied to Hebrew and Syriac, this, together with the Koran and their law and religion, the Turks learned from the Arabs, along with many of the arts and sciences connected with a more advanced stage of civilisation. Arabic became to the Turks what Latin was to the Germans during the middle ages; and there is hardly a word in the higher intellectual terminology of Arabic that might not be used, more or less naturally, by a writer in Turkish.—*M. De Guignes; Sir W. Jones' Works*, iii. p. 72; *Report Brit. Assoc.; Wh. H.; Pritchard; Bunsen; Muller; Logan, in J. Ind. Arch.; Hyslop, Jour. Ant. Soc. Nagpur.*

TURANJABIN, Persian manna, produced on the Alhaji maurorum, in Persia, Bokhara, and Afghanistan. See Manna.

TURBAND.

Pagri, ... HIND. | Dustar, ... HIND.

The head-dress of the Muhammadans, from the two Persian words, Sir, the head, and Band, a tie. A principal site of the manufacture of cotton turbands formerly was the town of Arnee, in the Chingleput district, but they are now made at Oopada in the Rajamundry district, and also in the Madras district. A principal site of the manufacture of silk turbands was Seringapatam in Mysore. These are of a pink colour, and are sold at from 10 to 25 rupees each. Turband pieces in cotton, silk, cotton and gold, and silk and gold, are those usually manufactured. In Afghanistan, conquered people pay homage by casting their turbands at the feet of the conqueror; the chiefs of tribes often lessen the size of their turbands before appearing in the presence of their rulers. Muhammadans of British India, when in great distress or in supplication, take off their turbands, and lay their heads on the ground, or in the lap of the person before whom they appear. For a stranger to take off the turband of either a Hindu or Muhammadan, is an act of great indignity. A Muhammadan wife receives her husband, and places his turband in an honoured part of the house. An exchange of turbands is the symbol of fraternal adoption. In Turkish burial places, the tombs of men are indicated by the figure of a turband placed at the head of the grave.

TURBINELLA, a genus of gasteropodous molluscs, family Muricidæ. About 70 recent and 20 fossil species are known. T. rapa, the chank shell, is used in India as a trumpet, is sawn into rings to form bracelets, anklets. It was the war-trumpet of the ancient Hindus; and the idol of the Hindu god Vishnu holds a chank in one of his four hands.—*Tod's Rajasthan.*

TURBITH, Turpeth, or Turbud. HIND. The cortical part of the root of the Ipomœa turpethum. It is a longish root, about the thickness of the finger, resinous, heavy, of a brownish hue without, and whitish within. It is used in medicine. —*Lewis' Mat. Med.*

TURBUZ. HIND. Cucurbita citrullus, water-melon, is grown in the beds of rivers in the hot season, but may be cultivated in gardens during the rains. Its fruit is esteemed by all classes.—*Riddell.*

TURFAN, on the borders of the desert of Gobi, is the most eastern of the districts of Kashgaria. The Ush-Turfan district of Kashgaria lies N.E. of the Kashgar district. The Tian Shan mountains have for centuries maintained their character for surpassing excellence of Turfan wool.

TURI dwell in the thuls of Dawudputra, Beejnote, Noke, Noakote, and Oodur; they own and hire out camels, but, like the Bawuri and Khengar, are great thieves, and are called bhut, or evil spirits and sons of the devil.

TURI, a martial tribe occupying a portion of valley of the river Kurm; they can muster fighting men. They repeatedly leagued with tribes to harass the Meeranzai valley. They sow strife among the Meeranzai people, would harbour fugitives from either party, would encourage all to resist the British, they would attack some villages in force; they frequently committed raids on the Bungush and Cuttack villages of the Kohat district. In August 1853, Captain Coke seized a Turi caravan on its way to the salt mines, taking the property as security for repayment of value of plundered property, and the men as hostages for their tribe. This measure was soon followed by an embassy from the tribe, and an agreement was concluded with the tribe from the commencement of 18[illegible]. The value of plundered property was made good, the prisoners were released, and five Turi boys were made over to the British as hostages. But within one month the tribe again gave way to evil counsels, and in March 1854 a serious raid was made by the Turi with 2000 men (foot and horse) on a Meeranzai village.

During the wars with Kābul in 1878-1880, the Kurm valley was held by a large British force, and the Turi kept quiet. See Kurm.

TURIVA-CARAY. The great Basava or bull at Turiva-caray, in Mysore, is a single block of Karikallu or blackstone, procured from a quarry at Caddapully. This stone is an amorphous hornblende containing minute rhomboidal lamellar concretions of basaltine. It is obtained from detached blocks of stone in this quarry; the solid rock contains many finer pieces.

TURK. Among the Arabs this word has been as vaguely applied as the word Scythian was among the Greeks. Turk, applied to an Osmanli, is deemed derogative; but this name is given by the Tamil and Telugu people as the usual designation for all Muhammadans, as Turka-kara and Turka-vadu, and their language the Turka-pesh and Turka-bhasha or Turka-mata. Arabs and Persians, when alluding to their northern neighbours, always style them Turk, applying that term as loosely as Europeans do the word Tartar.

The word Turk has the same root as that of Turan, the country of the restless, horse-riding, nomade tribes, the great Turanian and Mongolian family, in contradistinction from the Aryan, Iranian, or Indo-European race, and it is derived from the root To-ar, to fly.

Vambery divides the Turk into Burut, black or pure Kirghiz; Kirghiz, properly Kazak; Karakalpak, Turkoman, and Uzbak.

The region inhabited by Turkish races at the present time comprises two distinct tracts of country, one stretching southwards from the icy shores of the Arctic Ocean to the Hindu Kush, the other eastwards from the Adriatic, both merging into each other in the eastern portion of

Asia, known as the desert of Gobi. The Turk in the furthest east claims relationship with his brethren in the extreme west. The simplest Turkoman is aware of the existence of kinsmen about Diarbekir.

Many of the Turk tribes of High Asia retained their pagan names when accepting Islam. Seljuk is said to have been a convert, but his sons were called Michael, Israil, Musa, and Yunus. His celebrated grandson, however, retained the name of Toghrul, and Toghrul's son was Alp Arselan. The names of most Turkish tribes and families are taken from animals: Mang-it means sick dog; Kira-it, grey dog; Oyur-at or Oir-at, grey horse; Kungr-at or Kinghur-at, chesnut horse.

Hiung-nu.—The most ancient name by which the Turk and other of the tribes of Central Asia were known to the Chinese, was Hiung-nu. These Hiung-nu founded an empire (B.C. 206) comprising a large portion of Asia west of China. Engaged in frequent wars with the Chinese, they were at last defeated in the middle of the 1st century after Christ. Thereupon they divided into a northern and southern empire; and after the Southern Hiung-nu had become subjects of China, they attacked the Northern Hiung-nu, together with the Chinese, and, driving them out of their seats between the rivers Amur and Selenga and the Altai mountains westward, they are supposed to have given the first impulse to the inroads of the barbarians into Europe. In the beginning of the 3d century, the Mongolic and Tungusic tribes, who had filled the seats of the Northern Hiung-nu, had grown so powerful as to attack the Southern Hiung-nu, and drive them from their territories. This occasioned a second migration of Asiatic tribes towards the west. Another name by which the Chinese designate these Hiung-nu or Turk tribes is Tu-kiu. This Tu-kiu is supposed to be identical with Turk; and although the tribe to which this name was given was originally but small, it began to spread in the 6th century from the Altai to the Caspian, and it was probably to them that, in 569, the emperor Justinian sent an ambassador in the person of Semarchos. The empire of the Tu-kiu was destroyed in the 8th century by the Hui-he (Chinese Kao-che). This tribe, equally of Turk origin, maintained itself for about a century, and was then conquered by the Chinese, and driven back from the northern borders of China. Part of the Hui-he occupied Tangut, and, after a second defeat by the Mongolians in 1257, the remnant proceeded still farther west, and joined the Uigur, whose tents were pitched near the towns of Turfan, Kashgar, Hamil, and Aksu. These facts, gleaned chiefly from Chinese historians, show from the very earliest times the westward tendency of the Turk nations. In 568, Turk tribes occupied the country between the Volga and the Sea of Azof, and numerous reinforcements have since strengthened their position in those parts.

Turkoman.—The northern part of Persia west of the Caspian Sea—Armenia, the south of Georgia, Shirwan, and Dagestan—harbours a Turk population, known by the general name of Turkoman. They are predatory nomades, and their arrival in these countries dates from the 11th and 12th centuries. East of the Caspian Sea, the Turkoman tribes are under command of the Uzbak khans of Khiva, Fargana, and Bokhara. They call themselves, however, not subjects but guests of these khans. Still more to the east, the Turkoman are under Chinese sovereignty, and in the south-west they reach as far as Khorasan and other provinces of Persia.

The *Uzbak*, descendants of the Hui-he and Uigur, and originally settled in the neighbourhood of the towns of Khotan, Kashgar, Turfan, and Hamil, crossed the Jaxartes (Syr-i-Darya) in the 16th century, and, after several successful campaigns, gained possession of Balkh, Kharism (Khiva), Bokhara, and Fargana. In the latter country and in Balkh they have become agricultural; but generally their life is nomadic, and too warlike to be called pastoral.

Nogai.—Another Turk tribe are the Nogai, west of the Caspian, and also north of the Black Sea. To the beginning of the 17th century they lived north-east of the Caspian, and the steppes on the left of the Irtish bore their name. Pressed by the Kalmuk, a Mongol tribe, the Nogai advanced westward as far as Astracan. Peter I. transferred them thence to the north of the Caucasian mountains, where they still graze their flocks on the shores of the Kuban and the Kama. One horde, that of Kundur, remained on the Volga, subject to the Kalmuk. Another tribe of Turk origin in the Caucasus are the Bazianes. A third Turk tribe in the Caucasus are the Kumiik, on the rivers Sunja, Aksai, and Koisu.

Bashkir.—The southern portion of the Altaic mountains has long been inhabited by the Bashkir, a race considerably mixed with Mongolic blood, savage and ignorant, subjects of Russia, and Muhammadans by faith. Their land is divided into four roads, called the roads of Siberia, of Kasan, of Nogai, and of Osa, a place on the Kama. Among the Bashkir, and in villages near Ufa, is now settled a Turk tribe, the Mescherak, who formerly lived near the Volga.

Karakalpak.—The tribes near the lake of Aral are called Karakalpak. They are subject partly to Russia, partly to the khans of Khiva.

Siberia.—The Turk of Siberia are partly original settlers who crossed the Aral and founded the khanate of Sibir, partly later colonists. Their towns are Tobolsk, Yeniseisk, and Tomsk. Separate tribes are the Uran'hat on the Chulym, and the Barabas in the steppes between the Irtish and the Ob.

In the north-east of Asia, on both sides of the river Lena, the Yakut form the most remote link in the Turkic chain of languages. Their male population has lately risen to 100,000, while in 1795 it amounted only to 50,066. Their original seats seem to have been north-west of Lake Baikal.

Southern Siberia is the mother country of the Kirghiz, one of the most numerous tribes of Turko-Tataric origin. The Kirghiz lived originally between the Ob and Yenisei, where Mongolic tribes settled among them. At the beginning of the 17th century, the Russians became acquainted with the Eastern Kirghiz, then living along the Yenisei. In 1606 they had become tributary to Russia, and, after several wars with two neighbouring tribes, they were driven more and more south-westward, till they left Siberia altogether at the beginning of the 18th century. They now live at Burut in Chinese Turkestan, together with the Kirghiz of the 'Great Horde,' near the town of Kashgar, north as far as the Irtish.

Kirghiz.—Another tribe is that of the Western Kirghiz or Kirghiz-Kazak, who are partly independent, partly tributary to Russia and China.

Of what are called the three Kirghiz hordes, from the Caspian Sea east as far as Lake Tenghiz, the Small Horde is fixed in the west, between the rivers Yemba and Aral; the Great Horde in the east; while the most powerful occupies the centre between the Sarasu and Yemba, and is called the Middle Horde. Since 1819 the Great Horde has been subject to Russia. Other Kirghiz tribes, though nominally subject to Russia, are really her most dangerous enemies.

The Turk of *Asia Minor* and Syria came from Khorasan and Eastern Persia, and are Turkomans, and remnants of the Seljuk, the rulers of Persia during the middle ages.

The *Osmanli Turk*, who form the ruling portion of the Turkish empire, have the same source. They are now scattered over the whole Turkish empire in Europe, Asia, and Africa, and their number amounts to between eleven and twelve millions. They form the landed gentry, the aristocracy and bureaucracy of Turkey; and their language, the Osmanli, is spoken by persons of rank and education, and by all Government authorities in Syria, in Egypt, at Tunis, and at Tripoli. In the southern provinces of Asiatic Russia, along the borders of the Caspian, and through the whole of Turkestan, it is the language of the people. It is heard even at the court of Teheran, and is understood by official personages in Persia. The ancestors of the Osman Turk are men as well known to European historians as Charlemagne or Alfred. It was in the year 1224 that Sulaiman Shah and his tribe, pressed by Mongolians, left Khorasan and pushed westward into Syria, Armenia, and Asia Minor. Sulaiman's son Ertoghrul aided, and then took service under, Ala-ud-Din, the Seljuk sultan of Iconium (Nicœa), and, after several successful campaigns against Greeks and Mongolians, received part of Phrygia as his own, and there founded what was afterwards to become the basis of the Osmanli empire. During the last years of the 13th century the sultans of Iconium lost their power, and their former vassals became independent sovereigns. Osman, after taking his share of the spoil in Asia, advanced through the Olympic passes into Bithynia, and was successful against the armies of the emperors of Byzantium. Osman became henceforth the national name of his people. His son Or-khan, whose capital was Prusa (Bursa), after conquering Nicomedia (1327) and Nicœa (1330), threatened the Hellespont. He took the title of padshah, and his court was called the 'High or Sublime Porte,' the Bab-ul-Makaddas. His son Sulaiman crossed the Hellespont (1357), and took possession of Gallipoli and Sestos. He thus became master of the Dardanelles. Murad I. took Adrianople (1362), made it his capital, conquered Macedonia, and, after a severe struggle, overthrew the united forces of the Slavonic races south of the Danube, the Bulgarians, Servians, and Croatians, in the battle of Kossova-polye (1389). He himself fell, but his successor Bayazet followed his course, took Thessaly, passed Thermopylæ, and devastated the Peloponnesus. The emperor of Germany, Sigismund, who advanced at the head of an army composed of French, German, and Slavonic soldiers, was defeated by Bayazet on the Danube in the battle of Nicopolis (1399). Bayazet took Bosnia, and would have taken Constantinople, had not the same Mongolians who in 1244 drove the first Turkish tribes westward into Persia, threatened again their newly-acquired possessions. Timur had grasped the reins fallen from the hands of Chengiz Khan; Bayazet was compelled to meet him, and suffered defeat (1402) in the battle of Angora (Ankyra) in Galatia. Europe now had respite, but not long. Timur died, and with him his empire fell to pieces, while the Osmanic army rallied again under Muhammad I. (1413), and re-attained its former power under Murad II. (1421). Successful in Asia, Murad sent his armies back to the Danube, and, after long-continued campaigns, and powerful resistance from the Hungarians and Slavs under Hunyad, he at last gained two decisive victories, Varna in 1444, and Kossova in 1448. Constantinople could no longer be held, and the Pope endeavoured in vain to rouse the chivalry of Western Europe to a crusade against the Turks. Muhammad II. succeeded in 1451, and on the 26th of May 1453, Constantinople, after a valiant resistance, fell, and became, as now, the capital of the Turkish empire.

In the region west of a line drawn from Constantinople to the mouth of the Gerenis Chai in Lycia, or the region of the six rivers, Bakor Chai, Gedoz Chai, Kychyk and Bojzk Menderes, Gerenis Chai, and Godchai Chai, the population is about 1,500,000, of whom 600,000 are Turks, 300,000 nomade mountain Yoruks, 400,000 Greeks, 40,000 Chepis (wood-hewers and charcoal-burners, without any religion, perhaps the remains of the aborigines of the country), 60,000 Armenians, 40,000 Jews, 15,000 Catholics, 10,000 to 15,000 gypsies, Arabs, Bulgars, Croats, etc., and 4000 to 5000 Europeans other than Greeks. These Turks seldom speak any other tongue but their own. Their chief occupations are agriculture, cattle rearing, carpet-weaving, saddlery, and other small industries, and they greatly delight to act as caravan guides. The strict seclusion of the women demanded by Islamism seriously hinders them from helping the men in their business. On them alone falls the whole burden of military service. At 18 years they marry, and at 21 or 22 they are taken as soldiers and separated from wedlock for long years. The women become immoral, and these are the chief causes of the gradual extinction of the race. The Greeks have got possession of nearly all the trade and shipping. The Greeks are energetic, diligent, and eager to learn. The Greeks are preferred as physicians, lawyers, teachers, and also as traders and workmen. They are intolerant, like the Turks, but without any inner religious feeling. Yet many Slavs, mostly Bulgars and Wallachs, join their Church, and soon assume the Greek language and Greek names, and become in all respects Greeks.

Tajak.—The modern distinction of Turk and Tajak, which in its application denotes men of military and men of civil pursuits, has existed from the most early ages in this extended country.

Uigur.—According to Vambery, the Uigur are the most ancient of the Turk tribes, and formerly inhabited a part of Chinese Tartary which is now occupied by a mixed population of Turk, Mongol, and Kalmuk. They were the first who reduced

the Turki language to writing, borrowing the characters from the Nestorian Christians, who came to their country as early as the 4th century of our era. The manuscripts of this language, written in the characters mentioned, afford therefore the most ancient and valuable data in investigating the history of Central Asia, nay, of the whole Turkish race. But these monuments are of great scarcity; he believes he has collected all that has been discovered of the Uigur language, though the Uigur had a literature and were very fond of books at a time when the western world was involved in ignorance and barbarism. The most valuable manuscript he obtained bears date 1069, and was written in Kashgar; it treats of ethics and political subjects, and forms a kind of manual of advice to kings how to govern with justice and success. It reveals the social condition of this people, and forms the basis of the later regulations by which all Turks are governed. —*Malcolm's Persia; Muller's Lectures; Ferrier's Journ.; Vambery, Bokhara.*

TURKANA amongst the Rajputs means tribute. It is derived from the word Turk, meaning Muhammadan, races who exacted tribute from the Rajputs.

TURKESTAN. The people of Central Asia who inhabit the countries which extend northwards to the Russian frontiers, westwards to the Caspian Sea, and southwards to Afghanistan, for the greater part are descendants of Turks, and it would be more correct to give to all these countries the general name of Turkestan, dividing it in the following manner:—

1st. Northern or Russian Turkestan, comprehending in it the three tracts of the Kirghiz nation, with Bokhara, Khokand, and part of Khiva.

2d. Southern Turkestan, inhabited by the Khivan, Turkoman, and Karakalpak, and including also Tashkend.

3d. Eastern Turkestan, comprising Little Bucharia, which is subject to China.

Turkestan races are the Uzbak, Karakalpak, Kara-Kirghiz, Kirghiz-Kazak, Turkoman, Tajak, Sart, Galcha, and Russians. The arable tracts, especially in Khiva, Bokhara, and Khokand (Fargana), from prehistoric times have been the joint home of races of Turki and Iranian blood.

Turkestan lowlands southwards are limited by the western continuation of the Hindu Kush as far as the Hari-Rud valley, and beyond that point by the Khorasan highlands as far as the Caspian.

Russian Turkestan is bordered on the west by the Caspian, the Aral river and mountains; on the east by the Pamir plateau, the Tian Shan and Altai ranges separating it from the Chinese empire; northwards by the low ridge crossing the Kirghiz steppes about the 51st parallel, and forming the water-parting between the Aralo-Caspian and Ob basins. For administrative purposes, part of Western Siberia, 40,000 square miles in extent, is attached to Russian Turkestan. Including this tract, Russian Turkestan has an extreme length from the Caspian to Lake Issukkul of 1400 miles west and east, with a breadth of nearly 1000 miles north and south, a total area of about 1,600,000 square miles, and a population of 6,500,000.

Western Turkestan is conspicuous for the high relief of the land. Nowhere on the surface of the globe are stronger contrasts to be seen than in the Aralo-Caspian depression and Caspian basin. In the latter region, the area of drainage consists of about even highlands and lowlands. While the lowlands fall in the Caspian as much as 85 feet below sea-level, the highlands in the culminating points of the Tian Shan and Great Pamir rise to 25,000 feet above it. The nucleus of the whole Central Asian highland system is formed by the Pamir, to which converge the Hindu Kush and Himalayas from the south-west and south-east, the Kouen Lun from the east, the Tian Shan from the north-east; whilst to the west the plateau itself merges in the snowy highlands and ice-fields about the sources of the Zar-afshan, between the Oxus and Jaxartes valleys. Between the eastern extension of the Tian Shan and the Balkash-kul stretches the broad Turkestan plain, bounded to the south-east by Kulja, the frontier province and long debateable land between the Russian and Chinese empires. By nature the richest land beyond the limits of China proper, this unhappy province bears witness, in its ruined cities and wasted plains, to the successive risings of Zungarians and Dunyans, the victims of which during more than a century are to be reckoned by millions.

Bokhara is an isolated kingdom in Turkestan of small extent, surrounded by a desert. It lies between lat. 36° and 45° N., and long. 61° and 67° E. It is an open champaign country of unequal fertility, and intersected by the Oxus on its southern border. Its rivers are the Amu or Oxus, the Syr or Jaxartes, the Kohik or Zar-afshan, and the rivers of Kurshi and Balkh. It is ruled over by an amir, now under Russia, whose sway is comprised between the parallels of latitude and the degrees of longitude above indicated. The Uzbak are undoubtedly the preponderating race in Bokhara, not so much from their number, as by the ties which bind them together. They are divided into stems and sections, like the Kirghiz, and have their elders or beys, who enjoy a certain consideration among them. The Uzbak branches, with some of their subdivisions, are enumerated in the work called Nassed Mameti Uzbakia.

The Russian acquisitions in Central Asia were directed to the Jaxartes in the first stage of their operations, and to the Oxus in the second. With the fall of Tashkend in 1865 the Russians completed the first part of their programme, and with the annexation of Khiva in 1873, the second. With the consummation of these conquests, and the subsequent absorption of Khokand, Western Turkestan was converted into a Russian province.

Eastern Turkestan, sometimes called Kashgaria, is a name for which there is no authority. European writers have called it Little Bokhara, a term quite unknown to the inhabitants or the neighbourhood. The Chinese call it the province of the Nan-loo, or province of the Southern Road, lying along the south of the Tian Shan range. The neighbouring Muhammadans call it Alti-shahr or Jeti-shahar, Turki-Persian words for the six cities and the seven cities, so designated according to the number of towns which it included at the time of speaking. It lies nearly due north of Kashmir. It is a gently undulating plain, about 250 miles across from N. to S. near its western extremity, where cultivation is the more abundant; open and gradually widening out to the east, where the great rainless desert of

TURKESTAN.

[illegible], and from whence long arms of sand [illegible] stretch back into the cultivated region [illegible] the very walls of the cities and villages. [illegible] on the S. by the mighty chain which forms the true backbone of Asia, various portions of which are known as the Kouen Lun, Kara-korum, Mustagh or Ice Mountain, Tagh-dung-bash or Head of the Mountains. On the west it has the extremely elevated plateau of Pamir, and on its north is the range known in Turki and Chinese as the Tengiri or Tian Shan range, both terms meaning heavenly, from the northern slopes of which the rivers of Siberia rise. The people, numbering about 1,500,000, are robust, industrious, frugal, of peaceful dispositions, and with strong desires to trade. The rainfall, even at the skirts of the hills, is limited to a few showers in the winter and spring, and the cultivation, which is limited to the artificial irrigation of the base of mountains and the banks of rivers, is carried on from the melting of the glaciers and the winter snows. The rivers ultimately unite in one, which disappears in a marsh far removed in the desert of Gobi. Wheat, barley, and Indian corn are produced; fruits are abundant, and of these the grapes are celebrated. Gold is found in the east of the Kouen Lun range. Jade, copper, lead, and sulphur are found in the Kara-korum and on the spurs of Pamir, and coal in the eastern parts of the Tian Shan mountains.

Eastern Turkestan was subject to China from the beginning of the Christian era to the time of Chengiz Khan; and after the middle of the 18th century, the Chinese regained possession of it. Eastern Turkestan is eminently Muhammadan, and its rulers had always been Muhammadan from the time of Taghalaq Timur, who was, we are told, the first Muhammadan sovereign of Kashgar of the lineage of Chengiz. Buddhism indeed was found still prevalent in the cities of Turfan and Kamil at the time of the embassy of Shah Rukh in 1419, and probably did not become extinct much before the end of the century. But, in the western states, Muhammadanism seems to have been universal from an earlier date, and maintained with fanatical zeal. Saintly teachers and workers of miracles, claiming descent from Mahomed, and known as Khwaja or Khojah, acquired great influence; and the sectaries attached to the chiefs of these divided the people into rival factions, whose mutual hostility eventually led to the subjugation of the whole country. For, late in the seventeenth century, Khojah Appak, the leader of one of those parties called the White Mountain (having been expelled from Kashgar by Ismail Khan, the chief of that state, who was a zealous supporter of the opposite party or Black Mountain), sought the aid of Galdan Khan, sovereign of the Eleuth or Kalmuk race of Dzungaria. Taking the occasion so afforded, that chief in 1678 invaded the states south of the Tian Shan, carried off the khan of Kashgar and his family, and established the Khojah of the White Mountain over the country, in authority subordinate to his own. Great discord for many years succeeded, sometimes one, sometimes another being uppermost, but some supremacy always continuing to be exercised by the khans of Dzungaria. In 1757, however, the latter country was conquered by the Chinese, who in the following year, making a tool of the White party, which was then in opposition, succeeded in bringing the states of Turkestan also under their rule.

Hoei Hoei.—The Chinese and the Manchu races call by the name of Hoei Hoei all the Muhammadan tribes who live under their dominion. This term, however, has ceased to designate a nation. As the Uigur Hoei Hoei, called simply Hoei Hoei under the Mongol dynasty of Yunan, were Muhammadans, this name is applied by the Chinese to all those of the same religion, in the same manner as the Russians are often called Greeks, because they are of the Greek Church. The inhabitants of the towns of Little Bokhara are in part descendants of the ancient Uigur Hoei Hoei, and consequently Turks, in part Sarti, or Bokharians, who are scattered as merchants all over Central Asia, and who are Persians. There are many of them at Pekin, Hang-chu-fu, Canton, and the other commercial cities of China. Their mother-tongue is Persian, but they also speak the oriental Turki, which is the general language of Turkestan, and the most diffused in Little Bokhara.

Language.—The Uigur writing character was the original source of those still used by the Mongol and Manchu, and was itself almost certainly derived from the old Syriac character through the Nestorians. The modern Tartar characters are written (and, it is presumed, read) in vertical lines from top to bottom of the page, the lines succeeding each other from left to right. What Uigur meant with Mongol authors is doubtful, but the people and language so called by the Western Asiatics were Turkish. Captain Valikhanoff speaks of the language now in use at Kashgar as being Uigur, but it is not clear whether he means that this term is known to the natives.

Towns.—The three principal towns in Turkestan are Elchi, in lat. 36° 50′ N., and long. 78° 20′ E., 5500 feet; Yarkand, in lat. 38° 10′ N., and long. 74° E., 4200 feet; Kashgar, in lat. 39° 15′ N., and long. 71° 50′ E., 3500 feet. Elchi is represented to have the coldest, and Kashgar the hottest, temperature of the three towns throughout the year. Snow falls at Kashgar, but never remains longer than a few hours; but it is seen lying in Yarkand for three or four days together.

The *people* of these regions are from two distinct sources, viz. the settled races; descendants of Semitic and Iranian conquerors from the south; and the races who have been occupying the country from prehistoric times. The last part of the inhabitants have been styled Turko-Tartars, and are in their habits the same as they were 2000 years ago. Vambery divides the Turks proper into Burut, black or pure Kirghiz; Kirghiz, properly Kazak; Karakalpak, Turkoman, and Uzbak.

The *Burut*, pure or black Kirghiz, dwell on the eastern boundary of Turkestan, viz. the valley of the Tian Shan chain of mountains, and they inhabit also several points on the shores of the Issik-kol, close upon the frontier chain of mountains. They have powerful, thick-set, strong-boned figures, but are remarkably agile, and have acquired much warlike renown. Their face is less flat than the Mongolian and Kalmuk, and less fleshy; their forehead somewhat higher, and their eyes are less almond-shaped than the Kalmuk; few of them have red or fair hair or a white complexion. The Burut are in contact with

Kalmuk and Mongolians, and in consequence their language has many Mongolian words, and now and then they profess themselves more or less Muhammadans, but Shamanism largely prevails. The Burut is the wildest and most savage and most superstitious of the Turk, but less malicious than the Kirghiz and Turkoman.

The *Turkoman* is the fourth gradation of the Mongolian Turkish race, and in many respects they resemble the Kazak and Karakalpak. The pure Turkoman type, as met with in the Tekke and Chadar tribe in the centre of the desert, is of middling stature, small oblong head, not high cheek-bones, somewhat snub noses; longish chins, feet turned in, with the bright, sparkling, fiery eyes of the desert races, but more particularly the Turkoman. The blonde colour is common,—indeed, the Kelt race amongst the Gorgen Yomut are generally half blonde. The Goklen and other tribes near Persia evidence an intermixture with the Iranian Persian. The Turkoman are slender and agile, and they are hardy and enduring under privations. They early separated themselves from other Turko-Tartarian nations, moving from Mangishlak in the east to the north-west, and thence to the south. In their present country, the Salor and Sarik are the oldest tribes; after them the Yomut, who at one time ranged from north to south along the shores of the Caspian. The Tekke were transferred by Timur to Akhal. The Ersari, at the close of the 18th century, moved from Mangishlak to the shores of the Oxus, and recently many of the Chadar moved to the other bank of the Oxus. The chief avocation has been pillage. The men wear long locks till the close of the first year of their marriage. The women are handsome, and perfect beauties are to be seen, not inferior to the Georgians in figure and regularity of features. The young girls of all nomade tribes are good riders, but Turkoman women excel all others. Turkoman women, amongst the nomades, wear heavy silver ornaments. They are the labourers of the community, are virtuous, devoted, and much respected. Uzbak women go unveiled.

The *Uzbak*, though settled in Central Asia for centuries past, still meditates on robbery and war, and if no foreign enemy be found, they attack each other in bloody internal strife. The Uzbak is honest, upright, has much Turkish open-heartedness; they are proud of their education, and represent all the best side of the national character of the Turks.

The nomade Uzbak and Turkoman of Central Asia were largely engaged in a slave trade, stealing the Persians and selling them in Bokhara. The Uzbaks of Khiva practised it when driven towards Persia by the Turkoman; and of the Turkoman, the Tekke tribe captured the people of Khorasan, Herat, and Seistan, and the Yomut tribe, those along the southern shores of the Caspian, but the Salor, Sarik, Kara Chadar, and Alieli captured Shiah Persians from the territory of the Persians.

In January 1884, the Tekke Turkoman of Merv at their own request became Russian subjects.

The name by which Vambery designates these peoples is Turko-Tartar, from amongst whom came the warrior peoples known in the west as the Hun, the Avar, the Uigur, the Kutrigur, and Khazar. And the manner of living, the customs, and physical conditions, as then described, of the Tartar tribes, whose arms reached from the Jaxartes to the heart of Rome and Gaul, have much resemblance to those of the present inhabitants of Turkestan; and the people of Central Asia, particularly the nomade tribes, are in their social habits the same as they were two thousand years ago. In the tent of many a nomade chief a similar life is observable as that described by Priscus as prevailing at the court of the king of the Huns. Attila, Chengiz Khan, and Timur, in historical character resemble each other; and Vambery is of opinion that energy and good fortune could now almost produce on the banks of the Oxus and Jaxartes one of those warriors whose soldiers, like an avalanche carrying everything before it, would increase to hundreds of thousands, and would appear as a new example of God's scourge, if the powerful barriers of western civilisation, which has great influence in the east, did not stop the way. This is a correct view.

The *Turk*, wherever met with, is ever heavy and lethargic in his mind and body, but in his resolves firm and stedfast, not from principle, but from apathy and aversion to change; and it is from these characteristics that his appearance is earnest and solemn, a profound seriousness, a marble cold expression of countenance, with a great inclination to pomp and magnificence. An Uzbak or Turkoman has a proud bearing, as if possessed with a self-consciousness of greatness and power.

The Osmanli Turk's love of independence is boundless. He considers himself born to rule, that hunting and war alone are worthy of him, and husbandry is considered ignominious. In Central Asia, agriculture is exclusively in the hands of the Persian slaves,—commerce and business with the Tajak, Hindu, and Jew. The Turk is intellectually the inferior of the Iranian and Semitic nations. This defect is noticed by other nations, who apply to them the terms Turkluk (Turkdom), Kabalik (coarseness), Yugunluk (thickness), and Sadeluk (simpleness); and with these qualities, as the Osmanli is easily taken in by the Armenian, Greek, and Arab, the Turk is as easily so by the Tajak and Hindu. In transactions the Turks are regarded as possessing more honesty, frankness, and confidence, plainness, simplicity, and uprightness. Compared with the Persians, the Turk is a faithful servant, attached soldier, and upright man. They are more brave, persevering, and love more to rule than any other Asiatic people. They are unpolished, wild, and uncultivated, but seldom cruel out of malice. They crave riches, but only to expend them. They exact much labour from their subordinates, but protect and deal liberally with them. The Turk is innately a nomade, and, like other nomades, is distinguished for hospitality.

In Balkh and near Andkhui the harvest is at the beginning of June; in the oasis countries, in July; in Kungrat and in the north of Khokand, not till the beginning of August. Of the rivers, the Oxus is the most important, and the Zar-afshan, Shahar Sabz, and Jaxartes follow.—*Vambery's Sketches of Central Asia*, p. 283; *Russians in Cent. Asia; Yule, Cathay; Timkowski's Journey to Pekin.*

TURKEY, an empire in the east of Europe, south-west of Asia, and north of Africa, ruled by a race of Othmanli Turk, descended from Othman or Usman, who founded the empire in A.D. 1299. A pastoral band of 400 Turkish families was journeying westward from the upper streams of

the river Euphrates. Their armed force consisted of 444 horsemen, and their leader's name was Ertoghrul, which means 'the Right-Hearted Man.' As they travelled through Asia Minor, they came in sight of a field of battle, on which two armies of unequal numbers were striving for the mastery. Without knowing who the combatants were, the Right-Hearted Man took instantly the chivalrous resolution to aid the weaker party, and, charging desperately and victoriously with his warriors upon the larger host, he decided the fortune of the day. Such, according to the oriental historian Neschri, is the first recorded exploit of that branch of the Turkish race, which from Ertoghrul's son, Othman, Osman, or Usman, has been called the nation of the Ottoman Turks and the Osmanli. And in this their earliest feat of arms, which led to the foundation of their empire, we may trace the same spirit of haughty generosity that has been their characteristic down to our own times. The little band of Ertoghrul was a fragment of a tribe of Oghuz Turk, which, under Ertoghrul's father, Sulaiman Shah, had left their settlements in Khorasan, and sojourned for a time in Armenia. After a few years, they left this country also, and were following the course of the Euphrates towards Syria, when their leader was accidentally drowned in that river. The greater part of the tribe then dispersed; but a little remnant of it followed two of Sulaiman's sons, Ertoghrul and Dundar, who determined to seek a dwelling-place in Asia Minor, under the Seljuk Turk, Ala-ud-Din, the sultan of Iconium. The adversaries from whose superior force they delivered him were a host of Mongols, the deadliest enemies of the Turk race. Ala-ud-Din, in gratitude for this eminent service, bestowed on Ertoghrul a principality in Asia Minor, near the frontiers of the Bithynian province of the Byzantine emperors. The rich plains of Saguta along the left bank of the river Sakaria, and the higher district on the slopes of the Ermeni mountains, became now the pasture-grounds of the father of Othman. The town of Saguta or Saegut was his also. Here he and the shepherd-warriors who had marched with him from Khorasan and through Armenia, dwelt as denizens of the land. Ertoghrul's force of fighting men was largely recruited by the best and bravest of the old inhabitants, who became his subjects; and, still more advantageously, by numerous volunteers of kindred origin to his own. The Turk race had been extensively spread through Lower Asia long before the time of Ertoghrul. Quitting their primitive abodes on the upper steppes of the Asiatic continent, tribe after tribe of that martial family of nations had poured down upon the rich lands and tempting wealth of the southern and western regions, when the power of the early khalifs had decayed like that of the Greek emperors. One branch of the Turks, called the Seljukian, from their traditionary patriarch Seljuk Khan, had acquired and consolidated a mighty empire more than two centuries before the name of the Othmans was heard. The Seljuk Turks were once masters of nearly all Asia Minor, of Syria, of Mesopotamia, Armenia, part of Persia, the Western Turkestan; and their great sultans, Toghrul Beg, Alp Arselan, and Malik Shah, are among the most renowned conquerors that stand forth in oriental and in Byzantine history. But by the middle of the thirteenth century of the Christian era, when Ertoghrul appeared on the battlefield in Asia Minor, the great fabric of Seljukian dominion had been broken up by the assault of the conquering Mongols, aided by internal corruption.

Population.—Ravenstein and Behm and Wagner are the authorities chiefly relied on in enumerating the population of Turkey. Their calculations and the annual Sal-namahs, with information from the British consuls, would show 25,994,000 inhabitants in the empire. The Turkish Ministry of Finance issued in 1867 a statistical notice, in which the population of Turkey is placed at 18,500,000 for Europe; 16,500,000 for Asia, with Cyprus; and 5,000,000 for Africa; making a total of 40,000,000 for the empire. But Messrs. Ubicini and Courteille put the total population of the empire, exclusive of the tributary States, at 28,500,000. These are mere estimates. The empire of Turkey may contain about 11,500,000 of the conquering race, the remaining number being an agglomeration of races of different origin, language, and religion, some 6,000,000 of them being Muhammadans. In European Turkey, however, there are only about 2,000,000 of Osmanli, sparsely settled; whereas in Asia, and chiefly in Asia Minor, there is a compact mass of 9,000,000 to 10,000,000. To the same group belong some 300,000 Turkomans in Asia and some 200,000 Tartars in Europe from the Crimea. The Greeks do not seem to number more than 1,000,000 in Asia and 1,000,000 in Europe, chiefly along the coasts and in the islands. In European Turkey there are about 500,000 of Armenians, chiefly in Constantinople and a few large towns, whereas in Asiatic Turkey there are 2,000,000. To the same ethnographic group belong 1,000,000 of Ottoman Kurds in Asia, who are Muhammadan, but often hostile to the Osmanli. Lastly, there are in European Turkey about 200,000 Muhammadan gypsies and more than 100,000 Jews of Spanish descent, and in Asiatic Turkey about 1,500,000 of Arabs and others of the Semitic group.

TURKHANI or Turkolani, a tribe that came to Sind and were in power from A.H. 962 to A.H. 1021. On the death without issue of Mirza Shah Husain Arghun, who ruled over Sind, that province was divided by two chiefs,—Sultan Muhammad Bukri took Sehwan and all to the north, and Mirza Esa the remainder. Mirza Esa, the father of Mirza Baki Turkhan, was the first of the Turkhan who governed Lower Sind. He died A.H. 980, A.D. 1572. The tomb of Mirza Baki Turkhan is on the Muklee range of hills near Tatta. Mirza Baki assumed the government of Lower Sind on the demise of his father Mirza Esa. He died A.H. 993, A.D. 1585. The tomb of Mirza Jani Beg Turkhan was also built on the Muklee range, about A.H. 1009, A.D. 1680. He was son of Payand Beg Turkhan, and was the last Turkhan who governed Lower Sind, of which Tatta was the capital. He had succeeded to the government on the demise of his grandfather Mirza Baki Turkhan in A.H. 993, A.D. 1585, his father being insane. He ruled for seven years, till Abdul Rahim Khan, a general of Akbar, conquered Sind. Mirza Jani Beg visited Dehli, and was graciously received and the country was restored to him, but he was not allowed to return to Tatta. The government was carried on by his agents until his death, which took place in 1008 Hijira, A.D. 1599,

when his son Ghazi Beg was called to Dehli. Ghazi Beg remained there some years, after which he was appointed Governor of Kandahar, over which province he ruled until his death, which took place in 1020 Hijira, A.D. 1611. Both he and his father were, after death, carried to Sind, and buried in one tomb. The Turkolani tribe now inhabiting the valley of Bajawar (written Bajour) number about 10,000 or 12,000 families, and the other inhabitants of Bajawar are about 30,000. They are next to the Yusufzai, whom they resemble in food, lodging, and habit of life. They are brave, industrious, cheerful, and fond of amusement. They often meet to converse, sing, play on the guitar, and they have some of the active games of Khorasan.—*Lt.-Col. MacGregor*, iii. p. 220.

TURKISH ARABIA, a province of Turkey, has an area approximately of 140,000 square miles. Its population comprises Arabs, Kurds, Jews, and Christians. Baghdad, its capital, is situate on both banks of the Tigris, and is the headquarters of the Wali in charge of the administration, assisted by a Muāwin, with a general officer, who is in direct communication with the War Minister at Constantinople. Two of the three districts into which Kurdistan is usually divided, fall more or less within the limits of Turkish Arabia. These two districts are Central Kurdistan and South-Eastern Kurdistan. The former extends north and south along the Turco-Persian borders from Lake Van to Sulimania; the latter comprises the Turkish districts of Sulimania and Sharizor, the Persian provinces of Ardelan or Sehna and Kermanshah, and a strip of country, including the plain of Zohab, from Kermanshah to the extremity of the Luristan Hills. The Turkish Kurds in the districts of Van, Mosul, and Sulimania may number 700,000 souls. They are of the Sunni sect of Muhammadans, and devoted followers of Abd-ul-Kadir Ghilani, the founder of the Kadria section of darvesh, whose tomb is at Baghdad.

The country lying between the towns Kut-el-Amara and Amara, and inland as far as the Persian frontier, belongs to the Beni Laam, a powerful Arab tribe, and they and their neighbours, the Feili Kurds, are Shiah Muhammadans. Amara town is the S.E. limit of the Beni Laam territory, and is just above the marshes of the Tigris where the river Hud flows out of the Tigris. The Tigris and Euphrates unite at Kurna to form the Shat-ul-Arab stream. The Turks claim the right bank of its whole course, but the left bank, from a point a few miles above Muhamera and thence to the sea, is occupied by the Kaab Arabs, who are in subordination to Persia.

Mesopotamia, or the doab between the right bank of the Tigris and the left bank of the Euphrates, is known to the Arabs as Jazirah, meaning island. Its inhabitants are Arabs. Those at its upper part are the Shammar Jarba tribe, who migrated from Nejd about the middle of the 18th century. They are of the Sunni sect, and are still nomade Bedouins, wandering over the whole of Northern Mesopotamia. In the summer their chief pasturage ground is at Shergot, on the Upper Tigris, a short distance below Mosul, and in the winter they approach Baghdad to buy supplies. They are at feud with the neighbouring tribes, the Anezeh, the Dilem, and the Montefik, the last a small population of many Fellah tribes.

In the lower part of Mesopotamia, the people are of the Shiah sect, especially in the neighbourhood of the holy cities Kazmain, Karbila, and Najaf.

British relations with Turkish Arabia date from the formation of the East India Company, a factory having been formed in Basra under the supervision of the Company's agent at Gambrun or Bandar Abbas in the Persian Gulf. Until A.D. 1833 the resident officers' duties were partly commercial and in part political, but since then wholly of the latter character, under the Political Agent at Baghdad.

The Tigris is navigable at all seasons of the year from Mosul, and in the spring floods from Diarbekir. The Euphrates is navigable from Balis to Kurna, where the two rivers join. From Kurna to the sea there is water for vessels of very considerable draught.—*Tr. Chichely Plowden.*

TURKOMAN inhabit the desert country comprised by a line drawn through Astrabad, Herat, and Balkh on the south, the course of the Oxus from Balkh to the Aral on the east, the Caspian on the west, and the elevated plateau called the Ust Urt lying between the seas of the Caspian and the Aral on the north. They must not be confounded with the Kirghiz or Kazak. They have never been under one head, but have tribes (khalk), branches (taifé), and tiré or clans. Some of them are nomades, and others are settled on the river valleys. Their tribes or khalk and their estimated numbers are as under:—

1. Chandor or Chooder, between the Caspian and Aral, 12,000 to 20,000 tents. They have seven taifé.

2. Erzari or Orzari, on the left bank of the Oxus, 50,000 to 100,000 tents.

3. Alich or Andkhui, near Andkhui, 100 tents.

4. Kara, a savage, predatory tribe, between Andkhui and Merv, 1000 tents.

5. Salor, a brave, ancient tribe, about the Murghab and Merv, 6000 tents.

6. Sarik, about Panjdeh, on the banks of the Murghab, 9000 or 10,000 tents.

7. Tekke, the most warlike and powerful of all the tribes. They range from N. of the Goklens up to Khiva, and beyond Merv Shah are found on the bank of the Oxus. Their two encampments are the Akhal Tekke to the E. of the Tajend swamp, and Merv Tekke at Merv. They have little of arable land, and lived by robbery and enslaving Persians. Their tents number 40,000 (Abbott) to 60,000 (Vambery), Marvin 50,000. Merv is the central position of this tribe, and in January 1884, at their own request, Russia annexed Merv.

8. Goklen, a pastoral and agricultural tribe of 8000 or 10,000 tents in the valley of the Gorghen, for 90 miles, till they meet the Kurds. They are mostly subject to Persia. They are at inveterate feud with the Tekke to the N. They have ten clans.

9. Yomut are in two branches, the Gorghen Yomut on the Gorghen river under Persia, and the Yomut of Khiva in the desert on the left bank of the Oxus. They enslave Persians. They number 40,000 to 50,000 tents.

Population.—According to Major Abbott, the total tents of Turkoman are 91,700; according to Professor Vambery, 196,000, or respectively 458,500 and 982,500 souls. The Turkoman have no shadow of government; each is lord of his own

tent, but they show a little respect to old age and to valour, and highly prize purity of Tartar descent in the Eeg or free-born. Were the tribes to combine, Persia would be at their mercy. Their average height is 5 feet 7 inches; features irregular, beardless, eyes small and round, with a bold, penetrating glance, and a proud military bearing. They are honest amongst themselves, though predatory to strangers, and they are hospitable. The men attend only to their horses, listen to story-tellers. Their arms are a curved sabre and long spear, with gun or pistol, and the Tekke have cannons. The women are often good-looking, and are chaste. They marry early, occasionally before puberty, and have the show of attacking the bride's camp, to seize her, also the Kokburi (green wolf), where the bride, in bridal costume, rides off with the carcase of a lamb or goat. They are Sunni Muhammadans, but uneducated and barbarous. The modern travellers who have given accounts of the Turkomans are General Petroosevitch, Major Butler, Colonel MacGregor, Major Burnaby.

TURKOMAN HORSES are a modification of the Arab breed. Timur introduced new blood by dispersing amongst the tribes 4200 mares, which he had selected in Arabia from the very best breeds. Afterwards, Nadir Shah renewed this cross with 600 mares from Nejd, which he confided exclusively to the Tekke tribe, and the horses of this tribe are now held in the highest estimation in all Turkomania, especially those from the district of Akhal. The next in reputation after the Tekke horses are those of Merv Shah Jahan, the horses of Yomut and the Goklen, and the race of the Murghab, of the Hazara, the Uzbak of Maimana, Shibbarghan. The race dates back originally, like the British thoroughbred, to the Arab, but it is now distinct; and, besides being much larger, they far excel the Arabs both in speed and endurance. In appearance they more nearly resemble the English thoroughbred or race-horse than any other type, and average about the same height, perhaps, if any thing, standing a little higher. Action is usually spoilt by the custom of tying the hind and fore leg of the colt on each side together, in order to make them 'tripple,' or walk 'disconnected' at the fast easy pace in which a Turkoman delights. It is at this pace, about five miles an hour, that they do their long, slow journeys, while the quick raids are made at a slow gallop. The steppes of Turkomania are very favourable to the development of the equine race, the pasturage and artificial grasses grow in dry soils, having no other nourishment than the winter snows. Green food is produced on these steppes only in the spring; at that season the Turkoman refrain from making any expeditions, and this state of abnegation continues to the end of July. During this period they have time to gather in their crops, and their animals rest the limbs which have so well done their duty the previous season. From the month of August up to the winter they are kept on dry food; this consists of seven pounds of barley per diem, mixed with dry chopped straw, lucerne, sainfoin, or clover-hay, unless a chapaoul is coming off, in which case the horse is put upon half forage. They are most carefully clothed, but stand in the open air. They have thick felt coverings made, both as hoods and rugs, completely enveloping the whole body. The thick, heavy hoods wear away the mane, and prevent its free growth, and then the Turkoman trims or hogs it. A high-class Turkoman is nearly always followed by a yaboo, or pony, carrying his heavy clothings. Every horse is carefully tested, and his quality is exactly known by the tribe; and a horse of extreme merit is most closely guarded, and never sold except for a very large sum. They are raced over long distances, extending to as much as 40 and 50 miles; but they also have shorter races of 5 or 6 miles to test speed. The horses are sedulously prepared before being thus tried. Good, hardy, useful animals, averaging about 15.2 in height, can be purchased for from £15 to £20, whereas a very high-class horse will sometimes fetch between £400 and £500, or even more. The Turkoman is quite as gentle as the Arab, and generally more quiet and sedate in his ways and habits, whilst equally courageous. That they would prove as fast as the best English race-horses for very short distances, it is difficult to believe, for they have not been bred wholly for speed; but there is no reason to doubt that they would hold their own in very long races. Their stamina and general powers of endurance are certainly far in excess of those of the British thoroughbred horse.

TURMERIC, Curcuma.

Zur-sud, Tumr, .	ARAB.	Kunhet, . . .	MALAY.
Hurridra, . . .	BENG.	Mangella-cua, .	MALEAL.
Than-u-wen, . .	BURM.	Zard-chobeh, . .	PERS.
Arsina, ...	CAN.	Karkum, . . .	,,
Keang-whang, .	CHIN.	Cypira herba Indica,	PLIN.
Kupeiros Indicos,	GR.	Peeta, Haridra,	SANSK.
Hallad, Haldi, .	HIND.	Haradul, . . .	SINGH.
Daru-hallad (inferior),	,,	Haran-haha, . .	,,
Turtumaglio, . .	IT.	Munjal, . . .	TAM.
Kunir, Kunit, .	MALAY.	Pampi, Passapu,	TEL.

Turmeric derives its name from 'terra merita.' Turmeric is the ground tubers of Curcuma longa, C. rotunda, C. angustifolia, C. viridifolia, and C. zedoaria. It is extensively grown throughout the East Indies, China, and the Archipelago, for home consumption and for export. The bulbs are small, and furnished with numerous long palmate tubers, internally of a deep-orange colour. There are two descriptions of tubers, the one round, the other long, but both are yielded by the same plant. The odour is aromatic, somewhat analogous to ginger, but peculiar; the taste is aromatic. When chewed, it tinges the saliva yellow. Its powder is orange-yellow. Turmeric is used in dyeing a yellow colour, which is not, however, very permanent, and it is also largely used as a condiment in curries. In 1882–83, 63,570 cwt. were exported from India, value Rs. 3,72,077. The trade has rapidly decreased. Amba haldi is the term applied to the dyer's turmeric. Turmeric is grown like ginger from cuttings, or sets, which are little pieces of the fresh root cut up and planted. In India, amongst Muhammadans and Hindus, after betrothment and before marriage, the body is anointed with turmeric. Amongst Hindus, when they for the first time wear a new cloth or dress, they stain its four corners with turmeric, to ward off the evil eye and guard against malignant spirits. Turmeric is always emblematic of good tidings; for a soldier to smear his clothes with turmeric, denotes that he devotes his life as a sacrifice.—*Mason; Birdwood; M. E. Jur. Rep.; Poole; Simmonds; Powell.*

TURNER, LIEUT. SAMUEL, went as ambassador to Tibet. Full particulars of this journey were published in 1783 in London, with an accurate map of the route. Captain Turner's route was from Rungpur in Bengal, to Tassisudon in Bhutan, and thence by the Chumulari pass across the Himalaya to Teshu Lumbu. He wrote, Embassy to the Court of the Teshu Lama in Tibet, containing a Narrative of a Journey through Bhutan and part of Tibet, 1800. He also wrote on the Yak of Tartary in Asiatic Researches. He was deputed by Warren Hastings, in 1783, on a second mission to Tibet, but was prevented reaching Lhassa by the state of the government.

TURNIP, Brassica rapa, requires a free light soil. Turnips are cultivated in all parts of the Dekhan, at the commencement of the rains and the cold weather. They continue until the latter end of February, and go to seed easily. Among the varieties produced by long cultivation are the common turnip, the Swedish turnip, and another which is largely cultivated for the oil contained in its seeds, which under the name of colza oil is used for lamps.—*Riddell; Jaffrey.*

TURNOULI or Tarnawali. The village of Tarnawal is in the Mangal subdivision, Mansera division, of the Hazara district. It has a population of about 1498 souls, viz. 78 Jadun, 164 Syud, 248 Awan, and 1008 others. The Turnouli chiefly belong to Hazara, but they hold lands on both sides the Indus. They leagued with the Jadun tribe of the Mahaban, and with the Chagarzai, Hasanzai, and other northern Pathan tribes; they proved most formidable opponents to the Sikhs.

TURNOUR, GEORGE, son of the Honourable George Turnour, the first Earl of Winterton, was born in Ceylon in 1799, educated in England, and entered the Ceylon Civil Service in 1818. He wrote on the Buddhist History of Ceylon, and Indian Chronology, in vols. v. and vi. of Bengal As. Soc.; a series of essays on the Pali Buddhistical Annals. But his great work was his translation of the Mahawanso. He died at Naples, 10th April 1843.

TURNSOL, the Abd-us-Shams of the Arabs, also called by them Dawwar-us-Shams. The Ansariah tribe regard it as the emblem of the deity, the slave or servant of the sun, who is called Ilah-ul-Alihah, the God of gods.—*Catafago.*

TURPENTINE.

Ratenuj-rumi, Butum, AR.	Kota, ... NEPAL.
Kelon-ka-tel, . . HIND.	Zungbari, . . . PERS.

Turpentine is obtained in the north of Europe, America, and in the Himalayas, from species Larix, Abies, and Pinus, fir, pine, and larch s, as also in Canada from trees of the genus acea. Abies excelsa, the Norway spruce fir, ls the Burgundy pitch of commerce; Canada m is from the Abies balsamea; Venice turine is obtained from Larix Europæa; common ntine is obtained from Pinus sylvestris, P. tris, P. tœda, and other species of pine and s also from the Pistacea terebinthus. Pinus da of the Himalayas yields spontaneously a ine resin. Cedrus deodara is an elegant and ree, hardy as the larch, and yielding valuimber. Its turpentine has been long em in medicine by the Hindus, and was known Avicenna. It is the Kelon-ka-tel, and is t repute in the N.W. of India, from its stimulant properties and power of healing deep-seated ulcers, as in elephants and camels. Old and concrete American turpentine is often sold as frankincense.

Turpentine Oil.

Eau de raze, . . . FR.	Acqua di rasa, . . IT.
Huile de terebenthine, ,,	Aguarras, ... SP.
Turpentinol, . . . GER.	

The produce from the crude article is about from 14 to 16 per cent. Sweet oil of turpentine appears to be carefully rectified oil. The common oil contains some resin, which colours it. Camphene is rectified oil of turpentine. Turpentine is extensively employed, as the solvent of the other resinous bodies, in the formation of varnishes. The rectified oil has been much used as a solvent of caoutchouc. That distilled from the turpentine of the common long-leaved fir of the Himalayas, is of very superior quality.—*Royle, Productive Resources of India.*

TURPINIA NEPALENSIS. *Wall.*

Neela of NEILGHERRIES.	Alla-kirilla, . . SINGH.
Kon koombala, . SINGH.	

A good-sized tree, common on the mountains of Ceylon, also all over Darjeeling, and in Hong-Kong; it is occasionally found in very low elevations not much above sea-level; it is particularly common about Ootacamund at 7000 feet; it is called neela.—*Beddome, Fl. Sylv.*

TURQUOISE. ENG., FR.

Turkiss, ... GER.	Turchina, ... IT.
Firozah, ... HIND.	Turquesa, ... SP.

This precious stone is found at Khojend, in Mawar-ul-nahr or Transoxiana, at Shebavek, in hills near Shiraz, in the Tibet hills, in Kirman, and in a mountain of Azerbijan, where the mine was discovered about fifty years before Ahmad bin Abd-ul-Aziz composed his Treatise on Jewels. He describes the mine about 30 miles from Nishapur as most celebrated from early ages for that particular kind of turquoise entitled Abu Ishaki, which, says he, averts evil from those who wear it, conciliates the favour of princes, augments wealth, preserves the sight, ensures victory over an adversary, and banishes all unpleasant dreams. The ancient sages, when first they beheld a new moon, immediately after fixed their eyes, says he, on the Firozah. The turquoise, from whatever source, is apt to change colour if brought in contact with acids, musk, camphor, or other scents, and possibly from the state of the weather. Small clear Persian stones found at Nishapur in Khorasan, sell at 6d. to 20s. each, whilst a fine ring stone will realize from £10 to £40; a perfect stone of the size of a shilling and of good depth has been sold for £400. It varies from white to fine azure blue, but it is only the fine blue stones that are of any value. From the Persian name Firozah is the colour called Firozah rang, turquoise blue. The best are from Nishapur, and are described by Ferrier as classed into eight kinds,—fatahi, azhani, sulimani, zanwi, asmani, abd-ul-hamidi, Indalisi, kanjinya. Turquoise of Badakhshan is of a blue colour, but is inferior to that of Nishapur. Turquoise is rather a favourite stone with the Muhammadans of India. Near Khojend is a turquoise mine, but the stones found there are of a greenish hue, and far less esteemed than those of Nishapur. There is another of insignificant note somewhere in Kirman. It is a hydrated phosphate of aluminum.—*Fraser's Khor-*

asan, p. 105; *Mrs. Harvey, Tartary, etc.*, i. p. 355; *General Ferrier; Ouseley's Travels*, i. p. 211; *Emmanuel; Tavernier; Markham's Embassy*, 108.

TURTLES are of two kinds,—of the family Trionycidæ or fresh-water turtles, and of the Chelonidæ or marine turtles, viz.:—

Fresh-water Turtles, Trionycidæ.

Emyda granosa, *Gunth.*, India.
E. Ceylonensis, *Gunth.*, Ceylon.
E. vitrata, *Peters*, Goa.
Trionyx Sinensis, *Wiegm.*, China, Chusan, Formosa.
T. Gangeticus, Nepal, Ganges, Penang.
T. Javanicus, *Schw.*, India, Java.
T. ornatus, *Gray*, Siam, Cambogia, Borneo.
T. Guntheri, *Gray*, India.
Chitra Indica, Nepal, Malay, and Eastern Archipelagos.

Marine Turtles, Chelonidæ.

Caouana olivacea, *Gray*, Indian seas.
C. caretta, Cape seas.
Chelonia virgata, *Gray*, Indian coasts.
Caretta squamata, *Gunth.*, Archipelago, Maldives, Ceylon.
Dermatochelys coriacea, *Gray*, all seas.

Marine turtles form an important article of food, and their scales are the tortoise-shell of commerce. Four different kinds are distinguished at Cape York and the Prince of Wales Islands. Three species of these can be identified as the green, the hawk's-bill, Caretta squamata, and the loggerhead, Caouana olivacea; and the fourth, a small one, which is said to be caught by a live sucking fish (Echeneis remora) being secured by a line passed round the tail, and thrown into the water in certain places known to be suitable for the purpose. The fish while swimming about makes fast by its sucker to any turtle of this small kind which it may chance to encounter, and both are hauled in together.

The green turtle is of so much consequence to the natives of the Archipelago, that they have distinguished it by a special name taken from the animal itself (Sulangi, from Sulat). The season of the year when it is most plentiful at Cape York usually extends from about the middle of October until the end of November, but the limits are not constant. During the season they are to be seen floating about on the surface of the water, often in pairs, male and female together. A few are caught at night on the sandy beaches, but the greater number are captured in the water. The canoes engaged in turtling, besides going about in the day, are often sent out on calm moonlight nights. When a turtle is perceived, it is approached from behind as noiselessly as possible; when within reach, a man in the bow carrying the end of a small rope jumps out, and, getting upon the animal's back, with a hand on each shoulder, generally contrives to turn it and secure it with the rope before it has got far. This operation requires considerable strength and courage, in addition to the remarkable dexterity in diving and swimming possessed by all the blacks of the north-east coast of Australia and Torres Strait. There are some favourite look-out stations for turtle, where the tide runs strongly off a high rocky point. At many such places, distinguished by large cairns of stones, bones of turtles, dugongs, etc., watch is kept during the season, and when a turtle is perceived drifting past with the tide, the canoe is manned and sent in chase. At the islands of Talen-Talen many thousands could be easily procured. The Malays watch during the night, to ascertain where the turtle deposits her eggs, for as soon as she has finished her task, she covers them with her flippers with sand, and immediately retires into the sea. A piece of wood is then put up as a mark for the nest, which is rifled as occasion requires. It is said as a curious fact, that the male turtle never lands. On the south-western coast of Ceylon, at certain seasons, the flesh of turtle is avoided as poisonous. At Pantura, to the south of Colombo, twenty-eight persons who had partaken of turtle, in October 1840, were immediately seized with sickness. The hawk's-bill turtle, which supplies the best tortoise-shell, was at former times taken in great numbers in the vicinity of Hambangtotte during the season, when they came to deposit their eggs. This gave rise to the trade in tortoise-shell at Point de Galle, where it is still manufactured into articles of ornament by the Muhammadans, but the shell they employ is now almost entirely imported from the Maldives. If taken from the animal after death and decomposing, the colour of the shell becomes clouded and milky, and hence the cruel expedient is resorted to of seizing the turtles as they repair to the shore to deposit their eggs, and suspending them over fires till heat makes the plates on the dorsal shields to start from the bone of the carapace, after which the creature is permitted to escape to the water. At the period of breeding, the identical tortoise is believed to return again and again to the same spot, notwithstanding that at each visit she may have to undergo a repetition of this torture. In the year 1826 a hawk's-bill turtle was taken near Hambangtotte, in Ceylon, which bore a ring attached to one of its fins that had been placed there by a Dutch officer thirty years before, with a view to establish the fact of these recurring visits to the same beach. The finest tortoise-shell is exported from Celebes to China. The natives kill the turtle by blows on the head, and immerse the shell in boiling water to detach the plates. Dry heat is only resorted to by the unskilful, who frequently destroy the tortoise-shell in the operation. Mention is made of a carapace about seven feet in length.

The midas turtle is said to lay from ten to twelve dozen of eggs, and Dermatochelys coriacea from eighteen to twenty dozen at once; but many of the marine turtles lay from one hundred to two hundred and fifty. The eggs are generally hatched by the sun in three weeks. On escaping from the eggs, the young are of a white colour, and in size a little larger than a rupee, but few survive the attacks of sea-birds, herons, and storks in their way to the ocean, and the sharks and shark-toothed fishes when there.

The flesh of the hawk's-bill turtle is not held in esteem, but the plates of its shell being thicker, stronger, and cleaner than those of any other species, it is of great importance as an article of trade. When heated in boiling water, it softens, and by pressure can be made to assume any form, or two pieces can be made to adhere. In a similar state, gold, silver, and other metals are made to adhere to tortoise-shell.

The loggerhead turtle, Caouana caretta, is common in the Mediterranean and the Atlantic Oceans, less so in the Indo-Pacific. Of no commercial value, as its flesh is not esteemed, and its tortoise-shell of inferior quality. — *Journ. Arch.; Tennent's Ceylon; Gunther's R*

Macgillivray's Voyage; Marryat's Ind. Arch.; Mr. J. Rohde, MSS.; Darwin, p. 547.

TURTUR, a genus of birds, the turtle doves, of the sub-family Turturinæ, and order Gemitores. Their generic name in the Urdu is Fakhta. The Indian species are—

T. rupicolus, *Pallas*, of N. and N.E. Asia, Himalayas.
T. meena, *Sykes*, all British India.
T. Cambayensis, *Gm.*, all British India.
T. Suratensis, *Gm.*, all British India.
T. risoria, *Linn.*, common ring dove, Africa, Malay Peninsula, Java, and Archipelago.
T. humilis, *Temm.*, British India, Archipelago.
T. bitorquatus, *Tem.*, of Java, Timor.
T. brevicaudatus, *Blyth.*
T. macrodactylus, *Strick.*
T. Dussumieri, *Tem.*, Archipelago.
T. ugrinus.
T. auritus.
T. orientalis.
T. Chinensis.
T. vivaceus.

TURTURATI, female, Chatway (Chatua), male hawks, natives of Sind, with black eyes; they are let loose after the season. See Hawking.

TURTURI. HIND. A musical instrument, a trumpet.

TURUSHKA, a name of the Scythi who, under Kanishka, invaded India. A Hindu name for the Muhammadans of India, Tartary, and Kābul.

TURVASA, son of Yayati by Devayani. He refused to bear the curse of premature senility passed upon his father, and so his father cursed him.—*Dowson*.

TURWEEAH, the eighth day of the Muhammadan month Zeehuj is so called.

TUS or Tuz. HIND. A bark upon which, in addition to leather, the ancient Persians wrote, and seems also to have been anciently used in Northern India. In Hiwen Thsang's time, the early Buddhist scriptures of Kasyapa's council were written on the leaves of the tala palm. In the 11th century, according to Alburini, paper was used. In the south of India the leaves of the palmyra are still (1884) used, but in the provinces of Central and Northern India they had long used the inner bark of a tree called tuz, and it was the bark of a tree of the kind called bhoj, a species of Morus or Betwa, with which they covered their vessels, supposed to be bark of the Betula bhojputra.

TUS, an ancient city of Khorasan, two marches N.E. from Nishapur, and a little to the north of the modern town of Meshed. It consisted of two towns, Tabaran and Nukan, and was once a place of considerable importance, but it was devastated by the Uzbaks in 996 A.H. (1588 A.D.), and its place has been taken by Meshed.

TUS or Tush. HIND. Wool, shawl-wool. The first quality of shawl-wool is called shah-tus or ash-tus. Tus khud rang or grey tus is the second quality of shawl-wool, its name meaning wool of natural colour. Raw pashm of the Tibetan goat, used in the manufacture of Kashmir shawls of the kind called tusha, is produced in Tibet.

Tusi is a fine cloth of Kashmir, used as a lining for shawls, also for stockings and gloves. It is woven from the soft under-fleece, called Asali Tus, of the Capra sibirica or Himalayan ibex, which are shot and snared in winter in Chini, near the Sutlej valley, and in the Balti valley and Ladakh. No wool is so rich, so soft, and so full.

TUSKI, a lake in Ladakh, about two miles long and half a mile in breadth; its waters are highly impregnated with soda. No fish are obtained in the lake, nor in the fresh-water streams which run into it. A mountain barometer makes the lake 15,000 feet above the sea-level. It is frequented by herds of mahoor or wild sheep, and several herds of kiang.—*Adams*.

TUSSAH, a silk cloth, prepared from the silk of a wild worm, and woven, in some districts in Bengal, into cloth of a fine description, much used for ladies' and children's dresses, and in most parts of India for native use, being worn by Hindus for certain ceremonies and while bathing. It is an article of export. In the Dekhan, the tussah worm-breeders are a class quite distinct from the weavers, and are either Telingas of low caste or Gonds; the former reside principally at Chilpore, Madapore, and Chinnore. At Madapore, which may be regarded as the centre and headquarters of the tussah breeders, there are at least seventy families. The tussah breeder never thinks of keeping up the breed of the insect throughout the year. When the leaf is off the tree about the middle of March, he deems his occupation gone, and he leaves the object of his former excessive care to shift for itself, thinking of nothing but the present ease, which may be summed up in a few words,—sloth, a bare subsistence, and an occasional debauch in his nectar, palm toddy. But with the rains returns his toil, and some little difficulty is experienced in procuring insects for a fresh campaign. If he can gather a dozen of promising cocoons, which his experience tells him are of females, he is quite satisfied. Carefully does he watch the bursting of the cocoon, and much care does he take of its winged inmate, having previously prepared for it a house of teak leaves dried. The male is not tardy in approaching. Impregnation takes place, the male dies, and in four days after laying her eggs, the female also. The eggs are in number about sixty; of these one-half prove abortive, while the others are hatched in ten days. The small insect is fed on the tender leaves of the Careya sphærica, and in six weeks spins its cocoon. The first brood are spared, and allowed to burst their cocoons to supply a sufficient quantity of ova for the tussah harvest. The same process as described is again gone through, with this exception, that the young worms are at this time fed on the leaves of the Pentaptera tomentosa, because those of the Careya sphærica are by this period of the season supposed to have acquired some influence noxious to the insect. It is during the progress of the worm from the egg to the formation of the cocoon that every energy of the tussah breeder is called into action for the preservation of his charge. Every animal, footed, winged, and creeping, is said to be the enemy of the tussah grub. Ants destroy them, kites and crows prey on them, snakes devour them, and squirrels are said to make a repast of them. To protect them first from their insect enemies, the tussah breeder ascends the 'muddy' tree (Terminalia tomentosa), the leaves of which are the insect's food, every branch he carefully clears of the different species of ants by which they may be infested, preventing the access of others by surrounding the trunk of the tree at its foot with ashes. The other enemies are kept off by shouting, throwing stones, firing guns, etc. Their life at this time would appear by their own

account to be one of the most unremitting toil, to devote themselves to which they forswear not only every indulgence but every comfort; and it rouses the apathetic peasant of Telingana to eloquence when he recounts what privations he undergoes, what pleasure he derives himself, and what incessant labour he incurs, while watching the rearing of the worm, and the perfecting of its work. The tussah butterfly is a species of Saturnia, probably the paphia, described by Dr. Helfer as the most common of the native species. From four to five hundred of the cocoons are sold to the banya and weavers for one rupee; the moth is killed by means of heat. There are three tussah harvests, one at the end of the rains, the other two in the cold season. The winding of the silk is accomplished by boiling the cocoons, separating the floss, of which no use is made, and twisting eight or ten filatures from as many cocoons on the middle of the thigh with the left hand of the workman, and to be wound on the instrument. This instrument, the middle bar of the wood, is held lightly in the hand of the workman, and made to move in a semicircle. An ounce and a quarter of silk is the average daily winding of a single workman. His wages are at the common rate of one pice for winding the silk of fifty cocoons, about three pice a day, as he cannot wind more silk than from a hundred and fifty cocoons. The pice, however, are large, and go there by eight to the rupee. The only dyes used for the tussah silk, so far at least as observation or inquiry has gone, are the flowers of the Butea frondosa and turmeric. By the former the usual familiar colour is produced; by the latter, golden-yellow is brought out after the threads are for some time immersed in a solution of ashes. The warp threads are stiffened with rice congee. Tussah is made into the saree, punchee, and scarfs, at several towns of the Circar of Warangal. But in the Dekhan, the chief seat of the tussah manufacture is the town of Madapore, on the right bank of the Godavery, in the Ramghur Circar, where the moth that yields it is carefully reared, and from whence raw tussah silk is sent to other parts to be woven into cloth. The tussah cloths produced at Madapore are, in durability and fineness, very inferior to the cloths of the same kind manufactured in Bengal. They are dyed the same colour, and with the same materials as the silks, of which they are about one-half the price. The Saturnia, which is most commonly met with in Southern India, appears to be S. paphia. The caterpillar feeds on the leaves of the country almond tree, Terminalia catappa, whence it is often called the almond moth. It is also found on the leaves of the ber tree, Zizyphus jujuba, the casuarina, etc. The cocoons are ingeniously attached to the twiggy branches of the zizyphus by a long stalk terminating in a ring, encircling the branch. It does not appear that silk in any quantity has been obtained from this source in the Madras Presidency. There, the only use to which the cocoons appear to be turned, is that of a ligature for native matchlocks. They are cut spirally into long narrow bands, with which the barrels are tied to the stocks. Considerable quantities of the small silk cloths worn by Brahmans at their meals are imported into the Northern Circars from Cuttack. Dr. Roxburgh, in the 7th vol. of the Linnæan Transactions, described the preparation of the tussah silk of Bengal, derived there from two different species of Saturnia. One, called Bughy by the natives of Birbhum, appears to be the same as the Madras species (S. paphia), and is stated to feed on the ber tree and on the asana, Pentaptera glabra. The other, termed Jaru by the natives of the same province, is the S. cynthia, and is domesticated. The caterpillars are fed on the leaves of the castor-oil plant (Ricinus), whence it is called the arundy or arundi silk-worm, but it also eats the leaves of the zizyphus and Terminalia tomentosa. Colonel Sykes, writing in the 3d vol. of the Trans. Roy. As. Socy. Lond., on the cocoons of S. paphia found by him in the Dekhan, under the designation of the kaliswar silk-worm, stated that it is met with on the ber tree, Terminalia glabra, teak tree, and common mulberry. The Chinese tussah is said to be obtained from Saturnia atlas, which is also to be met with in Southern India. Another species of Saturnia (S. selene), the posterior wings of which are prolonged into a tail-like process, is common in Southern India. The caterpillar may be observed feeding in considerable numbers on the Odina wodier, or Be-sharm[illegible] tree, in February and March. Its chrysalis is enveloped in a silky covering, so like that of S[illegible] paphia that it would probably be found to yield strong and useful thread. It might be worth whi[illegible] to direct attention to the silk spun by seve[illegible] smaller specimens of Bombyx moths, found different species of cassia, acacia and phylla[illegible] thus. A gregarious caterpillar (a species Lasiocampus) may be observed clustering in gr[illegible] numbers on the stem of the guava, the jamoon (Syzygium jambolanum), and probably othe[illegible] trees. The silky covering of these also seems deserving of examination.—*Tennent's Ceylon*, p[illegible] 427; *Dr. Walker in Madras Jour. Lit. and Science*; *Jury Rep. Madras Exh.*, 1855; *Mr. Rohde's MSS.; Major Cuth.; Davidson; Rapport du Science, Jury mixte International*, p. 54. See Silk.

TUSSAWOOF, the theology of the Sufi Muhammadans, also the Sufi sect, an order of religious devotees. Mysticism, contemplation.

TUSSILAGO FARFARA. *Linn.* Colt's-foot, ENG.; Watpan, HIND. This is not uncommon in many places in the Panjab Himalaya, at from 5000 to 11,000 feet. It grows also in Persia, in chalky soils in England, and is found in many parts of Europe. The plant is mucilaginous and slightly bitter, and may be employed as a demulcent possessed of a little tonic property. Its leaves are sometimes applied to wounds. It may be prescribed in the form of an infusion or decoction, one or two ounces to a pint of water.—*Royle; O'Sh.; Stewart.*

TU-TA-BAT. BURM. On the annexation of Pegu by the British, the king of Burma lost the royal garden, which is a few miles out from the village of Twantay, in which the celebrated tu-ta-bat tree grows. In that locality there are some dozen or more of these trees, which furnished the royal table with the tu-ta-bat fruit. The appearance of the tree is not unlike that of the common jack. It is said to be the Sapodilla plum, which grows in abundance in the West Indies, and has a most luscious taste. The Burmese tu-ta-bat is about the size of a large guava, and resembles it in shape. When ripe, it has a green-olive colour, and inside are four long

bean-like seeds of a dark-brown colour, which are surrounded by a mealy pulp. The taste of the pulp is not unlike a doorian, but it has none of the smell of that well-known fruit. It leaves a little astringency and pungency on the tongue and palate. The flavour is that of a ripe mellow plum. This fruit is scarce, and is presented mostly as offering to the Phoungyes. The keeper of the Twantay Garden and all his children were formerly charged not to eat a single plum, on pain of immediate execution. All the fruit was picked and sent up to the capital, by express boats, for use in the palace. If a Burman only pointed his finger at a tree, he would be severely punished for it. To point a finger at one was to spoil fruit intended to be eaten only by the king and members of the royal household.

TUTENAGUE, Shan-tung, CHIN., or China spelter, is an alloy of iron, copper, and zinc. It is harder than zinc, though less so than iron, sonorous, compact, and has some malleability. The fresh fracture is brilliant, but soon tarnishes. Till superseded by spelter from Silesia, it was clandestinely exported in large quantities (more than 50,000 cwt. annually) to India, but is now seldom or never shipped, spelter being, on the contrary, imported to compete with it in China. For boxes, dishes, household utensils, and other similar purposes, tutenague is well adapted. Its export price used to be about 14 dollars a pikul. One proportion is said to be 8 parts of copper, 3 of nickel, and 6½ of zinc, which gives a fusible alloy, very hard, and not easily rolled, but well adapted for casting.—*Simmonds' Dict.; Morrison.*

TUTI, HIND., is the long, silky, hemp-like fibre of three species of Abutilon, the A. tomentosum, A. polyandrum, and A. Indicum.

TUTICORIN, an important town on the Indian side of the Gulf of Manaar. Its neighbouring banks yield the pearl oyster and chank shells. Its harbour is sheltered by a line of low islands, but it is only fit for small vessels. The Dutch obelisk light is in lat. 8° 47′ 17″ N., and long. 78° 11′ 17″ E. It is inhabited mostly by the Parawa race, who are fishermen. Trade has much increased since the opening, in 1875, of the South Indian Railway, of which Tuticorin is a terminus. The lighthouse on Hare Island was built in 1874. The pearl and chank (conch) shell fisheries have been noticed under Tinnevelly district. The port-master is superintendent of pearl fisheries.—*Findlay; Imp. Gaz.*

TUTIYA. HIND., PERS. A metallic salt. Nila-tutiya is the sulphate of copper, or blue vitriol. Hira-tutiya, also called Hira-kasis, is the sulphate of iron, or green vitriol; Safed-tutiya is the sulphate of zinc.

TUZAK-i-BABARI or Wakiat-i-Babari, commentaries of Baber.—*Elliot.* See Baber.

TWASHTRI, a deity of the Rig Veda, the analogue of Hephaistos and Vulcan, a skilful workman, the vivifier and bestower of long life, who imparts generative power, and bestows offspring. He developes the seminal germ in the womb. He has given form to all life. His son Viswa-rupa or Tri-siras was slain by Indra. His daughter Saranyu was married to Vivaswat, and was mother of the Aswins. It is also written Twashta.—*Dowson.* See Visvakarma.

TWEEDDALE. Arthur Hay, ninth Marquis of Tweeddale, was the second son of the eighth Marquis of Tweeddale. Born in 1824, and died in 1878. In 1841 he entered the Grenadier Guards. He served on the staff of Lord Hardinge in India, being aide-de-camp through the Sutlej campaign (1845–46), and was present at the battles of Ferozeshah and Sobraon, and after the peace he travelled in India, visiting Ladakh. He served with his regiment during the Crimean War, but in 1860 he obtained his colonelcy, and six years later he retired from the army, having exchanged into the 17th Lancers. By the death of his elder brother, Lord Gifford, in 1862, he became heir to the Marquisate of Tweeddale, but, in deference to the feelings of his brother's widow, he assumed the second instead of the senior title in the succession, and took the style of Viscount Walden. He brought together a fine collection of birds, and was reckoned among the foremost ornithologists of Europe. At his own expense he sent out collectors to the Malay and Philippine Islands; and in the Ibis and in the Proceedings of the Zoological Society, of which he was president, he published important memoirs. From 1870 to 1878 he was very constantly engaged in ornithological work, and he was always ready to give to others both advice and information.

TWENTY-FOUR PARGANAS form the metropolitan district of the Lieutenant-Governorship of Bengal. It forms the south-western district of the Presidency division. 1881, 1,618,420, exclusive of the town and suburb of Calcutta; or, inclusive of that city, 2,303,078 souls. The administrative headquarters of the district are at Alipur, a southern suburb of Calcutta. The seven principal rivers are the Hoogly, Bidyadhare, Piali, Kalindi, Jamuna or Ichhamati, Kholpatua, and Kabadak, all navigable by the largest native boats throughout the year; besides the great estuaries in the Sunderbans. The British obtained it from the Muhammadans by the treaty of the 20th December 1757, by which the Nawab Nazim of Bengal, Mir Jafar, ceded it to the East India Company. Rice forms the staple crop of the district.

TWICE BORN. See Dwaija.

TWINING, WILLIAM, a medical officer of Bengal, who was long employed in the General Hospital there, author of Clinical Illustrations of the more important Diseases of Bengal, with the Result of an Inquiry into their Pathology and Treatment, Calcutta 1832 and 1835; A Practical Account of Epidemic Cholera, and of the Treatment requisite in the various Modifications.

TWINS. The human female has usually one child at a birth. Twins occur once in 150 to 200 births. The Saliva Indians on the Orinoco believe that a woman who bears twins must have been guilty of adultery. In the island of Bali, twins are regarded as an unlucky omen, and all the family are placed outside the village for a month. Amongst the Khasiya race, one of the twins was immediately killed. The same custom holds amongst the Aino of Japan. At Arebo in Guinea, the mother and her twins are all killed. At Nguru, near Unyanyembe, one of the twins is killed.—*Peschel.*

TYCOON, Zeogun, or Kobo, the great temporal ruler of Japan. It was a title assumed by the ruling princes of Tokugawa Shoguns. Tai-kun signifies great or exalted ruler.—*Sir J. E. Reed.*

TYEB. ARAB. That part of the Muhammadan creed containing the words, There is no deity but God, etc.

TYE-TINCO, the refuse of opium, used by the poorest Chinese in Singapore.

TYLOPHORA ASTHMATICA. *W. and A.*

Asclepias asthmatica, *Roxb.*	Cynanchum ipecacuanha, *Willd.*
A. vomitoria, *Koen.*	
A. pubescens, *Wall.*	C. vomitorium, *Sims.*
Tylophora pubescens, *Wall.*	Hova planiflora, *Wall.*
T. vomitoria, *Voigt.*	
Untamol, . . . HIND.	Kaka pala, . TAM., TEL.
Kodigam, . . . TAM.	Kukka pala, . ,, ,,
Kurinja, ... ,,	Verri pala, . . ,, ,,

Grows abundantly in the south of India and in Bengal. The root is of many long, thick, whitish fleshy fibres, issuing from a small woody head. The dried roots of this article afford an excellent substitute for ipecacuanha, if given in rather larger doses. It is said to be valuable in dysentery. This plant yields the kurinja fibre of Tanjore, which affords a good substitute for flax, is of fine quality, white, strong, and silky. Untamol, bark of the root of Tylophora asthmatica, must not be confounded with Ununtamul, the root of Hemidesmus Indicus.—*O'Sh.*

TYPHACEÆ. *D. C.* The bulrush tribe of plants, including marsh or ditch plants, comprising the two genera Sparganium and Typha, known in Sind as Pun and Buri. Of the former, one species occurs in Kashmir, and three species of Typha occur in India. At Trichinopoly, figures and architectural models are carved in the pith of the Typha elephantina. The attitudes of the figures are stiff, but the draperies are characteristic. There are pith models of the pagodas of Trichinopoly and Salem, and pith-work made from the rushes called Nultee in Tanjore, with a model of the pagoda. Cibotium Billardieri (the Dicksonia Antarctica of La Billardiere) contains an edible pith or bread-fruit, eaten by the natives of Australia. Typha bread is prepared in Sind from the pollen of the flowers of the Typha elephantina, and in New Zealand from another species of bulrush, Typha utilis.—*Powell; Voigt; Roxb.; Stewart; Royle.*

TYPHA ANGUSTIFOLIA. *Linn.*

Typha latifolia, *Willde.*

Boj, ... BEAS.	Dipa, Dab, . . PANJ.
Bulrush, Cat's-tail, ENG.	Kundar, Patira, . ,,
Reed mace, . . . ,,	Reree, ... SIND.
Pitz, Yira, . KASHMIR.	Lukh, . TRANS-INDUS.

This species is common in marshes, etc., in moist parts of the Panjab plains, at about 4000 feet in Kullu, and up to the Kashmir valley (5000 feet). The roots are eaten in Kashmir; and on the Sutlej the lower succulent part of the stem is used for clearing the water of the swollen river, which it does speedily and effectually. In some places, also, they are made into boat ropes, which it is said will last a month; also the leaves are woven into mats and baskets. In Peshawur, and probably elsewhere, the down of the ripe fruit (not the flower, as mentioned by Vigne) is used to bind mortar for wall plaster.—*Stewart; Powell; Royle.*

TYPHA BUNGEANA, *Tatarinov*, Hiang-p'u, CHIN., is a bulrush of the south of China.

TYPHA ELEPHANTINA. *Roxb.* Dib grass.

Hogla, ... BENG.	Putera, Dib, . . SIND.
Elephant grass, . ENG.	Bur, Buri, Bori, . ,,
Pun, ... PANJ.	Jammu gaddi, . . TEL.

This bulrush grows along the river banks and margins of tanks; its leaves, called pun, are employed in making mats and baskets in North-West India, also rude boats (tirho). The pollen, like Lycopodium, is inflammable, and is collected in Sind, and there called Buri. The term Bori is, however, also given to a sweetmeat of Dehra Ghazi Khan, a curious substance in yellow lumps, consisting of the pollen of the dib grass, of the Typha elephantina, and of T. angustifolia collected and kneaded together, perhaps with the aid of a little treacle or sugar. Its long, tortuous, and strong roots penetrate the soil to the depth of 6 or 8 feet, and hold it together. Mr. Murray says the lower succulent part of the stem is used to clear turbid water.—*Murray; Powell; Royle.*

TYPHON, one of the Egyptian triad, brother of Osiris and Horus.

TYPHONIUM ORIXENSE. *Schott.*

Arum orixense, *Roxb.*	A. trilobatum, *Lour.*
Ghet-kuchoo, . . BENG.	Suri-kanda, . . . TEL.
Ghekool, ... TEL.	

Grows throughout the East Indies, common in the shady mango groves near Samulcotta, and where the soil is dry and fertile. The other species are T. divaricatum, T. flagelliforme, T. sylvaticum, and T. trilobatum. The root of T. flagelliforme (Ghas-kuchoo) is boiled in milk, and given in consumption. The roots of T. orixense are used in poultices as a counter-irritant. The tubers are exceedingly acrid while fresh, and are used as an application in snake-bites. They are likewise given internally in doses of from 20 to 30 grains. Roxburgh describes this Arum as a most powerful stimulant in proper hands. A poultice of this Orissa arum, bruised to pulp with tepid water, is a stimulant rubefacient and counter-irritant, applied to indolent buboes and tumours by the native practitioners, and with frequent advantage.—*Voigt; O'Sh.*

Typhonium sylvaticum, *Schott.*

Amorphophallus sylvaticus.	Arum sylvaticum, *Roxb.*
	Adavi chama, . . TEL.

TYPHOON, from Typhon, the north wind.

Tufan, . ARAB., HIND.	Zephon, ... HEB.
Ti-fan, Ty-fung, . CHIN.	Bagui, . . PHILIPPINE.
τυφων, ... GR.	

The original meaning of the storm wind, Zephon, is north wind. Typhoon is, however, said to be a word of Chinese origin, from Ta, great, and Fung, tempest. It may, however, also be from the Arabic Tufan, a storm, and that from the Arabic root Taof, he did turn.

Typhoon is the European name of the frightful equinoctial gales which vex sea and land about the tropics, in the Eastern Archipelago, and down as far as to 10 degs. from the equator. The whole Malayan Archipelago is excluded from their sphere, while the whole of the Philippine is within it, the island of Mindano alone excepted. Typhoons, cyclones, and tornadoes are great rotatory winds that move along a curved line in increasing circles, sometimes centripetal. In the northern hemisphere, the rotatory movement follows a direction contrary to that of the hands of a clock; while the opposite takes place in the southern hemisphere. They occur in the northern part of the China Sea, along the southern and eastern coasts of China, near Formosa, the Bashee Islands, the north end of Luconia, and to the eastwards of these islands, and betwixt

Formosa and the Japan Archipelago. They are dangerous tempests, seldom reach beyond lat. 14° N. They generally blow with the greatest fury near the land, and most violently in June and July. They occur in both monsoons; and though between December and May they are rare, furious gusts occasionally occur in November, and in August, September, and October they likewise occur. For several years, when the change or perigee of the moon has coincided with the 21st and 22d September equinox, violent ty-fungs occurred. They frequently commence without warning. The marine barometer affords the best indication, and its fall has been noticed to extend from 29·65° to below 27°. They usually commence between N.W. and N., and veer suddenly to N.E. and E., raising the sea in turbulent pyramids, which infringe violently on each other; as the wind veers to the south, the gale moderates. Near the coast of China a contrary motion often takes place, veering to the N.W. and W., changes to the S.W. In Keung-chow (Hainan) and the opposite peninsula called Lui-chew, or the region of thunder, temples are dedicated to the typhoon, the god of which they call Kew-woo, the typhoon mother.—*Horsburgh.* See Hurricane; Winds.

TYRE. The Hebrew writer, speaking of Tyre, says, 'Arabia, and all the princes of Kedar, they occupied with thee in lambs, and rams, and goats: in these were they thy merchants. The merchants of Sheba and Raamah, they were thy merchants: they occupied in thy fairs with chief of all spices, and with all precious stones and gold. Haran, and Canneh, and Eden, the merchants of Sheba, Asshur, and Chilmad, were thy merchants' (see Ezekiel xxvii. 21-23).

According to Justin, the ancient city of Tyre, the most celebrated of the cities of Phœnicia, and once the emporium of the world, the modern Sur, was founded by a colony of Sidonians, who fled thither when the king of Askelon captured their city, and the date of its foundation was the year before the sack of Troy. The prophet Isaiah calls her 'the daughter of Sidon.' 'Tradunt historiæ,' says St. Jerome, 'quod Tyrus colonia Sidonis sit.'

According to Herodotus (lib. 2, c. 44), Tyre was founded B.C. 2760. But the first year of New Island Tyre was B.C. 1254. Its total destruction, which had been foretold by the prophets with extreme minuteness, was effected by the Assyrians under Nebuchadnezzar, B.C. 573, after 13 years' siege, one of the longest recorded in history.

Subsequently, Alexander the Great made himself master of the whole of Syria and a part of Phœnicia, but Tyre (the insular town) still offered an obstinate resistance to his victorious arms. Irritated by several unsuccessful attempts to storm it by sea, he conceived the bold design of filling up the channel which separated it from the continent. This was effected by sinking piles into the sea, and throwing into the intervening space immense blocks of stone. The ruins of the ancient city afforded ready materials for the purpose. The site was covered with sand, yet it was only after a seven months' close siege that the inhabitants, attacked simultaneously by sea and by land, and the town being set on fire, surrendered to the Macedonian chief. When Tyre fell into the hands of Alexander (B.C. 332, and about 260 after the time of Ezekiel), that city was in full possession of the Indian commerce. It recovered its commercial importance, and was a flourishing city under the successors of Alexander. Nor did it cease with the Roman conquest. The emperor Hadrian repaired the fortifications, and made it the metropolis of a province, giving it all the advantages of a Roman colony. From the dominion of Rome it subsequently fell into the hands of the Saracens, about A.D. 639, who remained a long while in possession of it. It was taken by the Crusaders in 1124, after five months' siege, but they were forced to surrender it in their turn to the Mamluk of Egypt. Frederick the First, surnamed Barbarossa, was interred here. Tyre was the birthplace and residence of many persons celebrated in history. Hiram, one of its kings, was the friend of David and Solomon. He contributed to the construction of the great temple. The place is now known to the natives by its ancient Hebrew name of Sur, corrupted by the Greeks into Tyrus, and by the Romans into Serra.—*Robinson's Travels*, i. p. 260.

TZE-FAN, a district not far from Ta-li-fu. The Tze-fan tribe inhabiting it closely resemble the Chinese in feature, dress, and mode of life. Although industrious cultivators, they bear an evil renown as treacherous and martial banditti.

TZEREMISH are the original inhabitants of the provinces of Cazan and O-se-ta-our-han. After the Russians had made themselves masters of all these places, this people still continued to occupy the country to the left of Cazan, but they have been in subjection to the Russians for a hundred years. They resemble the Tartars in their external appearance, and they also wear their hair short, but their language is totally distinct, and they spring from a different origin. —*Staunton's Narrative*, p. 126.

U

U is the 21st letter and fifth vowel of the English alphabet. Its primary sound in Anglo-Saxon was the sound it still retains in most of the languages of Europe, as in the letters oo in cool, tool. This sound was changed to that of u in the words use, tube, etc., and it has now two other sounds, as in the English words but and bull. The sounds of the letters u and v are confounded in many languages. Dr. Gilchrist proposed for the Urdu and other tongues to use a short ŭ for the sound of the letter ă short. This has been followed by many writers on India and its products, but, though congenial to the practice in the English language, with many and great inconveniences, the greatest being that of employing the letter u to represent the a of other tongues. The English letter a, as representing this short vowel, constitutes a stumbling-block in the way of English articulation, which it is almost impossible to overcome. It is very difficult, almost impossible, to induce an English reader to pronounce Măn as if written Mun; Păn as Pun, Săb as Sub, T'hăg as T'hug; and the only mode of learning the correct pronunciation is to hear the tongue spoken. The English letter u is, of all the letters of that alphabet,

the most difficult to utilize in writing a foreign tongue, the sounds of ŭ being like ă, and of ū being like oo. In this Cyclopædia, therefore, being a book of reference, some words may be found given twice over, with the initials A and U, and medial letters a and u. Dr. Gilchrist's plan was by far the best, so far as pronunciation was concerned, but the worst in a scientific point of view.

UBALA CHAWAL or Oobala Chawal, HIND., lit. boiled rice, is rice which has been boiled in the husk, and then husked. All Muhammadans and many Hindus in the Peninsula of India use ubala chawal.

UBHATA, a Hindu physician who compiled a medical work, principally from the writings of Charaka and Susruta. It is known in the West Peninsula of India as the Ashtanga Hirudayam, and there his name is written Babhata. He was a native of Kashmir. His commentary is written in a clear style, and he gives explanations of obscure passages in the original authors. He is supposed to have lived in the 12th or 13th centuries A.D.

UBO. BURM. A worship day, of which in a month there are four, viz. at change and full moon, and at eighth of waxing and waning.

UCHH, an ancient town in Bahawulpur State, Panjab, situated on the eastern bank of the Panjnad river, 70 miles south-south-west of Multan, and 40 miles north-east of the present confluence of the Panjnad with the Indus at Mithankot, in lat. 29° 13′ N., and long. 71° 9′ E. (?) General Cunningham has identified Uchh with the city which Alexander the Great built near the meeting of the Panjab rivers. He believes that it is also the town mentioned by Rashid-ud-Din as the capital of one of the four principalities of Sind under Ayand, the son of Kafand, who reigned after Alexander. Uchh was captured by Mahmud of Ghazni, and by Muhammad Ghori, and was the chief city of Upper Sind under Nasir-ud-Din Kubāchah. Uchh is now an agglomeration of ruins representing successive cities built at widely different dates. It contains the tombs of many sanctified Muhammadans, from which it gets the title of Uchh-i-Sharif, and one of the ruined towns is styled Pir-ka-Uchh.—*Imp. Gaz.; Mohun Lal, Tr.* p. 453.

UCHWALA, a spirituous gruel of Sikkim, made from Eleusine coracana.

UD. ARAB. Any wood or timber frankincense, from species of the Aquilaria genus of plants, also the fragrant wood yielded by them, known as aloes-wood, eagle-wood.

Ud-i-farsi, Aquilaria agallocha, Persian eagle-wood.

Ud-i-Hindi, eagle-wood of India.

Ud-i-Kimari, agallocha-wood, eagle-wood of the hills.

Ud-i-Samudri, eagle-wood of the sea.

Ud-i-bukhoor, eagle-wood.

Ud-i-Chini, eagle-wood of China. Ud in India is the name applied to benjamin; and in Persia, to wood-aloes. Ud-batti are pastiles made of various fragrant vegetable substances, wood-aloes, sandal-wood, benjamin, Lichen rotundatus, patchouli, talisputree (Flacourtia cataphracta), gum mastic, sugar-candy, and gum, pounded fine and formed into pastiles. They are made in every large town, and burnt for the fragrance they give out. Ud-batti-ka-ekka, a metallic receptacle for pastiles. Ud-batti-ka-jhar, a tree formed of benjamin pastiles. Ud-dan, a box for holding frankincense.

Ud-i-balessan, HIND., is supposed to be the wood of Balsamodendron kafal, a tree of Arabia, an article of considerable traffic.

UDAI, the people known to the Binua of Jahore as the Oran Pago. See Kedah.

UDAIPUR (Oodeypore), capital of the Native State of Mewar, in Rajputana, in lat. 24° 35′ 19″ N., and long. 73° 43′ 23″ E. Udaipur means The City of the Sunrise. See Mewar.

UDAIPUR, a Native State in Chutia Nagpur, in Bengal, between lat. 22° 3′ 30″ and 22° 47′ N., and long. 83° 4′ 30″ and 83° 49′ 30″ E.; area, 1051 square miles, and a population (1872) of 27,708 souls. Udaipur is bounded on the north by Sirguja; on the east by the British district of Raigarh in the Central Provinces, and the State of Jushpur; on the south by Raigarh; and on the west by the district of Bilaspur. Gold and iron are found in small quantities; and within the boundaries of Udaipur lies a portion of one of the most extensive coal-fields in India. In 1860, the State was conferred on a brother of the raja of Sirguja, for good service during the mutiny.—*Imp. Gaz.*

UDAIPUR TOWN, in Hill Tiperah State, Bengal, in lat. 23° 31′ 25″ N., and long. 91° 31′ 10″ E., on the south or left bank of the Goomti, a few miles lower down the river than Old Udaipur, the former capital of the State, and the ancient residence of the rajas.—*Imp. Gaz.*

UDAIYAR. TAM. Generally written Wáddiyar. A title borne by some Hindu tribes; it was that of the rajas of Coorg.

UDAKA-KRIYA. SANSK. The ceremony amongst the Hindus of offering a libation of water to deceased ancestors, as far as the fourteenth in affinity.

UDAKEA, a musical instrument of the Singhalese, the beating of which is prohibited, by a local ordinance, between the hours of 8 P.M. and 8 A.M.; the Indian tom-tom.—*Sirr's Ceylon.*

UDAN, sacred dialogues on the attributes of Buddhas.

UDANAVARGA is the northern Buddhist version of the Dhamma pada. It is in the Tibetan language, and has been translated into English in 1883 by Mr. W. W. Rockhill. It is well known in the Southern Canon under the name of Dhamma pada.

UDASI, SANSK., the dejected, a sect of devotees, one of the sects of the Sikhs, established by Dharmachand or Sri Chand, son of Nanak. The sect is widely diffused, and all are proud of their connection with the Sikhs, and are, among Sikhs, similar to Sanyasi among Hindus. They reside in monasteries, and eat what is cooked by other persons. The Udasi are recruited from all Hindu castes. The ceremony of discipleshi is similar to that existing among gosains. Lik bairagi and gosain, they have five akhara places of assembly in Benares, known as Nir jani, Nirbani, Gudar, Sukhar, and Rukhar. I them, also, some of their number are ter Naga (from Nanga, naked), because they naked.—*As. Res.* xviii. p. 232; *Sherring's H Tribes*, p. 268.

UDAYAGIRI and Khandgiri, two tow

Cuttack, celebrated for their Buddhist caves, separated from each other by a narrow gorge. They are five miles W. of Bhuvaneswar, and contain numerous inscriptions. In the older inscriptions the language is Old Pali, and character Old Lat; they were prior to the 2d or 3d century, and make mention of Buddhist saints. The caves are stated to be excavated by Kalinga rajas. Five of the emblems found on the Buddhist coins are met with in these inscriptions, and a new form of the Bo Tree. Some of the more modern inscriptions are in Sanskrit, and are of the 5th or 6th century A.D. One of the 10th century, Samvat 9, which, if of the Gaur era, would be A.D. 1132. The character used in inscriptions is Kutila. The inscription of the 10th century, in Sanskrit, speaks of an equitable prince having the cave excavated within the sacred precincts of Jaganath for the holy ascetics. In the 10th and 11th centuries, therefore, Jaganath was worshipped. One cave at Udayagiri, known as the Tiger Cave, stands out from the hill in the form of a beast's jaw, with the teeth overhanging the entrance to the cell.—*Imp. Gaz.*

UDIKI or Wudiki. KARN. Marrying a widow, allowed by the low castes.

UDIPI, in South Canara district of the Madras Presidency, in lat. 13° 20′ 30″ N., and long. 74° 47′ E.; pop. (1871), 3857, is considered by Hindus to be the most sacred spot in the Canarese country, and is much frequented by pilgrims from Mysore. There are eight maths or Hindu monasteries; and the management of the temple, which is very ancient and largely endowed, is held by the heads of these maths in rotation, for two years each.—*Imp. Gaz.*

UDI-SAGAR, a lake of Rajputana. There are in reality three lakes, one at the villa of Suhailea-ki-bari, then the Peshola or inner lake, which is 80 feet above the Udi-sagar lake, the outlet of which is the Bairis river. The Peshola is fed from the little lake at Suhailea-ki-bari, and the Peshola is the feeder of the Udi-sagar. Both the Peshola and Udi-sagar are from 12 to 14 miles in circumference, and some places 35 feet deep, and, being fed from the perennial streams of the Aravalli, they contain a constant supply of water. It would be easy and inexpensive to lead a channel from the Udi-sagar to Chitore, as the fall is slight, and few locks would be required. The Bairis river issues from the Udi-sagar lake of Rajputuna, and passes within a mile of Chitore. There are thus two grand reservoirs within 6 miles of each other, the Peshola, or internal lake, having an elevation of 80 feet above the external one; and the Udi-sagar, whose outlet forms the Bairis. The Peshola may be called the parent of the other, although it is partly fed by the minor lake at the villa of Suhailea-ki-bari.—*Tod's Rajasthan*, ii. p. 627.

UGRADHANWA, one of Nanda's younger [illegible]s, who succeeded his father. He was cursed [illegible] a Brahman. He ordered all the brothers of [illegible]ndragupta to be put to death.—*As. Res.* v. 265.

UGRO-ALTAIC, a family of languages, which [illegible]e been also designated Ural-Altaic, Ugro-[illegible]anese (Logan), Ugro-Tartarian, Ugro-Turan- and Turanian. Its limits are not settled. [illegible]dkins connects Chinese with Mongol roots. [illegible]rs question the affinity of Mongol itself to [illegible]atar-Finnic languages.

The term Turanian is used in opposition to Iranian, and is applied to the nomadic races of Asia as opposed to the agricultural or Aryan races. The Turanian family or class consists of two great divisions. The northern is sometimes called the Ural-Altaic or Ugro-Tartaric, and it is divided into five sections—the Tungusic, Mongolic, Turkic, Finnic, and Samoyedic. The southern, which occupies the south of Asia, is divided into four classes,—the Tamilic, or the languages of the Dekhan; the Bhotiya, or the dialects of Tibet and Bhutan; the Taic, or the dialects of Siam; and the Malaic, or the Malay and Polynesian dialects.

By the term Ugro-Japanese, Mr. Logan designates the principal languages from the Fin and Magyar on the west to the Japanese on the east, and which have many phonetic characters in common, particularly that of vocalic harmony. They are the Fin, Hungarian, Turkish, Samoyede, Yenisian, Corean, Koriak, Tungusian, Kamtschatka, Mongol, Yukahiri, Japanese, Ainochukchi, Uigur, Manchu.

The Ugro-Tartarian languages of High Asia and other regions, which other writers style Turanian, are those of Dr. Pritchard's second group of nations belonging to the same great family, and include the various hordes who have been known under the names of Tartar, Turk, Mongol, Manchu, and Tungus. All these nations appear, from the result of late researches, to be allied in descent, though long supposed to be quite separate. In the vast region of High Asia, extending from the chain of Altai to that of the Himalaya, are the pasture lands where, during immemorial ages, the nomadic tribes of that region have fed their flocks, and multiplied those hordes which from time to time descended in immense swarms on the fertile regions of Asia and of Europe. Perhaps the earliest of these invasions of the civilised world was that of the Hiung-nu, expelled from the borders of China by the powerful dynasty of the Han. These were the people who, after their inroad on the Gothic empire of Hermanrich, made their way, under Etzel or Attila, into the heart of France. Hordes from the same regions, under Toghrul Beg, and Seljuk, and Mahmud of Ghazni, and Chengiz, and Timur, and Othman, overwhelmed the khalifat and the empires of China, of Byzantium, and of Hindustan; and lineal descendants of the shepherds of High Asia still sit on the throne of Cyrus, and on that of the Great Constantine. As a branch of the Ugro-Tartarian, Dr. Pritchard speaks of some of the insular nations to the eastward of Asia and near the coast of the Pacific Ocean. The idiom of the islands comprised in the empire of Niphon, as well as that of the independent Liu-kiu Archipelago, bears some signs of affinity to those of the Ugro-Tartarian nations; and he adds that Mr. Norris had assured him that the principle of vocalic harmony and other phenomena of the Tartar languages prevail in the idiom of the Japanese and Liu-kiu Islands. As a seventh group of his Ugro-Tartarian, he classes the aboriginal inhabitants of India, who, he supposes, were expelled from Hindustan by the Brahmans and the Aryan people who accompanied them across the Indus, and retired, as it is supposed, on apparently insufficient proof, into the Dekhan. They still occupy the greater part of

that peninsula, and a portion at least of the island of Ceylon. Their idioms—the Tamil, the Telugu, and the Carnatica of the Mysore—are sister dialects of one speech; and he considered it likely that the languages of the mountain tribes of India, the Bhil, the Gond, the Toda, and others, belong to the same stock. Dr. Pritchard adds that Professor Rask had conjectured that these nations are also of the Tartar stock. Their language has some of the peculiarities of structure which have been pointed out. He also observes that there are some curious analogies between the Tamilian and other dialects of the Dekhan and the languages of Australia, with which we have obtained some acquaintance through the labours of Mr. Threlkeld and several other missionaries, and from the able researches of Captain Gray.—*Sayce*, i. p. 57; *Logan*.

UIGUR, a tribe of Mongol Tartars, called Hiung-nu or Hioung-nou by the Chinese, and known in Europe as the Ouighour, Ougre, Hunigur, Hongre, or Hun. They are the present inhabitants of Kashgar. They dispossessed the Yu-chi about B.C. 200, but about B.C. 60 became subject to China. In A.D. 94 the Chinese annexed the country. According to Prof. Vambery (Bokhara, p. 81), the Uigur are the most ancient of the Turkish tribes, and formerly inhabited a part of Chinese Tartary, which is now occupied by a mixed population of Turk, Mongol, and Kalmuk. The great Uigur horde in Eastern Turkestan became Muhammadans in A.D. 966. The Chinese call them Hoieke, Oihor, and Hoai Hoai. Towards the close of the 8th century A.D., the emperors of the Tang dynasty deported about a million of Uigur families from the neighbourhood of Kashgar, and settled them at Kan-su and Shensi. About A.D. 966, these families embraced Muhammadanism, and under their chief Satuk they conquered Transoxiana, and carried away captive an immense number of Turks of the Turghai tribe. In 972 the majority of these captives were allowed to return to their homes, but many remained, and they were styled Turghani or Tunghani, signifying remnant, and corrupted into Dungen, but known to the Chinese as Uigur or Hoai Hoai. They are all Muhammadans, but dress like Chinese. They are abstemious, religious, quarrelsome, using the knife, but honest and fond of trade.

The Uigur writing character was the original source of those still used by the Mongol and Manchu, and was itself almost certainly derived from the Old Syriac character through the Nestorians. The modern Tartar characters are written (and, it is presumed, read) in vertical lines from top to bottom of the page, the lines succeeding each other from left to right. Captain Valikhanoff speaks of the language now in use at Kashgar as being Uigur, but it is not clear whether he means that this term is known to the natives.

They were the first who reduced the Turkish language to writing, borrowing the characters from the Nestorian Christians, who came to their country as early as the 4th century of our era. The manuscripts of this language, written in the characters mentioned, are therefore the most ancient and valuable data in investigating the history of Central Asia,—nay, of the whole Turkish race. But these monuments are of great scarcity. Vambery believes he has collected all that has been discovered of the Uigur language, though the Uigur had a literature and were very fond of books at a time when the western world was involved in ignorance and barbarism. The most valuable manuscript he obtained bears date 1069, and was written in Kashgar; it treats of ethics and political subjects, and forms a kind of manual of advice to kings how to govern with justice and success. It reveals the social condition of this people, and forms the basis of the later regulations by which all Turks are governed.—*Vambery; Russians in Central Asia*, p. 67; *Yule's Cathay*, i. p. 206; *Timkowski's Journey to Pekin*, i. pp. 6, 378, 379; *Captain Valikhanoff*.

UJA, third son of Seoji, a Rahtor Rajput of Kanouj, in a foray on the Saurashtra peninsula, slew Bekumsi, the Chamara chieftain of Okamundal, and established himself there. From that act his branch of the Rahtor became known as the Badhail.

UJJAIN or Ujjaiyini, a town in the Native State of Gwalior, the dominions of the maharaja Sindia, in Malwa, situated on the right bank of the river Sipra, in lat. 23° 11′ 10″ N., and long. 75° 51′ 45″ E. Ujjain was in ancient times the capital of Malwa, was one of the seven sacred cities of the Hindus, and the spot which marked the first meridian of Hindu geographers. It is stated to have been the seat of the viceroyalty of the famous Asoka during the reign of his father at Pataliputra (circ. B.C. 263), but its best known in history as the capital of Vikramaditya. The neighbourhood of the city was, in 1658, the scene of the decisive battle between Aurangzeb and his brother Dara. The ruins of the ancient city are situated about a mile to the northward. It is also called Visala and Pashpakarandini. It is the ancient Avanti, a city noted in verses 28 and 31 of the Meghaduta. Hindu geographers make it their first meridian, and calculate their longitude from it. But the present city was preceded by an older one, now in ruins. Hunter supposed it had been overwhelmed by a shower of earth, Malcolm suggested it had been destroyed by a flood, but in the tradition of the people it was overturned by an earthquake.

The surface of the hill (of the old city), where it has not been ploughed and picked, is strewed with fragments of stone, just as would be expected in a place which had once been covered with houses; the broken pieces of trap being parts of walls of which the larger pieces have been taken away as materials for other buildings.

The ruins furnish so large a quantity of antiques, that the natives call the place Roza-ka-Sadabirta, and it is in truth a never-failing charity for the industrious poor. In the idle days of the rains the digging begins. The principal things found are glass, stone, and wooden beads, small jewels of little value, seals, (agate and cornelian), and few women's ornaments; copper coins are numerous; next in number are the debased silver Gujeri ones. Pure silver rupees seem scarce, and g mohurs are either secreted and melted when fou or they but rarely reward the searcher. pilgrims carry away with them as relics what been dug out of the Junagarh, and merchants with the real antiques every old bead or pie copper which has an ancient look, and pass off as genuine on the unsuspicious natives.

There are caves in the neighbouring hills known as Raja Bhirtri's hermitage, and a well near known as that of Bibi Mako.—*Dr. Buist in Trans. of the Bomb. Geog. Soc.* pp. 139-767; *Jour. of the Asiat. Soc. of Beng.; Williams' Story of Nala*, p. 116; *Captain Warren; Imp. Gaz.*

UJLA, or pure white Bhil of Mewar, will eat no white animal, and their grand abjuration is by the white ram.

UKHARA, Saiva mendicants, who drink spirituous liquors and eat meat; they appear to be the refuse of the mendicant Gudara, Sukhara, and Rukhara sects, who are said to be in general of mild and inoffensive manners. See Udasi.

UKKU TUNDU. CAN. The term applied to the steel ingots called wootz by Dr. Heyne.

ULEMA, plural Arabic of Alim, learned men; but particularly applied to a body of learned men of Turkey, who with a mufti are clergy and lawyers.—*Catafago.*

ULI and Uri is puri with p elided.—*Growse.*

UL-KUDI. TAM. Literally inside cultivators, whose ancestors had acquired a prescriptive right to their holdings.

ULMUS, the elm genus of plants of the natural order Ulmaceæ. Nearly 20 species of elms have been enumerated, of which 5 occur in India.

ULMUS ALTERNIFOLIA. *Roxb.* Tha-lai, BURM. One of the largest trees in the Pegu Province. It is found about towns and villages in the Prome district. Along with the rest of the class, this tree furnishes a valuable timber of a red colour, strong, and adapted for house-building. —*M'Clelland.*

ULMUS CAMPESTRIS. *L.*

U. Wallichiana, *Planch.*

Marun, Hembar, . BEAS.	Brari, Breri, . KASHMIR.
Marazh, Marari, CHENAB.	Brankul, . . . ,,
Kain, Kai, . . JHELUM.	Imbir, Shko, . SUTLEJ.

This elm tree is common, wild, in many parts of the Panjab Himalaya, up to the Indus, from 3500 to 9500 feet. It grows to a large size. Dr. Stewart saw one more than 16 feet in girth; and Dr. Cleghorn says that there are many fine trees in the upper parts of Kulu, 30 feet in girth, and that the wood is esteemed, but not that of U. erosa. Dr. Stewart says the wood is not valued by natives; but it is tough, is used in Kanawar for ark poles; and in Hazara it is light, strong, and useful for the panels of dog-carts, etc. The bark is very tough, and is used for bed string, and sandals made from it will last for two days under hard work. The leaves are a favourite fodder, and the trees are often very severely lopped on this account.—*Stewart, Panj. Pl.; Cleghorn's Panj. Rep.*

ULMUS EROSA.

Manyi, Maunu, . . BEAS.	Himburch, . . . KULU.
Meru, Chipal, . CHENAB.	Yumbok, . . . LADAKH.
Manu, Mannu, . JHELUM.	Maral, ... RAVI.
Bren, Bran, . KASHMIR.	Maldung morun, SUTLEJ.

This elm tree of the N.W. Himalaya is frequently seen planted near villages, etc. It reaches up to 100 feet in height, and from 20 to 30 feet in girth, on the Beas. It grows at from 2500 to 10,500 feet in Ladakh; the wood has not any special use; spines project from the wood of the trunk into the inner surface of the bark, as in Populus Euphratica. In parts of the Jhelum basin, gun-fuse is made from the bark.—*Stewart, Panj. Pl.*

ULMUS INTEGRIFOLIA. *Roxb. Cor. Pl.*

Holoptelœa integrifolia, *Planch.*

Kacham . . of AMBALA.	Dada-hirilla, . . SINGH.
Khulen, Rajain, . BEAS.	Aya maram, . . TAM.
Thalai, ... BURM.	Tambachi, Kanchy, ,,
Papri . . . . of DEHLI.	Navili, ... TEL.
Wowlee, ... MAHR.	

This fine large elm grows in Ceylon, throughout the Peninsula of India, in Hindustan, in the Panjab and N.W. Himalaya, and in Burma to the latitude of Prome. Its wood is of a reddish colour, is strong, much used for building purposes requiring toughness and strength, for carts, door-frames, spoons, and roof planks. The wood yields a peculiar odour to boiling water, which, when mixed with boiling arrack, imparts to it the flavour of the more expensive palmyra arrack. The forks of the branches are used to protect straw from cattle.—*Roxb.* ii. p. 68; *Wight; Stewart; Thw.; Beddome; Fergusson.*

ULSOOR, an artificial lake in Bangalore. Water is pumped from the tank by steam power into filtering cisterns, and allowed to flow by gravitation into a pure water basin, whence it is again lifted to the summit of a stand-pipe on the Ulsoor rock, sufficiently elevated to command effectively all the points at which it is required to be delivered.

ULTRA-INDIA, a term applied by geographers to the countries east of British India; the Hinter Indies of Carl Ritter; also called Further India.

ULTRAMARINE.

Bleu d'outremer, . . FR.	Oltramarino, ... IT.
Ultramarin, GER., RUS.	Ultramar, ... SP.
Lajvurd, . . GUJ., HIND.	

A very fine blue pigment made from the lapis-lazuli, and highly prized by painters. It is now artificially imitated in various ways.—*Faulkner; M'Clelland.*

ULUGH BEG, called Mirza Muhammad Targai, was a grandson of Timur. He was born A.D. 1394, killed 1449.

ULUS. TURK. A large family, a clan, a tribe, a sect. Applied in Afghanistan either to a whole tribe or to one of their independent branches. The word seems to mean a clanish commonwealth. An ulus is divided into several branches, each under its own chief, who is subordinate to the chief of the ulus. The chief of an ulus is called khan. He is always chosen from the oldest family of the ulus. In cases, the selection rests with the ruler of the country, who can remove a khan at pleasure, appointing one of his relations in his stead.—*Elphinstone's Caubul*, p. 159.

ULVA RETICULATA. *Forsk.* A very beautiful reticulated sea-weed of the Eastern Archipelago. See Algæ; Sea-Weed.

ULWAR or Alwar, capital of a Native State of the same name, in Rajputana, situated in lat. 27° 34′ 4″ N., and long. 76° 38′ 28″ E., nearly in the centre of the State. The area is about 3000 square miles; population (1871), 778,596, of whom 180,225 were Musalmans, 38 Christians, and the rest Hindus. Of agricultural castes, the Meos are by far the most numerous. Its subdivisions or districts are Raht, the Wal, with portions of Narukhand, of the Rajawat country, and of Mewat. Raht is the country of the Chauhan Rajputs, the head of whom claims to be the living representative of Prithi-raj. The Wal is on the west border, and is occupied by Rajputs of the Shekhawat clan, which is so important in Jeypore.

Ulwar State is composed of petty chiefships, which, till the middle of the 18th century, owed allegiance to Jeypore and Bhurtpur. The southern portion was usurped during the minority of the maharaja of Jeypore by Partab Singh, of the clan of Murookha Rajputs, about 1780. Macherry was conquered from Bhurtpur. Partab Singh was succeeded by his adopted son Buktawur Singh, with whom the first relations of the British Government were formed. Ahmad Bukhsh Khan, the Ulwar vakeel, joined Lord Lake at the commencement of the war with the Mahrattas, and received the grant of Loharoo from Ulwar, and of Ferozpur from Lord Lake, as a reward for his services. As a reward for the assistance which Ulwar rendered in the campaign, the districts which had been granted to Bhurtpur, and afterwards resumed, were conferred on the maharaoraja by a sunnud from Lord Lake. In 1805 an exchange of territories was effected with Ulwar for mutual convenience. The State pays no tribute or contribution to local corps or contingents; it maintains an army of 2000 infantry and 1500 cavalry. The chief has received the right of adoption, and he is entitled to a salute of fifteen guns. It was decided in 1862 that Neemrana is a fief of Ulwar.—*Treaties*, iv. p. 141.

UMA, a Hindu goddess. In the Kena Upanishad, she is first mentioned as a mediatrix between Brahma and the other Hindu gods. She is called Uma Haimavati. It is supposed that she was the personification of divine knowledge, which came from Himavat, where scholars used to go and live to acquire this knowledge. Uma had several names. The Kumara Sambhava of Kalidasa gives an account of her birth and marriage. She was known as the Mountain Maid, and had taken a strong liking to Siva. She used to retire from the company of her parents, and, being sequestered in a 'bosky shade,' dedicated her soul to penance and prayer, in view to her union with Siva. On hearing of this, Siva sent a proposal to her father while she was seated with him. She blushingly consented to the proposal, and 'there were lotus petals in sweet maiden's guile.' She is known as a model wife.

Uma is the same with the Maya, Sakti, Prakriti of the Hindus, and with Io, Isis, Astarte, Ishtar, Myletta, Sara, Maia, Mary, Mariam, Juno, Venus, Diana, Artemis, Aphrodite, Hera, Rhea, Cybele, Ceres, Eve, Frea, Frigga of other nations, everywhere representing the female principle in creation, the universe, the mother of the gods, the spouse of god, the queen of heaven, and so forth, and the mother of god of the Mariolaters. One of the representations of Uma was as Kali, a nude female of a black complexion; and for her counterparts we have Diana of the Ephesians, Isis, Hecate, Juno, Meles, Ceres, Cybele, and Venus Melainis, all of whom were represented black. In the cathedral at Moulins, at the chapel at Loretto, at the churches of the annunciation, St. Lazar's and St. Stephen's at Genoa; at St. Francisco at Pisa, at Brisen in the Tyrol, and one in Padua; in St. Theodore at Munich, in the cathedral and church at Augsburg, in the Borghese chapel of Maria Maggiore, in the Pantheon, and in a small chapel of St. Peter's,—are to be seen (in Augsburg as large as life) a black virgin and a black child (Inman, ii. p. 263). There is a close analogy between the conception of Uma, the mother of the universe, and that of the Egyptian and Grecian goddesses, as also that of the Gnostics, the Rosicrucians, Mariolaters, and other mystics, whose influence on Christianity is still manifest in the traces they have left on the Roman Church.—*Calcutta Review*, No. 109, p. 29; *Garrett*.

UMAR, the second khalif after Mahomed, Mahomed's successors having, according to the sect of Sunni Muhammadans, been Abubakr, Umar, Usman, and Ali. He conquered Syria, and in A.D. 637 he besieged and took Jerusalem, after a defence of several months. In 638 he led a powerful army into Egypt, the conquest of which country was completed by the taking of Alexandria, 640. He instituted the era of the Hijira, or flight of Mahomed, and Muhammadans now use it. It began A.D. 16th July 622. He was assassinated by a Persian slave, A.D. 644, at Jerusalem, where his tomb is still shown. His memory is held in the highest veneration by the Sunni sect, but the Shiahs regard him as a usurper. It is Umar of whom the statement is made that he ordered the Alexandrian library to be burned.

UMAR II., grandson of Umar I., was the eighth khalif of the Ummiades. He succeeded the Khalifa Soliman, A.D. 717. He laid siege to Constantinople, but was forced to raise it, because of a violent storm which destroyed a great part of his fleet. He was poisoned A.D. 720.

UMAR-ibn-ul-FARID, a devout Muhammadan of Cairo. He was the author of many poems, which are remarkable both for their mastery of language and their subtle and beautiful thoughts. He was of moderate stature, but of very imposing presence; he was handsome, with a rather ruddy complexion, and when he took part in a zikr (*q.v.*), or became ecstatic, his features lit up, and a copious perspiration would cover his body. From early life he was accustomed to seek the solitude of Mount Mokattam, near Cairo; but, yielding to a vision, he went to the vicinity of Mecca, with his headquarters at ten days' journey from it. His poems are said to have been composed while in the ecstatic state. When excited, he would rush naked into the streets and recite portions of them, dancing as he did so wildly along, joined at every step by votaries who imitated his excited cries and gestures.

UMAR KHAYYAM, the astronomer poet of Persia. Several editions of his writings have been printed. He held that the outward forms of religion are matters of indifference. He says,

> 'Kaba or idol shrine, 'tis His house of prayer;
> Even ringing bells invite us to His shrine;
> Mosque or church, He is present there;
> Crescent or cross, 'tis Allah's sign.'

UMARKHER, chief town of a pargana of the same name in Basim district, Berar, lat. 19° 36′ N., long. 77° 45′ E.; population (1867), 5753. It has a police station, a dispensary, and a good school. An action was fought here in 1819 between the Hatkar chiefs and the Nizam's army.—*Imp. Gaz.*

UMARKOT, a town in the Thar and Parkar district of Sind, lat. 25° 21′ N., long. 69° 46′ E. It lies on the confines of the sand-hills forming the eastern desert; and a canal, known as the Umarkot branch, leading out from the Nara, now reaches the town, tailing off into a large tank. Its historical importance is due to its position on the main route from Hindustan to Sind. Akbar, son

of Humayun, then on his way to Afghanistan, was born here, October 1543. The presumed spot of Akbar's birth is marked by a stone slab with an inscription. Akbar marched through this town in A.D. 1591, to conquer Sind. In 1813 Umarkot was captured by the Talpur Mirs from the raja of Jodhpur, in whose possession it had been for some time; and after their downfall in 1843, it came into the hands of the British.

This stronghold or kote of the Umar tribe, was the capital of the Soda dominions, which extended, in the 17th century, into the valley of Sind, and east to the Luni; but the Rahtor of Marwar and the Talpur family reduced the sovereignty of the Soda to a very confined spot, and thrust out of Umarkot (the last of the nine castles of Maru) the descendant of Sehris, who, from Arore, held dominions extending from Kashmir to the ocean. Umarkot, during the opulence of the Soda princes, contained 5000 houses, but in the beginning of the 19th century it hardly reckoned 250 huts. The old castle, to the north-west of the town, is built of brick, and the bastions, said to be eighteen in number, are of stone. It is a place of some strength, and was considered so inaccessible from the desert that surrounds it, that the amirs of Sind allotted it as a place of security to deposit a part of their treasures. The old Rajput family of Umarkot is stated by Tod (Rajasthan, i. pp. 92, 93) to have been Pramar or Powar Rajputs.—*Tod's Rajasthan*, ii. p. 313; *Pottinger's Trs.* p. 401; *Imp. Gaz.*

UMAT-SURI, a mercantile festival held about the middle of July. It is a procession of trades and an exhibition of their wares, amongst which the wax-workers are very prominent.

UMBALLA, properly *spelt* Ambala, a British district in the Lieutenant-Governorship of the Panjab, lying between lat. 29° 49′ and 31° 12′ N., and between long. 76° 22′ and 77° 39′ E. Area, 2627 square miles; population in 1881, 68,238. Umballa and its neighbourhood are intimately associated with the earliest dawn of Indian history. The strip of country included between the Sarsuti (Saraswati) and the Ghaggar is the holy land of the Hindu faith, the first permanent home of the Aryans in India, and the spot where their religion took shape. Its banks are everywhere lined with shrines, but the towns of Thanesar and Pihoia form the chief centres of attraction, and a tank filled by the Sarsuti at the former place is annually bathed in, as a religious purificatory rite, by some 300,000 persons. The country teems with traditions of the great conflict between the Pandava and the Kaurava, whose exploits are detailed in the Mahabharata. Hiwen Thsang, the Chinese Buddhist pilgrim of the 7th century, found it the seat of a flourishing and civilised dominion, having its capital at Srugna. Srugna continued to be occupied down to the time of the Muhammadan conquest of the country. In 1872, Jat numbered 175,335, of whom 161,967 are Hindus or Sikhs, and 13,368 Musalmans. In the N. parganas the Jat form the chief proprietary body, and keep up their usual reputation for industry and frugality. The Chamars, 125,638, Hindus; its members may be found in all menial positions. The Gujars (48,695) are almost equally divided between Hinduism and Islam. As elsewhere, they are fonder of cattle-breeding than of agriculture, and show the ancestral tendency towards a wild, lawless life. The other leading tribes are the Banyas, 39,093; Kambohs, 9847; Syuds, 8490; Khattris, 7893; and Pathans, 7377. The inhabitants of the Kotaha pargana, in the hill country, are a simple, quiet race, clinging almost without exception to the Hindu faith of their forefathers, deeply devoted to their homes, and seldom visiting the plains. A family may be absent for a hundred years, yet their name will be held in remembrance and their descendants may return at any time to reclaim their possessions without a remonstrance.

UMBELLIFERÆ. *Juss.* The Apiaceæ of Lindley, the celery tribe of plants, were called Umbelliferæ from the arrangement of the flower-stalks in head or umbels. There are about 1500 species, all herbaceous, and abounding in temperate climates. The products of the group vary much in character. Celery, fennel, parsnip, carrot, and parsley are all familiar esculents belonging to the order. Upwards of a hundred species occur in the mountains and plains of India. Some are acrid and virulently poisonous; some abound in resins, containing a large quantity of an essential aromatic oil, and act as aromatics and stimulants; others yield fœtid gum-resins.

The laser or silphion of the ancients is secreted by plants belonging to this order; and asafœtida, galbanum, gum-ammoniacum, oppoponax, and sagapenum are much used as stimulant medicines in nervous diseases at the present day.—*Voigt.*

UMBILICUS MALACOPHYLLUS. *Smith.*

Tsoh, Yeh-ho-tsau, CHIN. | Uh-yu, Wa-sung, . CHIN.

This kind of house-leek is found in China on the tops of old houses. Its juice is employed to wash the hair of the head.—*Smith.*

UMBRELLA.

Payong, ... BURM.	Songsong, Paying, . JAV.
Kettisol (paper umbrellas), CHIN.	Bawat, ... ,,
	Payung, . . . MALAY.
Parapluie, ... FR.	Kodayal, ... TAM.
Chatri, . . GUJ., HIND.	Godugulu, . . . TEL.

Umbrellas are employed as a shade against the heat of the sun and rain; a smaller kind, the parasol, being used chiefly by ladies, either while walking or riding in open conveyances. The kettisol or paper summer head is extensively manufactured in China, whence it is largely exported to various parts of the world. In India, palm leaves spread over bamboos are largely used. The umbrella of the Lepcha in Sikkim consists of a framework of bamboo enclosing broad leaves of Phrynium. The umbrella has been a symbol of rank in eastern countries from the most ancient times. Ch'hatra-pati, lord of the umbrella, one of the titles of the ancient Persian kings, is supposed to be the word from which the Greeks and Romans obtained the title of Satrap, the Eka-ch'hatra, the vaulted horizontal sunshades, being reserved for royalty. Carpini notices that umbrellas, Solinum vel Tentoriolum in hasta, were held over the Tartar nobles and their wives when on horseback, and this is still an Indian custom. Adrian speaks of the Skiadia.

In most eastern countries, the right to use an umbrella is bestowed by sovereigns. Until recently, no native of India would have presumed to keep his umbrella spread, or his slippers on, while approaching a European, nor pass a European sentry with it. Those bestowed by sovereigns are of various shapes, and have various names. To use an umbrella at all, amongst Malays, or rather

to have it carried over one, for no native carries an umbrella himself, is a mark of rank, and its quality implies the degree of that rank. The sovereign alone uses one which is gilt throughout. In Java, a small umbrella, called a bawat, is the special badge of the higher nobility, called by the Sanskrit title of bopati. This is not made use of to protect from sun or rain, but carried by a retainer before the party.

A white umbrella is the emblem of sovereignty in Burma. Its use is restricted to the king, and to being placed over the images of Gautama. The king is supposed never to move except with the white umbrella held over him.

Aftab-giri of the Muhammadans of India and Persia is a round vertical parasol, carried at native courts to shade the sovereign. It can be used by other persons there only by the special grant of the sovereign.

Umbrellas of state in ancient Buddhist monuments of India are represented. In the Bharhut tope, there is represented a relic casket, over which a seven-headed Naga raises its head, and over it an umbrella of state.

State umbrellas of the Chinese are worn by those to whom they are granted; they are variously marked. China people of humbler rank can use paper umbrellas only.

Mark Antony was censured for having united the eagles of Rome with the state umbrellas of Cleopatra.

> 'Interque signa (turpe) militaris
> Sol aspicit cornopeum.'

Umbrellas are imported into India to the number of two or three millions annually, of value 19 to 23 lakhs of rupees, two-thirds of them from the United Kingdom, and their price on the average is 12 annas.—*Fergusson.* See Titles, p. 899.

UMBRELLA TREE, a name applied to the Acacia planifrons, which grows straight and then spreads its branches horizontally; a few of these are growing in the cantonment of Bellary; the name is also applied to the Pandanus odoratissimus, which throws down aerial roots.

UMBRINA RUSSELLII. *Cuv., Val.*

Ikan gulama, . . MALAY. | Qualar katchelee, . TAM.

Total length, six inches to one foot? Inhabits sea of Penang, Malayan Peninsula, Singapore, Vizagapatam, Indian and China seas. Its isinglass is considered of good quality.—*Russell; Cantor.*

UMDAT. ARAB. A pillar, a support, a prop; part of a Muhammadan title; Umdat-ud-Dowla, Umdat-ul-Umra.—*Catafago.*

UMMIADES, a dynasty of khalifas who ruled A.D. 661–2 to 744–5. Abd-ul-Malik, the fifth khalif, reigned 21 years at the close of the 7th and beginning of the 8th centuries. He was very penurious.—*Catafago.* See Khalif.

UMM-ul-KHAIR, a title of Rabia, native of Basra, a holy Muhammadan woman who passed her life at Jerusalem. She died A.D. 752-753, A.H. 135.

UMRA, plural of Amir, means nobles; it forms part of the titles of Muhammadan courts, as Amir-ul-Umra, noble of nobles.

UMRER, town in Nagpur district, Central Provinces, lat. 20° 18′ N., long. 79° 21′ E.; 28 miles south-east of Nagpur city. The Umrer dhotis consist of very fine cotton cloth with embroidered silk borders from an inch to a foot and a half wide. —*Imp. Gaz.*

UMRITSAR, an administrative division of the Panjab, comprising three districts of Gurdaspore, Amritsar, and Sialkote. The district takes its name from the chief town, Amritsar, situated nearly half-way between the rivers Beas and Ravi, in lat. 31° 40′ N., and long. 74° 45′ E., and contains 151,896 inhabitants. It is 36 miles E. of Lahore. It is a holy city of the Sikh religionists.

UNAO, chief town and administrative headquarters of the Unao district, Oudh, situated 9 miles north-east of Cawnpur, on the road to Lucknow, in lat. 26° 32′ 25″ N., and long. 80° 32′ E. Except where the country falls as it approaches the Ganges, a uniform dead level prevails; rich and fertile tracts, studded with groves, alternate with stretches of waste land and plains of barren usar, the whole intersected by small streams. There are several large marshes and sheets of water (jhils) in parganas Jhalotar, Ajgain, Parsandan, Unao, and the northern parts of Harha and Mauranwan, in which fish abound, and water-nut (singhara) is grown. According to local tradition, Mauranwan, Purwa, and the northern part of Harha were occupied by the Bhar, and the rest of the district by low-caste tribes of Lodh, Ahir, Thathera, etc. The most numerous races are Ahir, 86,087; Chamar, 85,230; Lodh, cultivators, 83,118; Pasi, 55,139; Murao, vegetable-sellers, 35,683; Kori, weavers, 24,552; Nao, barbers, 22,430; Gararia, shepherds, 22,312; Teli, oilmen, 18,408; Kurmi, cultivators, 17,791; Dhobi, washermen, 13,670; Barhai, carpenters, 13,107; Mala, boatmen, 12,436; Kumbhar, potters, 10,944; and Kahar, palanquin-bearers, 10,763. The most important sections of the Muhammadans are Pathans (12,800) and Shaikhs (8121). Syuds number 2281.—*Imp. Gaz.*

UNCARIA GAMBIR. *Roxb.* Terra Japonica.

Tiau t'ang, . . . CHIN. | Unkoodoo, ... TEL.
Gambir, . . . MALAY. |

One of a genus of plants belonging to the natural order Rubiaceæ, a native of Penang, Sumatra, Malacca, and Ceylon. The extract from the leaves is called gambier, and is manufactured in Siak, Malacca, and Bitang. A gambier plantation has much the appearance of brushwood of three years' growth, with small, smooth leaves of a dark-green colour. The leaves are collected three or four times a year, and boiled in a caldron, from which a strong decoction is poured into square boxes, which, when cool, hardens, and is cut into small cubes of about 1½ inches. As brought to the market, it resembles in appearance and consistency little square blocks of yellow mud, hence one of its names, Japan earth. The plants at Singapore are 6 feet asunder. The cropping of the leaves may commence when about eighteen months old, but the plant is at its full growth when two years old, and its leaves and young branches may then be cropped once in two months. The croppings are thrown into a large caldron of hot water, and boiled for six or seven hours, till all the extract be inspissated into a thick pasty fluid. This is now poured into shallow troughs a little more than an inch deep, and allowed to cool and dry, when it is cut up into little inch blocks, and is then ready for the market of Siam, Cochin-China, China, and the Archipelago, where, along with betel-nut, in a leaf of the piper betel (Siri), it is largely chewed as a masticatory, as natives of India use the betel-nut of the Areca catechu. The

average size of the Singapore plantations are of thirty acres, and when in full bearing employ eight men. A plantation becomes exhausted and worn out in 15 years from its commencement.

As a preservative for timber, dissolve three parts of gambier in twelve of dammer oil over a slow fire. Then stir in one part of lime, sprinkling over the top, to prevent its coagulating and settling in a mass at the bottom. It must be well and quickly stirred. It should then be taken out of the caldron and ground down like paint on a muller till it is smooth, and afterwards returned to the pot and heated. A little oil should be added to make it tractable, and the composition can then be laid over the material with a common brush. As a protection against the teredo, black varnish or tar are substituted for dammer oil, omitting the grinding down, which would not answer with tar. Gambier is largely imported into Britain, and it is used in tanning. From 1846 to 1850, the average quantity entered was 1200 tons, priced at £13 to £14 the ton. It is duty free. Roxburgh (i. p. 517) describes also U. acida, U. cirrhiflora, U. ferruginea, U. lævigata, U. ovalifolia, U. pedicillata, U. pilosa, U. sessilifolia, U. sessilifructus, and U. sclerophylea.—*Thw. En. Pl. Zeyl.* p. 133; *Ainslie; O'Sh.* p. 398; *Crawfurd; Journ. Ind. Arch.; Poole.*

UNDAVILLI, on the south bank of the river Kistna, a mile from Bezwara, has a rock-cut temple, originally a Buddhist vihara, but now a Vaishnava shrine dedicated to Anantasena, a name of Narayana.

UNGIRA, father of Vrihaspati and Angirasa, was a Hindu philosopher, and author of a law treatise known by his name, and still extant.—*Ward*, iv. p. 25.

UNGULATA, an order of mammals, consisting of 1 sub-order, 3 tribes, 9 families. See Mammalia.

UNIONIDÆ, a family of molluscs, comprising the genera Ætherea, Anodon, Castalia, Iridina, Mulleria, Mycetopus, and Unio. Unio flavidens, *Benson*, and Unio marginalis, *Lam.*, are found at Bhandarda, a lake or jhil near Berhampur. They yield pearls.

UNJUN. HIND. Lamp-black, antimony; also the term for one of the sorceries of the Muhammadans in India, in which the diviner applies lamp-black to the palm of a child or adult, and bids him stare well at it, and the person then divines. The Urt'h-unjun is used to discover stolen property; the Bhoot-unjun, for ascertaining the state of the sick; the Dhanna-unjun, to discover hidden treasure; the Sarwa-unjun, for all purposes; and the Alope-unjun, applied to the eyes or forehead of a person, renders him, wherever he be, invisible to others, while they remain visible to him.

UNONA, a genus of plants belonging to the natural order Anonaceæ. Several species are known to occur in South-Eastern Asia. U. longiflora of Sylhet is an elegant tree, with smooth, pointed, and undulate leaves, which is much cultivated in some parts of India to form avenues and to afford shade. It is sometimes called deodara, which is properly the name of the celebrated Himalayan pine, Cedrus deodara; the U. odorata has large orange-yellow flowers. U. musaria has been so called from its bark being used for making musical instruments, as is indeed also that of another species. This is a rambling shrub, a native of Amboyna, etc.; the roots and bark are also used medicinally.—*Voigt; Eng. Cyc.*

UNSRI. In the Hindi of Upper Sutlej, Rubus flavus, the blackberry; in the Sutlej valley it is Rubus fruticosa, and R. flavus, yellow raspberry.

UPANAYANA, in the Hindu ritualistic ceremonials, is the investiture with the sacred thread, or Upaveta, which constitutes the second or spiritual birth. It is practised by the Brahman, the Kshatriya, and the Vaisya, who are from this called Dwija or twice born. With a Brahman, it should be carried out in the 8th and not later than the 10th year, for a Kshatriya in the 11th and not later than the 22d, and for a Vaisya in the 12th and not later than the 24th year. When five years old, the Hindu father fixes on an auspicious day, and entrusts his son to a teacher. The instructor writes the alphabet, or rather engraves it with an iron style, sometimes set in silver or gold, on a leaf of the palmyra tree, which is then coloured with turmeric. The leaf is placed on unhusked rice spread over the floor, and the teacher, whatever the sect or caste of the pupil be, invokes the god Vigneswara to smooth the difficulties in the way of the child's studies. Then, holding the boy's forefinger, he thrice traces with it the forms of the vowels in the rice, teaching the boy their sounds. The pedagogue is presented with a new cloth and some money, and dismissed, after which relatives and friends are entertained. On the seventh or ninth year, the Upanayanam is performed, on which occasion the family priest, Upa-d'hayya, SANSK., Upadhialu, TEL., causes the boy to offer a burnt-offering or Homa to the entire pantheon of gods, by pouring ghi (clarified butter) over the fire. He then invests the youth with the zandiyam, the zonar or sacred cord, letting it fall from over the left shoulder to the right side. He subsequently teaches the Gayatri to the boy, if he be of the Brahmanical order, as also the morning, noontide, and evening prayers, the due attention to which is considered sufficient to remove all sins committed during the day and night. The Gayatri or Gayatri-mantram of the Brahmanical or priestly order is never pronounced aloud; and it is exceedingly rare that any Brahman can be induced to divulge it. Its literal translation is, 'Om! earth, air, heaven, Om! Let us meditate on the supreme splendour of the divine Sun; may he illuminate our minds.' It is considered the most venerable text of the Vedas, and the common belief in and reverence for it is the bond of union amongst the entire Brahman order. With this ceremony the boy is considered to be born again, and he is of the Punar Janma or twice born. This is the spiritual birth of the Hindu, or his regeneration, for until this time the uninitiated youth, though of the Brahmanical class, is only, so far as his right to perform religious ceremonies is concerned, regarded in the light of a Sudra. If the youth who has now been initiated into the mysteries of the Brahmanical order, be set apart for the sacerdotal office of the priesthood, he is further marked on the muscular part of both arms by being branded with sanku or chank and chikram or disc of Vishnu. This is called the Chakrankitam. From this time, however, he is ranked as a Brahmachari, or of the order of bachelors, for he has now entered on his religious life, the whole of the days of a spiritual

Brahman being apportioned into four religious stages, viz. that of the Brahmacharyam, or bachelorhood; Grahastasramam, or the married state; Vanaprastam, the living in solitude with his family; and Sanyasam, or the abandonment of all worldly matters. A bachelor's dress differs from that of a married man in so far as he does not wear the dhoti, but only a wrapper round the lower part of the body; he is prohibited from eating betel, and continence is enjoined. Among other Hindu castes, the Brahmachari ceremony is performed at any time prior to the celebration of marriage, but their Gayatri is from the Puranas, not the Vedas.—*Wilson.*

UPANGA, holy books of the Hindus: Purana or history, comprising the 18 Puranas; Nyaya, logic and the principles of knowledge; Mimansa, religious principles and duties; Dharma Shastra, law, human and divine. See Vidaya.

UPANISHAD, a class of sacred books belonging to the Hindus, containing doctrines of the Vedas explained and enlarged according to the Vedanta. They are the best books after that school. Their theology is monotheistic, a pure theism, and Brahm, in the neuter gender, is used for the deity; the dogma of one Supreme Being, detached from matter, maya or sacred. The Upanishad, therefore, may be described as treatises on the unity of God and the identity of spirit. Some of the shortest were translated into English by Ram Mohun Roy, Dr. Carey, and Sir W. Jones. They were also rendered into Persian by order of Dara Shekoh, the son of Shah Jahan, and were thence rendered into Latin by Anquetil du Perron, a summary of whose works in the French has been published by M. Lanjuinais. In 1882, Mr. A. E. Gough, Principal of the Calcutta Madrassa, has treated on their philosophy and ancient Indian metaphysics, and the translations of five of them are given in Max Muller's Sacred Books of the East. The whole number of Upanishads known at present is 138, of which only 11 have been published. According to the theory laid down in the Mahavakya Ratnavali, there are 1180 Upanishad, equal to the number of Vedaic schools, one Upanishad belonging to each school. This theory, however, is fanciful. According to the received definition, the Upanishad are such parts of the Vedas as embody their metaphysical and theological views, which may be compressed into the formula that the finite soul is essentially the same with the infinite spirit or Brahma; and though the various Upanishads widely differ from each other, all maintain this identity of the finite and infinite spirit. Dr. Weber arranges the Upanishad into—(1) those which belong to the three first Vedas, as forming the Vedanta system; (2) those comprising all the Atharva Upanishad, and referring to the Vedanta system in its entire development; (3) the Upanishad in which the meditation has become crystallized, and is limited to the mystical word Aum; (4) those treating on the order of the Sanyasi; and (5) the last division, which includes the sectarian Upanishad, in which the Atma is worshipped as an independent deity.

The Talavakara Upanishad has the following fine thoughts concerning the nature of God:—

'Canst thou conceive the vast Eternal Mind,
To rock and cave and Libyan waste confined?
Is there a place which God would call his own
Before a virtuous mind, his spirit's noblest throne?
Why seek we further? lo! above, around,
Where'er thou wanderest, there may God be found;
And prayer from every land is by his blessing crowned.'

—*Thomas' Prinsep's Antiquities; Taylor; Hind. Th.* ii. p. 13; *Darwinism in Morals*, p. 200.

UPAPATAKA. SANSK. A crime in Hinduism, such as killing a cow, selling a daughter.

UPA-PURANA are 18 in number, viz. Sanatkumara, Nara-sinha, Naradiya or Vriha-Naradiya, Siva, Dur-vasasa, Kapila, Manava, Ausanasa, Varuna, Kalika, Samba, Nandi, Saura, Parasara, Aditya, Maheswara, Bhagavata, and Vasishtha. They are Hindu religious books.—*Dowson.*

UPARAVADA or Upera-Wandlu. TEL. Dravidian people who, along with the Wadra-wandlu or Waddar race, are employed in digging tanks, salt-making, and road-making. Their implements are the guddapara or crowbar, the mamotee, phaora or hoe; women make baskets and tattoo figures on the arms of Hindu women.

UPARICHARA, a Vasu or demigod king of Chedi. He had five sons by his wife, and by Adriki, an Apsaras, condemned to live on earth in the form of a fish. He had a son named Matsya, and a daughter Satyavati, who was the mother of Vyasa.—*Dowson.*

UPAS, in Japanese, poison or venom, is the term applied to the sap of some plants of the Malay and Philippine Islands yielding poisonous juices, which, by concentration, produce a poison of considerable activity, and is sometimes employed by the ruder natives to render their weapons deadly. The most potent of these plants in Java are the anchar, the Antiaris toxicaria, a large forest tree, and the chetek, Strychnos tieute, a climbing shrub. In all these cases, the poison, even when fresh, is far less active than that of the cobra snake, for the most powerful will take an hour to kill a dog, which the venom of the hooded snake would certainly accomplish in half the time. To effect a fatal purpose, too, it is necessary that the poisoned weapon should be left in the wound, and not withdrawn, so that the probability is that few human beings have ever lost their lives by means of these poisons.—*Crawfurd; O'Shaughnessy.*

UPASAMPADA, the rite of ordination into the Buddhist priesthood.

UPAS ANTIAR, the Upas tree or Anchar.

Antiaris toxicaria, *Lesch.* | Ipo toxicaria, *Pers.*

A native of Java, where it grows in the forests, often over a hundred feet in height. It was first described by Mr. Foersch, a surgeon of the Dutch E. I. Co., in vol. iv. of Pennant's Outlines of the Globe, and was then reprinted in the London Magazine for September 1785. Dr. Darwin celebrated it in poetry, where he says,—

'Fierce in dread silence, on the blasted heath
Fell upas sits, the hydra tree of death.'

Dr. O'Shaughnessy mentions that the tree grows in Java in a valley filled with carbonic acid, into which it is therefore highly dangerous to descend; and he supposes that this probably originated the stories as to the deadly influence of the tree. The tree itself is often over 100 feet in height; its bark pale, smooth; its leaves oval, coriaceous, hairy. The poison is prepared by mixing the gummy resin (into which the bitter viscous juice concretes) with the seed of the Capsicum frutescens

and various other aromatics. This poison at first acts as a purgative emetic, then as a narcotic, causing death by violent fits of tetanic convulsions. The arrows are small and slight, and are discharged with accuracy from the sumpitan or blow-pipe by the mouth.—*Voigt; O'Sh.; Crawfurd; Eng. Cyc.; Wathen's Voyage*, p. 165.

UPA VEDA, religious books of the Hindus. There are four,—the Ayush or Ayur, medicine; Gandharva, music, dancing; the Dhanush or Dhanur, warfare; and the Sthapatya, mechanics, architecture. The third Upa Veda was composed by Viswamitra, and treats of the fabrication and use of arms and implements handled in war by the Kshatriya tribe. These are sciences which have no connection whatever with the Sruti or revealed Veda.—*Thomas' Prinsep.*

UPA-VITA. SANSK. The thread or cord worn by the three classes of Hindus over the left shoulder and under the right arm, and worn also by the five Kansala or artisan races. It is called Zandiam in Telugu and Punal in Tamil. That of the Brahman should be of cotton, the Kshatriya of flax, and the Vaisya of wool.

UPAZEN. BURM. The regular monks of a Burmese monastery, who are ruled by the Phoungye or superior.—*Yule*, p. 182. See Monks.

UPEI. MALAY. The outer envelope of the stem of the pinang or Areca catechu palm, below the bunches of fruit. It is used in the Archipelago for making sifters (timba), for packing goods, making torches, etc.

UPPER GODAVERY, formerly applied to a separate British district in the Madras Presidency, bounded on the south and west by the Godavery and Pranhita rivers. Population, in 1872, 52,120; area, 1085 square miles. Cromlechs, kistvaens, and cairns scattered in forests and on hillsides, excite the curiosity of the inquirer. The most numerous of the aboriginal tribes are the Gonds (15,876); the remainder consist of Bhils, Bhilals, etc. The Gonds are subdivided into Gote and Koi or Koitor. Though identical in customs and in language, these do not eat together nor intermarry, and the Koi claim a superiority over the Gote. Among the Hindus, Brahmans numbered 705; the mass consist of Dher or Mhar, Dhimar, Kurmi, and other cultivating or inferior castes; native Christians, 236.—*Imp. Gaz.*

UPPER SIND, a frontier district, consists of a narrow strip of level plain, half of which is covered with jungle and subject to annual inundation. The Begari canal flows along the south of the district to Khera Garhi in the extreme west; total length, 85 miles; width at mouth, 57 feet. Five canals—the Nurwa, 40 miles long; Sonwa, 19 miles; Mirzawa, 9½ miles; and Budwa, 4 miles—branch from the Begari. The Desert canal, formerly known as the Maksudwa, runs 35 miles into the desert west of Kashmor. The border tribes are the Mazari, Burdi, Khosa, Jamali, Jatai, Dumki, Jakrani, and others. The predatory Mazari inhabit the country on the right bank of the Indus, between Mithankot and Burdika. The Burdi reside chiefly in the district called after them Burdika, which lies on the western bank of the Indus, between the Mazari district on the north and the Sind canal on the south. The habits of this tribe were formerly wholly predatory, and up to 1847 the tribe made frequent marauding inroads on their neighbours in Kachhi and in the hills, as well as in Sind.

UPPU SANAGA. TEL. Cressa Indica, *Retz*, so called from frequenting salt lands near the sea, where it has much the look of young chenna, the Cicer arietinum or Bengal gram.

UPPUTERU, a river flowing out of the Colair lake. There are several streams running into it, the principal of which is the Fummilair; there is but one river flowing out of it, the Upputeru or Salt River. It is a tidal river, and makes its way into the sea some miles south of Nursapore. The course of this river from the Colair to the sea, forms the boundary between the Krishna and the Godavery districts. This river being the only outlet to the Colair, there are great facilities for irrigation. For by throwing a bund across the river, the waters of the lake can find no exit, and consequently can flood an immense tract of country. This, however, cannot be done every year, as under certain circumstances it might do more harm than good. But when the ordinary cultivation has failed, this expedient may be resorted to with very great advantage both to the cultivators and to Government.

UPREE, a Mahratta revenue term to designate a tenant-at-will; a non-freeman of a Mahratta village, a sojourner, a temporary resident who has not earned a right of settlement.

UPUPA EPOPS. *Linn.* Upupa Indica, *Hodgs.*

Hoopoe, ...	ENG.	Hudhud, ...	HIND.
Epops, ...	GR., LAT.	Kat-kuto, . . .	SIND.

The hoopoe of Europe, Asia, and Africa is a common winter visitant in Lower Bengal, but is generally replaced by a nearly affined race in Upper Hindustan and South India. This bird was often alluded to by Greek and Latin authors, and Ovid makes Tereus be transformed into it. It belongs to the Upupidæ, a family of insessorial or perching birds. Its long crest of parallel rows of white, yellowish brown, and black feathers, is frequently erected, and when seen flitting in a dense forest, it looks a very handsome bird. It is easily domesticated, and flits about a room. Its long curved bill enables it to search for worms in the ground. It builds in holes in old walls. It is to all appearance a bird of fluttering and feeble flight, but it has repeatedly been observed, during its seasons of migration, at altitudes considerably above the limits of vegetation. 'On the western side of the Ladakh pass, about 16,500 feet, I saw a hoopoe,' writes Major Cunningham; and at Momay (14,000 to 15,000 feet elevation), under the lofty Donkia pass in Northern Sikkim, in the month of September, Dr. J. D. Hooker observed birds flock to the grass about Momay; larks, finches, warblers, abundance of sparrows (feeding on the yak droppings), with occasionally the hoopoe; and waders, cormorants, and wild ducks were sometimes seen in the streams, but most of them were migrating south.—*Hooker, Him. Jour.; Cunningham's Ladakh.*

UPUPA NIGRIPENNIS. *Gould.*

U. minor, *Sykes, Jerdon.*		U. Senegalensis, *Blyth.*	
Indian hoopoe,	ENG.	Kukudeu guwa,	TEL.
Hudhud, ...	HIND.	Kondah pitta, . . .	,,

The Indian hoopoe is found throughout India; its builds in old walls, and eats insects.

UQEEQA. ARAB. A sacrificial rite amongst the Arab Muhammadans, consisting of an offering to God on the chutthee or chillah, the fortieth day

after delivery, of one, if a girl, or two he-goats, if a boy.—*Herk.*

UR, also Pura. HIND. A town, as Bangalore, Narsingapur.

UR of the Chaldees is the modern Mugheir; it lies between the eastern confluents of the Chaboras and Tigris. It was founded under the second ruling dynasty of Berosus, to which is assigned the date B.C. 2286. The great structures of Ur rose in terraces, the surfaces of the walls were decorated with blue enamel, polished agates, alabaster, pieces of marble, mosaics, copper nails, and gold plates. Rafters of palm-wood supported the roof, though there were also early attempts at arched vaults. The tombs contained sarcophagi, consisting of two earthenware vessels fitted together, and at the side of the dead are found polished flint utensils, bronze implements, gold ear-rings, and brass armlets. The cylindrical signet-ring of king Urech has been found, and has proved the existence then of a written character. Erech, the modern Warka, Nipur or Calneh, the modern Niffer, and Babel, now Hillah, and Borsippah were the oldest towns known to the writer of Genesis.—*Peschel*, p. 498.

URANIA SPECIOSIA. *Tr.* Traveller's tree. Ravenala of Madagascar. This elegant tree, a native of Madagascar, since 1802 has been cultivated in India for ornament. Its short, solid trunk resembles that of the palm tribe, but its leaves those of the plantain, and when growing it forms a perfect screen. It bears a small fruit like the drupe of a plantain, which is of a bluish colour. The juice of this plant has the property of rendering water or milk, either hot or cold, mucilaginous, without altering the taste, colour, or smell of the liquid in its former state. Butter-milk and water is often thickened with the juice of this plant. It is propagated by seeds and suckers. The plant attracts attention from the fan-like arrangement of its ample leaves, the sheathing bases of which contain, even during the most arid season, pure fresh water. Mr. Ellis says, 'One of my bearers struck a spear four or five inches deep into the thick firm end of the stalk of the leaf, about six inches above its junction with the trunk, and on drawing it back, water gushed out. It was cool, clear, and perfectly sweet.'—*Ellis, Madagascar; Roxburgh; Collingwood; Riddell; Mason.*

URAON is alike the name and the language of a race. Theirs is an uncultivated idiom, and contains so many Dravidian roots of primary importance, that it is considered by Dr. Caldwell as having originally been a member of the Dravidian family. The Uraon vocabulary of Colonel Ouseley (Hodgson's series) has so much resemblance to the Malé that it may safely be set down as a dialect of the same language. It frequently agrees with the Malé where it differs from the co-dialects with which it is now in contact in Chutia Nagpur. This may be considered as confirming the tradition of the Uraon that their original country was Rotas and parts of Rewah, or the hills along the northern bank of the Sone (to the southward of Benares). According to the tradition, they were driven across the Sone by the intrusion of Gangetic Hindus into their native land, and ultimately settled in Chutia Nagpur, the country of the Kol tribe of Munda or Ho. At a later period, Hindus pushed into this territory, reduced the more civilised Uraon to slavery, drove the wilder Kol into revolt, and eventually forced them to migrate to the southward and eastward into the land of the Bhuiyan. The more northerly of the eastern emigrants passed out into the low country, and, mixing with the Bhumij and Bhuiyan natives, formed the class of Tamaria. The more southerly moved into Singbhum and Kolehan, living at peace with the Bhuiyan pre-occupants until the intrusion of Hindus from Marwar, who first leagued with the Bhuiyan against the Kol and then with the Kol against the Bhuiyan, and finally appropriated Singbhum, leaving Kolehan or Hodesam to the Kol or Ho, as this southern tribe call themselves. Remnants of the Kol are still found to the northward nearer Chutia Nagpur, and they appear to be also spread to the northward towards Rajmahal. The Malé are now confined to the N.E. extremity of the Vindhya, where the Ganges washes and bends round the chain, and are separated from the south Dravidian nations by the Kol. The explanation is probably to be found in the circumstance of the Uraon and Malé originally forming an uninterrupted extension of the Gond tribes and dialects that extended from the Godavery to the north extremity of the Vindhya.

URARIA PICTA. *Desv.*

Doodia picta, *Roxb.* | Saukr-juta, . . . BENG.

A shrubby plant of Coromandel and Bengal, with small red flowers.

UR-BHUJ, TEL., also called Ur-bhui-wanlu, are mercenary soldiers who serve native sovereigns. They are never found in the ranks of the British army. There are a few of them in every large town in the Peninsula of India. Their name is of Telugu origin, and means town-bhui.

URCEOLA ELASTICA. *Roxb.*

Vahea gummifera, *Roxb.* | Tabernæmontana elast. *Sp.*

The India rubber tree, or caoutchouc vine. In Sumatra and Pulo Penang, a large woody climber, yields caoutchouc of the finest quality in great abundance. Dr. Hooker mentions that a plant which grows in the forests east of Chittagong, the milk of which flows in a continuous stream resembling caoutchouc, is probably the Urceola elastica, which yields India rubber. The milky juice of the plant oozes out through wounds made in the bark; on exposure an elastic coagulum separates from a watery liquid; the coagulum is caoutchouc or India rubber.—*Roxb.*

URD'HA-BAHU. SANSK. From Urdha, above, and Bahu, the arm. A sect of ascetic Hindus, solitary mendicants, who extend one or both arms above their heads till they remain of themselves thus elevated. In some of the creeds of the Hindus, personal privation and torture is of great efficacy, and the Urd'ha-bahu are individuals who, urged by credulity or knavery, have adopted this mode of distorting their limbs. They also close the fist until the nails grow through the hand. They subsist on alms; many go naked, but some wear a wrapper stained with ochre. Under British rule all such classes have disappeared.—*Wilson.*

URDU. HIND., TART. Literally a camp. The term given to the new tongue generally styled Hindustani, which originated in the Moghul camp at Dehli. A basis of Sanskrit and Hindi, with a copious influx of Arabic, Persian, and Turkish words, but following the grammatical inflexion of the Hindi, with occasional slight modifications. Urdu poets are innumerable; to write Urdu

poetry is the fashionable accomplishment of every educated Muhammadan in India. Urdu is spoken by about 82,497,168. Urdu poetry follows the prosody of the Arabic and Persian. A verse is called a bait or house; the hemistich or half verse, a misra or door. A rubai is a poem in which the stanzas consist of four misra or hemistichs; a mukhammas, one of five hemistichs; and the musaddas, of six. Qafiya means to follow, and is used to designate rhyme. Dobaiti, or two-versed, is a short epigrammatic poem. Ghazl corresponds to the sonnet or ballad of the English language. Masnawi is the heroic poem. It has all its bait or verses composed of the same metre. Diwan is a collection of poems. Bahr is *metre*; Bahr-i-Mutagarih, pleasant metre; Bahr-i-Saria, rapid measure; Bahr-i-Khafif, short measure; Bahr-i-Kamil, perfect measure.

URENA LOBATA. *Roxb.*

Kangya, Kanguya, BENG.	Uren, ... MALEAL.
Ban-ochra, BENG., HIND.	Piliya, ... TEL.
Wet-khyæ-pai-nai, BURM.	Talia mankena, . ,,
Kat-sai-nai, . . . ,,	

This malvaceous plant, as also U. sinuata, is common in most parts of India, and along the coasts of Amherst and Tenasserim. The bark of U. lobata yields a strong and tolerably fine substitute for flax. It is an annual, flowering in December. It is the pest of Rangoon and its neighbourhood, springing up spontaneously wherever the jungle is cleared, and rapidly forming a dense mass of luxuriant vegetation. The fibre is manufactured by simple maceration, and afterwards beating the stalks. Very good gunny has been made from it, and it is believed that the fibre might, if treated with due care and skill, prove valuable. Any quantity of the plant may be had for the mere trouble of gathering it.—*Royle; Roxb.; Mason; M'Clelland.*

URGUJJA. HIND. A yellowish-coloured perfumed powder, made of several scented ingredients, sandal-wood, wood-aloes, rose-water, attar of roses, civet-cat perfume, and oil of jasmine.—*Herklots.*

URIAL or Oorial, the Panjab wild sheep, Ovis cycloceros, *Hutton*. The burhel or blue wild sheep is O. nahura.

URI KULURU KRADU. TAM. Sir J. E. Tennent (ii. p. 468) gives this as the Tamil name of a musical mollusc of Ceylon, and which he surmises to be Littorina lævis, or Cerithium palustre. The Tamil for crying shell, however, is Kuchil-podu-kira-kilinjal.

URIYA, a language which prevails in the N. part of the Ganjam district, as far south as Itchapore. In the southern division the Telugu prevails.

URMUK, a cloth of camel's hair, but occasionally made of shawl-wool. Also a product of the Kashmir looms resembling strong nankin.

UROOS. ARAB. Oblations, offerings to a saint, the anniversary of whose death is called his Uroos, as Kadir Wali ka Uroos, the festival day of Kadir, the saint.

URORA, a Muhammadan tribe on either side of the Indus, south of Kalabagh, and around Multan.

UROSTIGMA, a genus of plants, formed from the genus Ficus.

Urostigma Arnottianum, *Mig.*

Kappootoo-bo-gass, ... SINGH.

Grows in the hot, drier parts of Ceylon. It is not Ficus lucida.—*Thw.*

Urostigma Bengalense, *Mig.*

Ficus Bengalensis, *Linn.* | F. Indica, *Linn.*

Maha-nooga-gass, ... SINGH.

Grows all over India, and in the hotter parts of Ceylon, probably not indigenous.—*Thw.*

Urostigma Ceylonense, *Mig.*

Ficus infectoria, *Willd.* | U. tjakela, *Mig.*
U. ægeirophyllum, *Mig.* | Kirri-palla-gass, . SINGH.

Common in Ceylon up to an elevation of 2000 feet. The Singhalese sometimes use the bark of the tree instead of the areca nut, to chew with their betel leaf.—*Thw.*

Urostigma Mysorense, *Mig.*

Ficus Mysorensis, *Roth.* | Ficus citrifolia, *Willd.*

Boonooga-gass, ... SINGH.

A tree of the Peninsula of India, not uncommon in Ceylon up to an elevation of 2000 feet.—*Thw.*

Urostigma religiosum, *Mig.*

Ficus religiosa, *Linn.*

Ashwertha, . . . BENG.	Bo, Bo-gaha, . . SINGH.
Pipal, ... HIND.	Bo-gass, ... ,,
Arealu, . . . MALEAL.	Arasam maram, . . TAM.
Pippula, ... SANSK.	Raya-manu, Raghi, . TEL.

The holy fig tree is to be seen in all parts of India. It is much admired by Europeans for its elegant form and the constant movement of its leaves. It is the Bo Tree of the Singhalese Buddhists, and is to be met with in that island wherever there is or has been a Buddhist temple; but the most famous Bo Tree is at the temple at Anaradapura. It was grown from a cutting sent from Hindustan, and in A.D. 1900 it will be 2200 years old. It is held in great estimation by Singhalese Buddhists. The frequency of F. religiosa and F. Indica depends very much on the proportion of Hindus among the population. In some parts, where the latter is almost entirely Muhammadan, these trees are very rare, even allowing for differences of climate.—*Roxb.; Thw.*

Urostigma retusum, *Mig.*

U. nitidum, *Mig.*	F. nitida, *Thunb.*
U. ovoideum, *Mig.*	F. Benjaminea, *Roxb.*
U. pisiferum, *Mig.*	F. pallida, *Wall.*
Ficus retusa, *Linn.*	

A frequent tree in India, and common in the Central Province of Ceylon up to an elevation of 5000 feet.—*Thw.*

Urostigma tsiele, *Mig.*

Ficus tsiela, *Roxb.*	F. amplissima, *Linn.*
Datira, ... MAHR.	Ichi maram, . . . TAM.
Eichie maram, . . TAM.	

A tree of India, common on the Bombay side, in ravines of the ghats, but not on open forest land. There is a noble specimen of this tree in the Royal Botanic Garden, Ceylon, whose branches spread over an area of ground 120 yards in diameter.—*Roxb.; Thw.*

Urostigma tomentosum, *Mig.* Ficus tomentosa, *Roxb.* A tree of India and Ceylon.—*Thw.*

Urostigma Vogelii, *Mig.* The African rubber tree of W. Africa.

Urostigma Wightianum, *Mig.* U. perseæfolium, *Mig.* Common in the Central Province, Ceylon, up to an elevation of 5000 feet.—*Thw.*

URSIDÆ, the bears, a family of carnivorous mammalia. The following are synonyms:—

Dub, . . ARAB., PERS.	Riksha, . . . SANSK.
Arktos, ... GR.	Karadi, ... TAM.
Rich, ... HIND.	Gudelgu, ... TEL.
Ursus, ... LAT.	

Four Indian species are known, viz. Ursus

Isabellinus of Horsfield; U. labiatus of Blainville; U. Malayensis of Raffles; and U. Tibetanus of Cuvier. U. Isabellinus is, according to Gray, the U. Syriacus of Hemprich and Ehrenberg, and is that known to Himalayan sportsmen as the brown, red, yellow, white, grey, silver or snow bear or Tibetan snow bear, and the harput of Kashmir, for it inhabits Tibet and the snowy regions of the Himalaya, and high Central Asia generally.

U. labiatus of Blainville, the black bear, is found all over India, Ceylon, and Assam, and is the Bhalu or Rich. It has received several scientific synonyms, attaching it to the genera Bradypus and Melurus, and its names in English, five-fingered sloth, sloth bear, and ursine sloth, have varied correspondingly. It is readily domesticated. When wild, it lives on roots and honey.

U. Malayanus occurs in Arakan, Malay Peninsula, Sumatra, Java, Borneo, and in Indo-Chinese countries generally.

U. Tibetanus, the black bear of Himalayan sportsmen, inhabits the forest region of the Himalaya, and is very rare in Tibet, though met with in its eastern forests. It seems identical with U. Isabellinus.—*Blyth, Cat.*

Ailurus fulgens, *F. Cuv., Blyth., Hard.*

A. ochraceus, *Hodgs.*

Wahdonka, . . . BHOT.	Negalya-ponya, . NEPAL.
Sunnam, . . . LEPCHA.	Wah, ... „
Suknam, ... „	

Red cat bear, S.E. Himalaya, Nepal, Sikkim.

URSUS ISABELLINUS. *Horsf., Blyth.*

U. Syriacus, *Hempr.*

Snow, brown, red, yellow, grey, or silver bear, ENG.	Bhalu, ... HIND.
	Harput, . . . KASH.
Barf-ka-ritch, . HIND.	Drin-mor, . . . LADAKH.

The brown bear inhabits the Himalaya mountains, but Dr. Adams says its distribution is not so general as that of the black species, Helarctos Tibetanus, which is spread over the whole extent of the lower ranges of the Indian Himalaya, whereas the brown bear is confined to districts, and prefers high and rugged mountains near the confines of perpetual snow; and nowhere is its fancy better gratified than among the noble chains which surround Kashmir, especially the secluded glens, such as the Wurdwun valley and its offshoots. Bears were at one time very abundant there, but every year shows marked diminution in their numbers, so that before long we may expect to hear of the almost complete extermination of the species in the Kashmir ranges. Dr. Adams says that if not a variety, it is certainly very closely allied to that of Europe, Northern Asia, and arctic America. In Asia, the bear of Siberia and the Altai, U. arctos, is called the brown bear; but this species is said to frequent the Himalayas only. Dr. Horsfield named it U. Isabellinus, from a single skin brought from Nepal, but in colour two specimens are seldom exactly alike.—*Drs. Adams, Jerdon.*

URSUS LABIATUS. *Blain., Blyth, Ell.*

Bradypus ursinus, *Shaw.*	Melursus lybicus, *Meyer.*
Kaddi, Karaddi, . CAN.	Bhalu, ... HIND.
Rich, ... DUKH.	Banna, ... KOL.
Sloth bear, . . . ENG.	Aswail, . . . MAHR.
Indian black bear, „	Riksha, . . . SANSK.
Horse-shoe bear, . „	Karadi, ... TAM.
Yerid, ... GOND.	Elugu, ... TEL.

This bear has a white V-shape mark on its breast; it inhabits Ceylon and all British India and Kashmir. It lives on fruits, seeds, honey, and ants. It is easily tamed, taught to show antics, and is led about to be exhibited.—*Jerdon.*

URSUS MALAYANUS, U. euryspilus, Malayan bear, is perfectly identical in Borneo, Java, Assam, Arakan, Tenasserim, etc.—*Wallace.*

URSUS SIWALENSIS, a fossil bear, discovered by Sir P. T. Cautley in the Siwalik Hills.

URSUS TIBETANUS. *F. Cuv.*

U. torquatus, *Schinz.*	Helarctos Tibetanus, *Adams.*
U. ferox, *Robinson.*	
Bhalu, Bhalak, . . BENG.	Himalayan black bear.
Thom, ... BHOT.	Sona, ... LEPCHA.

The black bear's favourite haunts are in the woods and jungles of the lesser ranges of the Himalayas, where it lies all day, to issue forth at nightfall and feed in fields and gardens. The black bear is not uncommon along the foot of the barrier-chains of Kashmir, and during the fruit season may be found in the valley, where its depredations among the apple, walnut, and mulberry trees are frequent, and whole crops of Indian corn are sometimes completely destroyed by these unwelcome intruders. Although said to attack sheep at times, this species is eminently a vegetable feeder, and so expert in climbing trees, that it may frequently be seen on the topmost branches, standing erect, and seizing the branches with its fore paws.—*Adams.*

URTICACEÆ, the nettle tribe of plants, are trees, shrubs, or herbs; about 300 species of them are known to occur in the East Indies, in the following 16 genera, viz.:—

59 Urtica.	11 Boehmeria.	1 Antiaris.
1 Parietaria.	1 Cannabis.	1 Broussonetia.
2 Conocephalus.	13 Morus.	1 Dorstenia.
167 Ficus.	1 Lepurandra.	1 Epicarpurus.
14 Artocarpus.	2 Batis.	
2 Trophis.	21 Procris.	

Many of these plants are lactescent. The genera Urtica, Boehmeria, and Cannabis all furnish useful fibres; the genus Morus, the edible mulberry, and its leaves, are the favourite fruit of species of silk-worm; the bark of the Broussonetia is manufactured into a strong paper material; the genera Ficus and Artocarpus, the fig trees and jack trees, yield edible fruits. The cow tree belongs to this natural order, and apparently to the genus Bresimum. When wounded, a milky nutritious juice is discharged. It is described by Humboldt as being peculiar to the Cordilleras of the coast of Caracas, particularly from Barbula to the lake of Maracaybo, near the village of San Mateo, and in the vicinity of Caucagua, three days' journey east of Caracas. In these places it bears the name of Palo do Vaco or Arbol de Leche, and forms a fine tree resembling the star apple of the West Indies. Species of Urtica and Girardinia abound on the Neilgherries and other localities, and yield a long and silky fibre like the true rhea or China grass. The two plants of the Urticaceæ that grow on the Neilgherries are the Urtica heterophylla or common Neilgherry nettle, and the Girardinia Leschenaultiana of Dr. Wight's Icones, a superior kind of nettle, yielding a very fine strong fibre. The latter plant grows in abundance on the Animallay range, and in great quantities at the foot of the Cunur Ghat, at a level of only 1000 feet above the sea. In the Sikkim Himalaya the fibres of some of the various nettles are twisted for bowstrings, others as thread for sewing and

weaving; while many nettles are eaten raw and in soups, especially the numerous little succulent species. When preparing for the Great Exhibition of 1859, Dr. James Taylor named several plants in Bengal adapted for the manufacture of textile fabrics. A species of Urtica, of whose fibres the much admired grass cloth of China is made, is cultivated in Rungpur; and either it, or an allied species, the rhea, is grown in Assam and Cachar. It is now known as the Boehmeria nivea, *Gaudichaud*, and seems to be the U. nivea, *Linn.*, and U. tenacissima, *Roxb.*, and yields the Rami of Assam and Rhea of commerce. Endeavours have frequently been made to utilize the rhea plant of India for the production of textile fabrics, but without general success. The Indian Government have, within the past fourteen years, twice offered a price of £5000 for a machine to effect its profitable decortication. This prize has been twice competed for, and twice withdrawn in consequence of all the mechanical means submitted for trial having failed to meet the requirements of the Government. A machine has been constructed which effectually separates the fibre from the woody stem of the green rhea, and at the same time cleanses it from all extraneous adherent matter, producing it in good condition for the market, and this without any previous or subsequent treatment. This machine, which is the invention of Mr. H. C. Smith, consists of an iron framing about 3 feet high, 2 feet wide, and 3 feet deep from front to back, carrying a revolving drum about 18 inches in diameter and 12 inches wide. The drum is fitted with a series of beaters, which pass near to the edge of a small feeding-table about 12 inches wide, the drum being covered in with an iron hood. From beneath the feeding-table a thin sheet of water is made to play in a constant stream against the drum at a certain pressure and angle, and this constitutes the whole of the apparatus. The fibrous plants are fed in by hand on the feeding-table, and are simply held up to the beaters by a cushion or backing of water, by which means the whole of the extraneous matter is removed, and the fibre produced in a remarkably short time, and in excellent condition. In the tests, 115 stems of the French rhea were treated by the operator, and the fibre produced clean and free from all adherent particles in three and three-quarter minutes. Besides the foregoing, several varieties of fibrous plants were put through the machine, including the Fourcroya gigantea, an Indian aloe, the Sanseviera Zeylanica, or bowstring hemp as it is called by the natives, the yucca, and the Phormium tenax, or New Zealand flax. All these were successfully treated. There were shown some samples of fibre of the Fourcroya gigantea, and Moorva or Sanseviera Zeylanica. Rhea fibre has brought in England £80 the ton, and never sold under £45. The China grass-cloth, a beautiful fabric made in the Canton Province, is largely exported to Europe and America. The Boehmeria (Urtica) nivea plant, which is supposed to produce this, is abundantly grown in Kiang-si and other provinces. Fabrics of various degrees of fineness are made from this fibre, but none are so fine as that made about Canton; it is also spun into a very strong and durable thread. There are said to be two very distinct varieties of this plant common in Che-kiang,—one cultivated, the other wild. The cultivated variety has larger leaves than the other; on the upper side, they are of lighter green, and on the under they are much more downy. The stems also are lighter in colour, and the whole plant has a silky feel about it which the wild one wants. The wild variety grows plentifully on sloping banks, on city walls, and other old and ruinous buildings. It is not prized by the natives, who say its fibre is not so fine, and more broken and confused in its structure, than the other kind. The cultivated kind yields three crops a year. The best fibre is obtained from young shoots. Urtica argentea is a nettle of the Society Islands, the fibres of which are converted into cord. Urtica dioica, *Roxb.*, Sinma, CHIN. The plants are thrown into the streams to poison fishes.—*Smith; Roxb.; Hooker, H. J.* i. p. 293; *Jur. Rep. Exh.*, 1851; *Royle, Fib. Plants; Fortune; Williams' Middle Kingdom; Hogg, Veget. Kingd.*

URTICA CRENULATA. *Roxb.*

Chor-patta, . . . BENG.	Daoun-shaitan, . TIMOR?
Mialim-ma, . . SIKKIM.	

A gigantic stinging nettle, a native of the hills and valleys on the east of Bengal, at Luckipur, Pundua Hills, and Assam. Dr. Hooker mentions that where the ground is swampy, this gigantic nettle abounds. It has an erect shrubby stem, with oblong acute leaves, having the margins crenulate or slightly dentate, both sides alike, the bark armed with acute burning hairs. The sting produces great pain, extending to the armpit; abates after two or three days, but does not disappear entirely for nine days. Major Hannay says of this and another gigantic stinging nettle, that they afford a quantity of fine white fibre, but apparently of no great strength, and, by report, not very lasting. Some of the hill tribes use the fibre for fabricating coarse cloths. According to Dr. O'Shaughnessy, it stings so terribly that it has sometimes occasioned very formidable symptoms. Another Urtica, the Daoun-shaitan, or demon nettle of Timor, is still more dangerous in its effects.—*O'Sh.; Royle, Fib. Pl.* p. 66; *Hooker, H. J.* ii. p. 339; *Roxb.* iii. p. 591.

URTICA HETEROPHYLLA. *Roxb.*

Urtica palmata, *Forsk.*	Girardinia Leschenaultiana, *Wall.*
Huru, ... ASSAM.	Alu, ... HIND.
An, Jan, Kal, . of BEAS.	Bichua (scorpion), . ,,
Henpa, Serpa, . . BHOT.	Keri . . . of JHELUM.
Bet ya, . . . BURM.	Ani shorinigam, MALEAL.
Kingi . . . of CHENAB.	Ein, Sanoli, . . of RAVI.
Theng mah, . . . CHIN.	Karla, Bhabar, of SUTLEJ.
Neilgherry nettle, . ENG.	

This is a fine tall nettle, with immense leaves and a vigorous sting. It is the most widely diffused of the large Indian nettles, being found in Burma, in Assam, in South Konkan, along the Malabar coast, in Mysore, the Neilgherries, in the valleys of the Himalayas, along the foot of the hills to the Dehra Doon, the northern valleys of the Himalaya, and in many places of the Panjab Himalaya as between Rampur and Sungnam, at 2500 to 7000 feet, where stems are often employed for making twine and ropes by the dry process; but in the N.W. Himalaya these are not prized, as they perish quickly from wet. It is an annual, with erect angular stems, marked with small white specks, in which are inserted stiff, most acute bristles, which produce intense

pain. The bark abounds in fine white, glossy, silk-like fibres, but these probably differ with the locality in which the plant is grown. To the Exhibition of 1851, specimens were sent by Dr. Wight, prepared in a rude way, by boiling, by the Todawar of the Neilgherry mountains. It was a beautifully fine and soft flax-like fibre, which the Todawar race use as a thread material, and, if well prepared, fitted to compete with flax for the manufacture of very fine textile fabrics. Mr. Dickson, by passing it through his machine and liquid, rendered it like a beautiful, soft, silky kind of flax, of which the tow would be useful for mixing with wool, as has been done with the China grass, and the fibre used for the finest purposes. Major Hannay says the Assamese use the fibre extensively in the manufacture of cloth. The Chinese prize it for the softness of its fibre, as well as for its strength. The plant grows wild all over the Neilgherries, it is well known to the natives, and its cultivation might be readily extended. The value put on the fibre was £70 to £80 the ton. As the seeds are quick of vegetation, the cultivation of this plant can be carried to any extent, and the supply might be largely increased, as the plant is abundant and widely distributed over the Indian Peninsula. The fibre from the bark of old wood was steeped in cold water for about six days. The bark of young wood was steeped in hot water for about 24 hours, when the fibre was found to separate readily from the pulp.—*Great Exhib. of* 1851; *Royle's Fib. Plants*, p. 67; *Stewart, P. Pl.; Cleghorn, P. Rep.* p. 68; *Mr. M'Ivor in M. E. J. Reports.*

URTICA HYPERBOREA. *Jacq.*

Zatud, Dzatsult, Stokpo, Tsodma, . . LADAKH.

A small species common in parts of Ladakh from 11,500 to 17,000, and occasionally to nearly 18,500 feet. Its young leaves are eaten as a pot-herb.—*Stewart*, p. 215.

URTICA INTERRUPTA. This large annual grows wild during the rains. The whole plant is covered with stinging hairs, like the common nettle.—*Riddell.*

URTICA JAPONICA. In Japan, its bark is made into lines, cordage, and cloth.

URTICA TUBEROSA. *Roxb.*

Chundur-muli, . BENG. | Chih ma, Tien ma, CHIN.

A nettle of Bengal, China, and the Moluccas, with very small greenish flowers. Its roots and shoots are eaten raw, boiled or roasted, and are nutritious.—*Roxb.* iii. p. 583; *Voigt*, p. 280.

URUMEAH. The very ancient city of Urumeah, Thebarma of Strabo, and supposed birthplace of Zoroaster, is situated in a noble plain fertilized by the river Shar, and on the south-west of the lake to which it gives its name. This town is 32 farsang from Tabreez, and contains a population of 12,000 souls.—*Malcolm's Persia*, ii. 138.

URUS. ARAB. The festival day of a Muhammadan saint, on which oblations are offered at the tomb; also oblations or offerings to a saint; also called Churaghan (lit. lamps or illuminations). Urus-i-baba budun, alias Hyat qalandar, Urus-i-bawa Fuqqur-ud-din, Urus-i-tabber-i-ālam, are Muhammadan ceremonies.

URUSAH-DAR PARDA. PERS. Lit. 'the bride in a veil.' The Indian gooseberry, Physalis Peruviana.

URUVILWA, or Budh Gaya, the town at which Gautama Buddha remained long in a state of abstraction under a Bo Tree.

URVA. The Aryans, in their migration, made their seventh settlement in Urva, the modern Kābul. The Record (in viii. verse 11) alludes to Urva, proved by Haug to be Kābul, the identity of which was previously unknown.

URVA CANCRIVORA. *Hodgs., Blyth.*

Gulo urva, *Hodgson.* | Viverra fusca, *Gray, Hard.*

The crab mungoose; it belongs to a genus of carnivorous mammals, of the family Viverridæ, and sub-family Viverrinæ. It inhabits Nepal, the S.E. Himalaya, Assam, and Arakan, and, according to Mr. Hodgson, it dwells in burrows and is carnivorous.—*Jerdon.*

URVA-PUNDRA. SANSK. An upright mark on the foreheads of the Vaishnava Hindus, made with bright red, yellow, and white colouring substances, to represent the footprint of Vishnu.

URVASI, a celestial nymph who incurred the displeasure of Mitra and Varuna, and descended to live with mortals. She became enamoured of Pururavas. Urvasi is the most famous among the courtesans of Deva-lokum, the heaven of the gods. She is the analogue of Daphne of the Greeks. Urvasi is the nymph of the drama Vikramorvasi by Kalidasa.—*Dowson.*

URYA, the language of Orissa. The original site of the Or or Ordu tribe appears to have had very narrow limits, viz. along the coast-line from the Rasikulia river near Ganjam, northwards to the Kans river near Soro, in lat. 21° 10′; but in the process of migration and conquest, under the Ganga Vansa line, the limits of Orissa (Or-des) were extended to Midnapur and Hoogly on the north, and to Rajamundry on the Godavery to the south. It is a tolerably pure dialect of Bengali. In the direction of Bengal, it follows the coast-line as far as the Hijilli and Tumluk divisions on the Hoogly. On the western side of the Midnapur district, it intermingles with Bengali near the river Subunreka. To the westward, the Gond and Urya languages pass into each other, and at Sonapur half the people speak the one and half the other language. About Ganjam the first traces of Telugu or Teling occur, though the Urya still prevails 45 miles south of Ganjam on the lowlands of the sea-shore, beyond which Telugu begins to predominate. At Chicacole the latter is the prevailing dialect; and in Vizagapatam, Telugu only is spoken in the open country, though Urya, in the mountains, runs farther down to the south. The Urya people are a tall, fair, somewhat slender race. Their country, Orissa or Or-desa, is bounded on the north by Bengal, on the south by the Northern Circars, on the west by Gondwana, and on the east by the Bay of Bengal.

USARA-REWAND, HIND., from Stalagmitis gambogioides, is real gamboge, imported into Ajmir via Pali; considered and used as a violent cathartic. The punsari or druggists suppose it to be the extract of Mirabilis jalapa root; the dose given is sixteen grains; one seer costs four rupees. —*Gen. Med. Top.* p. 148.

USHAS, in Hindu mythology, the dawn, by the ancient Hindus regarded and worshipped as a goddess, now supplanted by Aruna. As the dawn, the early morning, the first pale flush of light, Ushas is compared to a mother awakening her children; to a lovely maiden awakening a sleeping world; to a young married maiden

'like a youthful bride before her husband, thou uncovereth thy bosom with a smile.' As a goddess, she is styled the (Rig Veda, i. 123, v. 2) mighty, the giver of light; from on high she beholds all things; ever youthful, ever reviving, she comes first to the invocation:

> 'Hail, ruddy Ushas, golden goddess,
> Upon a shining car thou comest, borne like
> A lovely maiden by her mother decked,
> Disclosing coyly all thy hidden graces
> To our admiring eyes.'

Ushas, the dawn, the ηως of the Greeks and Aurora of the Romans, with the Hindus is the daughter of heaven and sister of the Adityas, and is called Ahana and Dyotana, 'the illumer.' She is one of the most beautiful myths in the Vedas. —*Dowson.*

USHIRA, a philosopher mentioned in the Padma Purana. His parents were Durvasa and Raka. He lived as a jogi at Sri Saila, and taught that the gods have no visible form, but are to be worshipped in the prayers and incantations of the Vedas.—*Ward*, iv. p. 44.

USHTERANI, an Afghan tribe, considered one of the most warlike of the tribes in the Sulaiman range. About the year A.D. 1840, they colonized in the skirt of the hills, where they hold perhaps 20,000 acres of arable land. They had been constantly engaged in feuds with the Kusrani, a tribe less warlike than themselves, but still by no means contemptible in spirit and enterprise.—*Records of Govt. of India*, No. 11.

USH-TURFAN, a small town, or properly settlement, consists of scattered habitations, possessing neither walls nor fortresses. Its district is said to have forty Yuz-Begi or centurion chiefs, consequently about 4000 houses; but according to other sources 6000.—*Russians in Central Asia*, p. 161.

USIJ, a handmaid of the queen of the Kalinga raja, with whom the sage Dirghatamas associated, and their son Kakshivat was born.

USITA, the father of Sagara, who, on being expelled by hostile kings of the Haihya, the Talajungha, and the Susuvindha races, fled to the Himvat mountains, where he died, leaving his wives pregnant, and from one of these Sagara was born. It was to preserve the Solar race from the destruction which threatened it from the prolific Lunar race, that the Brahman Parswa Rama armed, evidently proving that the Brahmanical faith was held by the Solar race, while the religion of Buddha, the great progenitor of the Lunar line, still governed his descendants. This strengthened the opposition of the sages of the Solar line to Vishwamitra or Buddha of the Lunar line obtaining Brahmanhood.—*Tod's Rajasthan*, i. p. 36.

USMAN, the third khalif successor of Mahomed, A.D. 644 to 656.

USMAN or Othman, founder of the dynasty ruling in Constantinople, was at first the chief of a small territory in Bithynia; but in A.D. 1299 he invaded the whole country of Nicæa, and subsequently extended his country as far as the Black Sea. He was styled Al-Ghazi. Born at Sukut in Bithynia A.D. 1259, died 1326.—*Catafago.*

USMAN KHEL. Towards the lower extremity of the Swat valley, a formidable range of hills bounding the valley runs for many miles from east to west, nearly parallel to the British frontier; and at the eastern extremity of this range stands the Mora mountain. Between this range and the frontier, however, intervene two tracts, named Ranizai and Lower Osman Khel, both quasi-dependencies of Swat. The best of the passes leading into Swat is one named Mullakund, which opens from Ranizai. A little farther to the eastward of Ranizai, also, there are some passes, leading into the Lunkhor valley, which belong to British Yusufzai. These latter passes are not available for passage from Swat to British territory, because, leading into Lunkhor, they can be stopped by any party holding that valley. The passes via Ranizai and Usman Khel, if the people of those tracts accord a passage, lead straight on to the British plains of Hashtnagar. Above the Lunkhor valley, just beyond the British frontier, is the strong village of Pulli. The subdivisions of the Peshawur district, adjoining the tribes above described, are Lunkhor or north-west corner of Yusufzai, and then Hashtnagar. Ranizai and Lower Osman Khel tribes are subordinate to Swat.—*Elphin. Caubul*, p. 353.

USNEA, a genus of plants belonging to the natural order of lichens. The Usnea plicata, in common with the Roccella tinctoria and other lichens, is used as a dye.—*Eng. Cyc.* See Dyes.

USTAD. HIND. A teacher, a schoolmaster; a master, especially in the shawl trade.

USTAGHFAR. ARAB. Deprecation. Ustaghfar Allah, God forbid.

USTUKHUDUS. HIND. An odoriferous labiate plant, which has generally been attributed to the Lavendula stœchas, but it is a species of Prunella.—*Powell, Handbook*, i. p. 320.

UTAKAMAND, Ootacamund, or Ontikalmanda, a municipal town in the Neilgherry Hills district, Madras, lat. 11° 24′ N., long. 76° 44′ E., containing 10,319 inhabitants. Ootacamund is the chief sanatorium of the Madras Presidency. It lies 7228 feet above sea-level; annual rainfall, 44·88 inches; mean temperature, 58° F. Botanical Gardens (51 acres) were opened during the governorship of the Marquis of Tweeddale (1842-48). It is approached by four ghats,—Coonoor, Seegoor, Kotagherry, Neddiwuttum, and Goodaloor. Ootacamund is nearly in the centre of the table-land of the Neilgherries at the foot of the western face of the peak of Dodabetta, and except to the N.W. the station is completely surrounded by grass-covered hills. Houses are scattered about, with gardens and plantations of Eucalyptus and Acacia, and the broad, excellent roads are bordered by Cassia glauca bushes, honeysuckles, foxgloves, geraniums, roses, and masses of the tall Lobelia excelsa. The population consists of Europeans, East Indians, but mostly migratory. Every European house has three or four fires daily. Ice forms in December and January mornings in the hollows and valleys, scarcely half an inch thick, but sufficiently consistent for all freezing purposes. On the Neilgherries, coffee, tea, and chinchona can be grown to any extent.

UTRARHI, a Sudra caste of Bengal, who at their feasts throw away all the food that is set before them.—*Ward*, iii. p. 977.

UTRASUM. TAM. Utrasum beads are seeds of Elæocarpus ganitrus and of Elæocarpus lanceolatus.

UTRICULARIA, a genus of plants of the natural order Pinguiculaceæ of Lindley. They are watery or marshy herbs, and about 22 species are known to occur in the E. Indies. In British India, U. diantha, fasciculata, nivea, reticulata, and stellaris. According to Walton, one species grows in the Philippine Islands, from the joints of which issues a tendril like that of a vine, at the extremity of which is placed a small receiver resembling a cruet with a neck, and on the top is placed a valve, which serves the place of a stopper. The receiver always stands erect, and is filled with a sweet and pleasant water, except at certain hours, when the valve naturally rises to give room for evaporation; otherwise the repletion could not take place. The contents of four or six of these little vessels are sufficient to quench the thirst of one person. This plant is found in the province of Bisaya, in the island of Luzon; it is evidently one of the pitcher plants.—*Roxb.* i. p. 143; *Walton's State*, p. 121.

UTRICULARIA BIFLORA. *Roxb.* Chota janji, BENG. A leafless floating plant, grows near Calcutta, at the end of the cold and beginning of the hot season, in stagnant water, along with U. fasciculata.

UTRICULARIA FASCICULATA. *Roxb.*
Janji, ... BENG. | Natsao, ... TEL.

Found floating in stagnant water in the vicinity of Calcutta, at the end of the cold and beginning of the hot season.

UTRICULARIA STELLARIS. *Linn.* Buro janji, BENG. A floating water plant of the still, sweet water lakes of Egypt, Ceylon, and of most parts of India. Its roots become distended with air, and these raise the plant to the surface till its flowering is over, when it settles down to deposit its seed in the ground.—*Roxb.* i. p. 143.

UTTARA NAISHADA CHARITA, a poem by Sri Harsha on the Life of Nala, king of Nishada, written about A.D. 1000.—*Dowson.*

UTTARA RAMA CHARITA, a drama by Bhava Bhuti, descriptive of the latter part of the life of Rama. The drama is based upon the Uttara Kanda of the Ramayana, and was probably written about the beginning of the 8th century. It has been translated twice, viz. by Professor Wilson, and by Professor C. H. Tawney.—*Dowson.*

UTTAR-PUJA. HIND. A Hindu ceremonial, dispossessing an image of the deity.

UTTARUKURU, the northern regions. According to Hindu geographers, the continent north of Maha Meru. See Aryans.

UTTFA. ARAB. A large camel howdah, used by the Roala and Ibn Haddal and Ajman Bedouin tribes, when expecting a pitched battle. It is a huge cage of bamboo, covered with ostrich feathers. A girl is placed in it, who sings during the fight, and encourages the combatants. Formerly each large Bedouin tribe had one of these.—*Lady Anne Blunt*, ii. p. 146.

UTTHANAIKA-DASI. SANSK. The day on which Vishnu is supposed to arise from his four months' sleep, being the close of the rainy season. It is the 11th lunar day, which sometimes falls in Kartik, sometimes in Agrahayana.

UVARIA, a genus of plants belonging to the order Anonaceæ or custard apple tribe. About 42 species belong to the E. Indies; those growing in Burma, the Pad-da-gnan, the Ta-mot, the Tauka-dat-gnan, and Tha-myo-pra-tha, have not as yet been specifically determined. U. bicolor, *Roxb.*, and U. bracteata, *Roxb.*, are trees of Sylhet; U. heteroclita is a plant of the Garo Hills; U. elongata, *Roxb.*, is a plant of Chittagong; U. ventricosa, *Roxb.*, is found in Tiperah, and U. macrophylla in Sylhet and Chittagong. A species of Uvaria, Karee, HIND.? a tree of Jubbulpur, has wood used by natives for making toys. Another Uvaria, Beta-goonda, CAN., grows in the Canara and Sunda forests, and in the jungles inland of Nilcoond, with wood of rather superior quality, being straight and tough. Another species of Uvaria, Thub-bor, BURM., a large tree of Tavoy, has a wood used for boat-building; and a fourth species of Uvaria, Hoom, MAHR., occurs in the Canara and Sunda forests, in jungles east of Kursuli or Black River. It runs tall and straight, wood strong and useful, but is not much known. Dr. Roxburgh described 22 species, but several have since been referred to other genera. —*Dr. Gibson; Voigt*, pp. 14, 15; *Cal. Cat. Ex.*, 1862; *Mr. Blundell.*

UVARIA GRANDIFLORA. *Roxb.*
U. purpurea, *Bl.* | Unona grandiflora, *Lesch.*

A shrub of Burma, Tenasserim, and Sumatra, with large crimson flowers, changing to dark purple. Its fruit has the taste and appearance of the North American pawpaw, and they are members of the same natural family.—*Roxb.* ii. p. 665; *Mason; Voigt.*

UVARIA NARUM. *Wall.*
Uvaria Zeylanica, *Lam.* | Unona narium, *D.C.*

Narum panel of Malabar, a greenish, sweet-smelling oil, which is used medicinally as a stimulant, is obtained by distillation from the roots. The roots are employed in the Mauritius in decoction as tonic and stimulant, and are externally applied for destroying vermin.—*Simmonds; Eng. Cyc.; O'Shaughnessy*, p. 193.

UVARIA ODORATA. *Lam.* Unona odorata, *Don.* A small tree of Burma, Martaban, the Tenasserim Provinces, Sunda, the Moluccas, and China.—*Voigt; Dr. Mason.*

UVARIA TOMENTOSA. *Roxb.* Pedda chilka dudugu, TEL. This has a very strong yellow wood, much similar, but superior, to Nauclea cordifolia. The carrying shoulder sticks or cowar are made from it, also used in house-building; it does not warp.—*Roxb.*

UVARIA TRIPETALA. *Roxb.* Unona tripetala, *D.C.* A tree of the Moluccas. Its largish, greenish-yellow, inodorous flowers appear in March, April, and May.—*Roxb.; Voigt.*

UVULARIA GRANDIFLORA, *Hoffman* and *Schultz*, the Pei-mu and Hiang-ming of the Chinese. A plant of China. Its corms are dug up in spring and in autumn, and are of two kinds,—a larger which is the cheaper, and a smaller, the latter named by the Chinese mother-of-pearl.—*Smith, M. M. C.*

UZBAK or Uzbek, a Turanian race found on the Oxus, in Balkh, Kunduz, Khost, Inderab, Talikhan, Huzrut-Imam, Andkhu, Shibbargan, and Bokhara. In all these districts the Uzbak are mixed with Tajak, the latter being the older inhabitants. The Uzbak are the resident civilised inhabitants of Central Asia. Their physical form has become considerably changed from being intermixed with ancient Iranians, and with many slaves from Persian Iran. The typical Uzbak in Khiva has a broad full face, low flat

forehead, large mouth; while those of Bokhara are less marked. In the neighbourhood of Kashgar and Aksu, the colour is from yellowish-brown to blackish; in Khokand brown, and in Khiva white. Timur was an Uzbak Tartar, but Uzbak power rose on the ruin of the Timur dynasty. The Uzbak considers himself more orthodox than the Afghan. As an ocular demonstration of God's blessing upon their nationality, he points out the numerous tombs of saints scattered all over Turkestan. He invites the Afghan to show him, in his turn, the number of his saints; to enumerate, if he can, how many men of his tribe have won the grace of God and become saints. He taunts the Afghans, who are Sunnis, with having no saints of their own, and being therefore obliged to go in pilgrimage to the Shiaite city, Mashed. They have 32 chief divisions, all known by names, many of them similar to those amongst the Kazak, and from this Vambery supposes the Uzbak to be a colonizing tribe. The Uzbak are Muhammadans. In Khiva and some parts of Chinese Tartary they are brave and warlike, and in this respect they are distinguished from all the other Central Asiatics. Although settled, they retain nomade customs, building houses for stables and granaries, but preferring the raised tent to dwell in. Uzbak men have pretty thick, but never long, beards. The women long retain their white complexion, and, with their large eyes, full face, and black hair, they are not displeasing. In Central Asia, they are highly renowned for their beauty. The Uzbak of Balkh are simple, honest, and humane. Uzbaks are fond of racing at festivals. The Uzbak horses and the horses in Bokhara and Maymena possess more strength than speed. The bride retires to a screened part of the tent, and is followed by the groom.

Mouravief supposes Uzbak to be derived from Uz, his or himself, and Bek, master, thus meaning master of himself, or independent. Klaproth derives it from the people called Ouz or Gouz. By the Arab historians, these were the same as Uigur, a Turkish tribe which formerly inhabited the countries to the south of the Celestial Mountain, that is, Little Bokhara. At the commencement of the 16th century, the Uzbak passed the Sihon or Jaxartes, proceeding westward. Everywhere they spread terror and desolation. They are at present in Balkh, Kharazm or Khiva, Bokhara, Fargana, and some countries in the neighbourhood of Mount Belur Tagh. The Uzbak tribes who inhabit Khiva are the Uigur, Naiman, Kangli-Kapchak, Kiat-Konkrad, and Noikious-mangood. Vambery says the term was in use among the ancient Hungarians as a titular term.

When Uzbak Khan was lord of Dasht-i-Kapchak, he introduced the religion of Islam into his dominions. On the death of Uzbak Khan in 1342, his son, and afterwards his grandson, followed him; but in 1360, Urus Khan, descended from a younger son of Jojy, became sovereign of Kapchak. The seventh in succession from Jojy was much revered by his subjects, and from that time, according to Abul Ghazi Khan, who is partly supported by Khondemir, they called themselves Uzbak; and eventually the Uzbak expelled the descendants of Timur from Mawur-un-nahar, and they still retain possession of Khiva, Bokhara, and Khokand.

Uzbak are the dominant tribe in Khiva. In the 16th century they came from the east of Bokhara, and wrested Khiva from the Sart. They are settled as agriculturists, gardeners, fishers, and fill the highest offices, own the little strongholds, and possess all the lands. The wealth of the Sart is in their houses; the rich Uzbak buy arms. The Uzbak wealth is in land and slaves. He is a hard master, of a sullen and joyless disposition, prone to gross and brutal indulgences. His intellect is dull. They have 32 taifé or tribes,—Akbet, Altchni, Atchmayli, Az, Balgali, Boikulak, Bugurlu, Dormen, Ichkili, Jagatai, Jelair, Kandji-galay, Kanli, Karakursak, Kenegoz, Kettekeser, Khitai, Kiet, Kipchak, Kulan, Kungrat, Manghit, Ming, Mitten, Nayman, Nogai, Noks, Sayat, Taz, Tyrkysh, Uigur, Ushun.

Mouravief estimated their numbers at 30,000 families, E. Kuhlivein, together with the Sarts, at 400,000, and Abbott at 100,000. The Kataghan tribe of Uzbak inhabit the Kunduz province of Afghanistan, north and south of the Oxus. They number 42,000 families.—*Collett, Khiva; Vambery, Bokhara*, p. 244; *Dr. Wolff's Bokhara*, i. p. 312; *Klaproth, Note; Mouravief, Bokhara*, p. 395; *Ferrier's Journey*, pp. 89, 90; *Markham, Embassy*, p. 35; *MacGregor*, p. 527.

V

V. In the English language this letter has only one sound, as in gave, give, love, dove; but in the oriental tongues the initial v is often changed into b or w, and the final v into u. In Sanskrit, v has the same sound as in English; but in Bengali and Uriya, the Sanskrit v is always changed into b, as bari for vari, barsha for varsha; and the same change often occurs in Hindi, as baras for varsha, sambat for samvat; in Bengali, also, which has no v, u is a usual substitute for v; in Gujerati this is reversed, and v is written for b, as vighu for bigha, vimo for bima. Also, in all dialects, particularly amongst the illiterate, there is a tendency to approximate the sound of v to that of w, or to substitute w for v. In Tamil, the change is not uncommon even in the written language, and varam is frequently written waram. The letter wau of the Persian is often pronounced vau; and in the Urdu or Hindustani the pronunciation of the wau is as often that of w as of v, as wakil, vakil; wazir, vizir; darwesh, darvesh; and all Hindus frequently change the wau into a b, as walaiti, balati; nawab, nabab, the nabob of the English. In Mahrati there are both sounds for the same letter, the one exactly like w, the other more like v.—*Wilson.*

VACCINATION, the process of inoculating with the virus from the pox of the cow, in Latin vaccus. The natives of India usually designate it as Tika dalna, to affix the tika, or Sitla nikalna, to remove the small-pox. The British Indian Government keep up great establishments to carry out vaccination, but it has not yet found general favour amongst the natives. Masson says that the camel in Baluchistan is liable to variola, and that the milkers who take this disease are exempt from small-pox attacks. Dr. Cullimore at Mandalay was informed by intelligent natives that a second inoculation is occasionally necessary, and that there are some who, from the hereditary influence

of the disease or some occult causes, are never susceptible to variolous inoculation. Dr. Huillet, late of Pondicherry, undertakes to show that vaccination was known to a physician, Dhanwantari, who flourished before Hippocrates.

VACCINIUM LESCHENAULTII. *Wight, Ic.*

V. arboreum, *Lesch.* | Agapetes arborea, *Dun.*
Andromeda symplocifolia, *W.* | Andoovan, . NEILGH.

A small or middling-sized very pretty tree, abundant on the Neilgherries at the higher elevations, and on the Animallays, Pulneys, and Ceylon mountains. The fruit is about as large as currants. It is an agreeable acid, and makes good tarts. The wood is rose-coloured, with a red heart, wavy-grained, and pleasant to work, and would be excellent for cabinet-work. The Vacciniaceæ, or bilberry tribe of plants, are small trees or shrubs, of which about 13 species are known to occur in the south and east of Asia, in the Neilgherry and Khassya mountains, Tavoy, and Java, in the genera Vaccinium, Gaylussaccia, and Thibaudia.—*Beddome, Fl. Sylv.*

VACH, the Hindu goddess of speech. She is variously described in the Brahmanas, Upanishads, the Mahabharata, and the Puranas, and is identified with Viraj, Satarupa, and Saraswati, styled the divine Vach, queen of the gods, mother of the Vedas, the daughter of Kama, spouse of Brahma, and mother of wisdom and eloquence. Vageswari, another name for the consort of Iswara, and the goddess of speech. Iswara, in this character, is called Vagiswara or Vagisa, the lord of speech. He is also called Siro Deva. —*Moor; Coleman; Garrett.*

VACHASPATI MISRA, author of the law book Vivada Chantamini, of the Mithila school.

VACHELLIA FARNESIANA. *W. and A.*

Mimosa Farnesiana, *Roxb.* | Acacia Farnesiana, *Willde.*
M. Indica, *Poir.* | A. Indica, *Desv., D.C.*
Jali mara, ... CAN. | Vaday valli maram, TAM.
Guya babula, BENG., HIND | Tumma, Kasturi, . TEL.
Iri babool, . . . MAHR. | Arimedamu, . . . ,,
Urimeda, Sami, . SANSK.

This armed shrub grows throughout South-Eastern Asia, from Sind and the Himalaya to Malacca, is very common in the Dekhan, Mysore, and Coimbatore. It furnishes a good, hard, tough wood, greatly resembling that of the babool or Acacia Arabica, but the size is very small. It makes excellent ship knees and tent pegs, and it exudes a useful gum-arabic freely and in considerably quantity, from 5 to 12 lbs. annually. The small, deep-yellow, powerfully-smelling, globular-headed flowers, under the name of wattle-flowers, are much employed in perfumery for their delicious fragrance.—*Wight; M. E. J. R.; Voigt; Mason; Rohde.*

VADA, also Wara. GUJ., MAHR. A ward or quarter of a town, as Bahman-wara, the Brahma quarter; Dher-wara, the Dher quarter.

VADA. TAM. North. Vadagalai, lit. the northern branch, a sect among the Tamil Vaishnava, the other sect being the Tenkalai or southern sect. (See Vaishnava.) The Vadagalai sect place two white oblong marks on each side of their foreheads, made of a white earth called teruman, to represent the feet of Vishnu, and in the centre of each mark a red spot or teruchurnam (holy powder) made of rice flour, to represent Lakshmi, the wife of Vishnu. The marks of the Tenkalai are similar but broader, and with a little spot over the root of the nose. The ceremonials of the Vadagalai are more numerous than those of the Tenkalai. Their religious teachers are not celibates. Their upper arms are branded with the chank (sanka) and disc (chakram). They travel with their families, visiting and instructing their disciples. See Left-Hand Caste; Right-Hand Caste; Vaishnava.

VAGHARI or Wagri or Bagri. GUJ. A race of fowlers who snare with nets.

VAHAN. SANSK. A vehicle of the Hindu gods. An animal is appropriated as the vahan or vehicle to each of the mythological personages of modern Hinduism. The swan, eagle, and bull appertain respectively to Brahma, Vishnu, and Siva, and are severally denominated Hanasa, Garuda, and Nandi. Ganesa, eldest son of Siva and Parvati, the elephant-headed god of prudence and policy, rides a rat, supposed to be a very sagacious animal. Kartika, their second son, the generalissimo of the celestial armies, mounts on a peacock. Indra, the powerful regent of the firmament, the Jupiter Pluvius of the Hindus, rides the elephant Airavata, symbolical of might. Varuna, genius of the waters, bestrides a fish, as doth also Ganga, the prime goddess of rivers. Kama Deva, the god of love, is carried by a lory or parrot. Agni, god of fire, has an ardent ram. The Hanasa of Brahma is a goose or swan; Vishnu's Garuda is half man, half bird, and now, in Southern India, identified with the Haliastur Indus, *Bodd.*, or Brahmany kite; Vayu or Pavana, an antelope; Yama, a buffalo; Mungula or Mars, a sheep; Budh, a lion; Shuni or Sani (Saturn), a vulture; Rama, a monkey; Durga or Parvati, a lion and bull; and the other goddesses, the vahans of their respective lords. Kuvera has the horse; Parvati as Durga and Kali rides on the lion and tiger.—*Coleman; Moor; Paterson; As. Res.* vii. p. 48.

VAIJA YANTI, a law book, a commentary by Nanda Pandita on the Vishnu Smriti.—*Dowson.*

VAIKUNTHA or Vaibhra, in Hindu mythology, is the paradise or celestial abode of Vishnu, where he enjoys beatitude in the elysium of Lakshmi's lap. Vaikuntha has been located in the frozen ocean, and sometimes in a subterranean sea of milk. The heaven of Vishnu is described as entirely of gold, and 80,000 miles in circumference. Its edifices, pillars, and ornaments are composed of precious stones. The crystal waters of the Ganges form a river in Vaikuntha, where are lakes filled with blue, red, and white water-lilies, each of a hundred and even a thousand petals. On a throne, glorious as the meridian sun, resting on water-lilies, is Vishnu, with Lakshmi or Sri, the goddess of abundance, the Ceres of the Egyptians and Greeks, on his right hand, surrounded by spirits, who constantly celebrate the praise of Vishnu and Lakshmi, who are served by his votaries, and to whom the eagle Garuda is door-keeper.—*The Mahabharata; Ward, Hindoos*, ii. p. 14; *Moor's Pantheon*, p. 23.

VAIMANIKA, one of the four classes of divine beings reckoned by the Jains.—*As. Res.* xvii. 274.

VAIPEEN. In the year 1341, the sea threw up the small island of Vaipeen, on the north side of Cochin. The waters, breaking through the banks of the river Cocci, swept away the village, and formed a large river and backwater, and so spacious a harbour, that large ships can lie safely

at anchor in the river on the north-east side of the town of Cochin. Vaipeen is thirteen miles long, and one broad. The natives date their era from the period of its origin. It is called the Poodooveypa, from two Malealam words, Poodoo, new, and Veypa, foundation.

VAISAKHA. SANSK. The first month of the Hindu solar year (April—May), the second of the luni-solar.

VAISALI, a famous ancient city of India, founded by Visala, son of Trinabindu. It is a place of Sakya's labours. Its site is now unknown. General Cunningham has supposed it to have been 27 miles N. of Patna, on the left bank of the Ganges. It has also been supposed to be the modern Allahabad. It is not Visala, which is the modern Ujjayini (Ujjain).

VAISAMPAYANA, a learned man who assisted Vyasa in arranging the Vedas.

VAISESHIKA, one of the two great divisions of the Nyaya philosophy established by Kanada, who taught that light is the visible form of God; that spirit and animal life are separate; that when the desire of creation arose in the divine mind, he first gave existence to water, and then to innumerable worlds floating on the waters like the mundane egg; that in these primeval eggs water was contained, on which lay Vishnu, from whose navel issued a lotus, in which Brahma was born, who, receiving instructions from God, created the world first from his mind, and then with the primary atoms.—*Garrett.*

VAISHNAVA, Hindu sectarians, followers of Vishnu. All Vaishnava sects identify Vishnu with Brahma. The subdivisions of the sect are the Bhakta, Bhagavata, Vaishnava, Chakrina or Pancha Ratrava, Vaikhanasa, and Karmahina; each of these again being divided into a practical Karma and a speculative Inyana or G'niana portion. The great teachers have been Ramanuja, Ramanand, Kabir, Asanand, Rai Das, Sena, Dhunna, Pipa, Sur Das, Tulsi Das, Harischandra, Vallabhacharya. Vishnu is believed to have become repeatedly incarnate. Vishnu is now but seldom worshipped, and the sects attach themselves to the worship of Rama and his wife Sita, and to Krishna with his mistress Radha, and to local deities whom the worshippers believe to be incarnations of this deity.

The four principal sects were founded by Ramanuja, Madhava, Chaitanya, and Vallabha. The Ramanuja sect was again divided into two sub-sects, Vadagalai and Tenkalai. The Vallabha sect hold that the way to salvation was through eating and drinking and enjoying the good things of life. In opposition to this sensual view of religion, a modern reformer, Swami Narayana, founded a new sect, and wrote his Sikshapatri, consisting of 212 precepts, which give a good idea of the purer side of Vaishnaism.

Amongst Vaishnava Hindus, in the south of India, the Suttuthavan, TAM., are rigid Vaishnavi; are to the Vaishnavi what the Vira Saiva are to the Saivavi. They are flower-selling minstrels and vagrant mendicants. They are said to have a communism of women, but if so, the practice is unknown to their neighbours.

In Bengal, one-fifth of the population are worshippers of Vishnu in the form of Krishna, and the followers of Ramanand and Kabir are the principal subdivisions of this sub-sect.

The Charan Dasi worship Krishna and Radha. It was founded by Charan Das, who lived in the reign of the second Alamgir, and was a merchant of the Dhusar tribe, a resident of Dehli. His followers are both clerical and secular. At Dehli is the Samadh or monument of the founder.

The division of Gocalast'ha, or worshippers of Gocal or Krishna, is subdivided into three:—

1. Exclusively worship Krishna as Vishnu himself; this is generally deemed the true and orthodox Vaishnava.

2. Exclusively worship Radha as the sakti of Krishna or Vishnu; this sect is called Radha Vallabhi.

3. Worship Krishna and Radha conjointly.

As the Saiva has a fourth undivided sect in the Ganapatya, so the Vaishnava has a fourth undivided sect in the Bhagavata, who recognise all divinities equally.

Most of these comprise a number of subdivisions, and besides these acknowledged classifications, many individual mendicants are to be found all over India who can scarcely be included within the limits of any of them exercising a sort of independence both in thought and act, and attached very loosely, if at all, to any of the popular schismatical sects.

In the south of the Peninsula of India, the Vaishnava have separated into the Tengala and Vadagala sects. The Tengala follow the precepts of Manavala Manumi or Ramyaja Matri, and the Vadagala claim Vedantacharya or Vedanta Desika as their expounder. Both of these holy men were pupils of the same teacher, Ramanuja-Charya. Both sections speak respectfully of the other; both sects worship Vishnu, and, with some minor differences, use the same rites; nevertheless occasionally, at the great festivals, disputes between the two sects often run high, with rioting and bloodshed; also, if of the same caste, they eat together and intermarry, so that the points of difference apparently cannot be of vital importance, but among no other sects have the quarrels been so frequent and so bitter. Since A.D. 1830, in Madras city, owing to the care bestowed by Mr. Edward Elliot, the chief magistrate of police, violence has been put a stop to. The words Tencalei and Vadacalei mean Southern Veda and Northern Veda, and it is surmised that the disputes originated from the assumption by Northern Brahmans of authority over the Southern Vaishnava, and attempts to interfere with their customs and rites. The sects themselves are unable to make the causes of dispute intelligible, but all castes of Hindus are accustomed, by marks on their foreheads, to indicate the sect to which they belong. Accordingly, all Vaishnava mark a trident-like longitudinal mark; but the Tengala commence the middle line a little way down the nose, and the Vadagala only from the root of the nose. Vaishnava women do not make a trident mark, but only a single upright line from the nose to the hair. The Tengala or Southern Veda sect. are the most numerous in the southern provinces.

Vaishnava missionaries have largely taught in the women's apartments of Calcutta. The finest temples in Northern India owe their origin to this sect, who have come to regard themselves as a distinct caste. They are known in Bengal as the Baisnab, a dialectal change of Vaishnava, appertaining to Vishnu, but they are not a numerous

sect; in Bengal they have only 428,000 followers; in Southern India, the followers of Chaitanya are known generally as the Satani, which is supposed to be a variation from Chaitanya, or taken from Sanatana, one of Chaitanya's most celebrated disciples; in the southern part of India, they are almost all of the Teling-speaking people, but they have not become numerous.

The most deplorable part of the Vaishnava worship of the present day is that which has covered the walls of temples with indecent figures, and has filled their temples with licentious rites.

As a rule, the dead of the Vaishnava Hindus are burned. As death draws near, a lamp is lit at the bed-head, and a homa sacrifice performed with camphor and a cocoanut; and as life dies away, the five elements are dropped into the mouth of the moribund from a tulsi leaf. Within two or three hours the body is lifted, and this is done early, as none of the household nor any of the neighbours can partake of food until the remains be disposed of. The pile of wood or cow-dung cakes used is about two feet high, and on it are placed some tulsi leaves, a little sandal-wood; and the deceased is laid with his feet to the north. When laid on the pile, a cloth is placed over the face, and raw rice is placed on it over the mouth. The heir of the deceased places a charred bit of sandal-wood or a tulsi branch at each corner of the pile, and a Vityan sets fire to the mat, using fire taken from the sacred fire lit at the bedside of the dying man. On the following day the heir and friends visit the pile, remove the skull and the bones, on which he and all with him pour water and wash them,—wash them with the sikai, anoint them with oil and honey, and clean them with milk, and place them all on plantain leaves anointed with butter. A young cocoanut shoot is then placed on the skull, and the whole put into an unburned earthen pot, and taken or sent to a river or to the sea, the person who conveyed it returning to the temple, where he pronounces aloud the deceased's name, and adds 'pray for him.' Often they are sent to a holy river, even to the Ganges at Benares. The adult male relatives shave. The hair of the Brahman widow's head is shaved. The body is not always carried through the doorway of the house. If it be an inauspicious day, or if the house door be so placed that the courtyard has to be crossed, then the remains are carried through an opening broken in the wall. The remains are unclothed for the last rites. Children under eight years of age and unmarried girls are buried, as also are all who die of small-pox, as the belief is that this ailment is a manifestation of the presence of the goddess Ammun, Mariathi, or Kali, and the anger of the goddess would revert to the family if the body were burned.—*Wilson.*

VAISYA, also Vais, or Bais, or Vesia, the third of the four grand social divisions of Hindus; commonly merchants, traders, cultivators, but individuals of the three others are found practising the duties supposed to be exclusively allotted to the Vaisya. Their industry and economy is striking. The natural duty of the Vaisya is to cultivate the land, tend cattle, and buy and sell. Amongst the earliest dissenters from Indra were the Yadu race, under Krishna's influence. The reasons leading him to this are not known, but the Mahabharata makes him say to Nareda, his father:

'Why worship Indra as the supreme god? O father, we are Vaisya, and our cattle live upon the pastures: let us therefore cease to worship Indra, and pay our devotions to the mountain Govardhana.'

Up to that time it is to the heaven of Indra that the good who die proceed.

Vaisya comes from a Sanskrit root, which is found in many Aryan tongues,—Sanskrit, Vesa, a house; Oikos, Greek; Vicus, Latin; Veihs, Gothic; German, Wich. Dr. Hunter says the Vaisya caste, literally the vis or body of the Aryan settlers, were in ancient times the tillers of the soil. They have gradually abandoned this laborious occupation to the Sudra and mixed castes, and are now the merchants and bankers of India.—*Imp. Gaz.*

VAITARANI. SANSK. To be crossed; the river to be crossed before the infernal regions can be entered.

VAIVASWATA, Yama, or Dharmaraja, also Vaivaswata Menu, 'The man, son of the sun,' the seventh Menu. He was the son of Surya and father of Ikshwaku, the founder of the Solar race of kings.—*Tod's Rajasthan*, i. p. 24. See Deluge.

VAJRA. SANSK. The thunderbolt of Indra. It is a circular weapon, with a hole in the centre; others say two cross bars. Vajra-nabha, the discus of Krishna. Vajra-pani, bearer of the Vajra.

VAJRA SAKHA, the divisions of the Jains established by Dasapurni Vajraswami, the founder of the Mahanisitha sect.—*As. Res.* xvii. p. 287.

VAKIL, an attorney, an ambassador or agent. It is pronounced also Wakil, and in Baluchistan is a person who transacts every kind of business for another. In Persia, the Vakil is still an officer in the courts of justice, called Vakil-ur-Raya, or 'the advocate of the people.' In the justiciary courts of the British in India a Vakil is a pleader. —*Malcolm's Persia*, ii. p. 453; *Pottinger's Tr.*

VAKILA, a weight used in Arabia for spices, etc., consisting of 10 coffola and nearly 1¼ oz. English; in Bussora, the heavy vakila is 4833 lbs., and the light weight for spices, etc., 1166 lbs.—*Simmonds' Dict.*

VALAI. TAM. Silurus boalis of Hamilton, a fish of the Peninsula. The Valai takes equally well during all the months of the year; the best time to fish for it is from daylight until the sun gets hot, and from four in the afternoon till sun-down; but where weeds or water-lilies exist, the middle of the day is equally as good a time. This fish takes best of all, however, on moonlight nights. The most killing bait is a live bait of about four inches in length, and Kowlie (HIND.) are the strongest and liveliest among the many available sorts to choose from. The Valai is to be found in still, running, deep, and shallow water, but generally in the centre of the stream by day and near the banks at night. This fish, like many others, bites freely after rain when the water is coloured. Its mode of rearing its young differs from that of the cat-fish. The fry swim about near the top of the water while the parents keep watch about a foot below. The Valai is not the Silurus wallagoo of Russell, but the Silurus boalis of Hamilton. The Olai Valai is not the sword-fish; some of these fish are to be seen at any time in the different fish markets.

VALA KHILYA or Kharwa. In Hindu

mythology, 60,000 pigmy sages sprung from the hairs of Brahma. They are guards of the chariots of the sun. Professor Wilson supposes them to be connected with the character of Daumling, Thaumlin, Tamlane, Tom-a-lyn, or Tom Thumb. —*Dowson.*

VALANGANY, about six miles south of Negapatam, has a chapel dedicated to the Virgin Mary, and under the jurisdiction of the Goanese priesthood. According to tradition, an enceinte woman was wandering on the barren plains of Velangany. In her hour of need a lady appeared, and told her where she would find a tree thick with cool and shady foliage, on the brink of a pool of water. She found the shelter, and was delivered of a beautiful child. Some days after, the lady reappeared and told her that she would meet on her way an old man, to whom she was to mention that at the bed of the pool there lay a statue. She met the old man, and he found an image of the Virgin Mary. The chapel was soon after built, the image placed in it, and a prettily-devised altar erected by a Portuguese ship captain, in conformity with a vow made by him when caught in a storm off the port of Negapatam. The Velangany festival attracts a large number of people from Madras to fulfil their vows and present offerings. Many heathens take part in this festival, make their offerings as if they were Christians, and pray to the Virgin for her protection. Some of these people go through acts of bodily penance, such as rolling their naked bodies for a long distance over hot sandy plains under the noonday sun.

VALANKAI or Valangai, in the south of India, the right-hand caste of Hindus, of which there are 18 sections, viz. :—

1. Banijaga or trader.
2. Okhalaga, cultivator.
3. Jotiphana, oil maker, employing the bullock.
4. Rangijiva, dyer or calico-printer.
5. Ladaru, Muhammadan traders and artificers.
6. Gujerati, Gujerat merchants, bankers.
7. Komati, shopkeeper, traders of the Vaisya.
8. Jaina or Jain.
9. Kurubar, shepherd and wool-worker.
10. Kumbara, potter.
11. Agasa, washerman.
12. Besta, fisherman, palanquin-bearer.
13. Padma sholaysa, a kind of weaver.
14. Naindu.
15. Upparadu or tank-digger.
16. Chitragaru or painter.
17. Golla or cowherd.
18. Waliya, Pareyan, or Pariah, who is the fighter of the others.

These vary.—*Wilson's Glossary.*

VALENTIA, GEORGE, VISCOUNT, author of Voyages and Travels to India in 1802–6. Along with Captains Keys, Court, and Maxfield, he aided in the survey of the coasts of the Red Sea. In July 1805, Mr. Salt, his secretary, was sent from Arkeeko on a mission to the ruler of Tigre at Antalo. Mr. Salt was accompanied by Captain Rudland of the Bombay army, by Mr. Carter, and two European boys, Pearce and Coffin; the latter rose to be an Abyssinian chief, and forty years later reappeared at Aden. The mission was successful. Captain Court died at Calcutta in 1823, as Marine Surveyor-General at Calcutta.—*E. I. Marine Surveys*, pp. 18–71.

VALENTYN, FRANCIS, the author of an Account of Netherland India, from the Cape of Good Hope to Japan. He was a Lutheran clergyman, born in 1660 at Dordrecht, arrived in 1686 at Batavia as a minister, resided at Japara near Samarang, and then at Amboyna for 12 years, and returned to Holland. He remained in Europe for 11 years, and sailed again for Java in 1705, stayed there 2 years, then in the Spice Island 7 years, and in 1714 he finally returned to Holland. From that time he was engaged arranging his notes, and his first volume, Oud en Nieuw Oost-Indien, appeared in 1724. This was followed by seven others, all fully illustrated, the last appearing in 1726.—*Bikmore*, p. 147.

VALERIAN, a Roman emperor who was conquered by Shahpur at Odessa in A.D. 260. Being taken prisoner, he is said to have been treated by Shahpur with great severity, and eventually flayed alive.

VALERIANACEÆ, *Lind.*, of the valerian tribe of plants in the East Indies, are species of Nardostachys, Valeriana, and Triptostegia. Nardostachys jatamansi, *D. C.*, is the true spikenard of the ancients. It is highly esteemed in India for its perfume, and for its medicinal properties as a remedy in hysteria and epilepsy. The jatamansi or balchur is an efficient substitute for the European article, and is a very useful stimulant and antispasmodic remedy, chiefly employed in hysteric cases. Dose, one to two ounces three times daily. The true valerian, Valeriana officinalis, is a remarkable feline stimulant. V. Celtica is largely employed by eastern nations as a substitute for Nardostachys jatamansi. Wight gives Valeriana, Arnottiana, Brunoniana, Hookeriana, and Leschenaultii, and a kind of valerian takes the place of Asarabacca. The V. Wallichiana is called dala, wala, bala, char-bala mushk, chargodar, also probably tagir or takar.—*Powell*, p. 354; *O'Sh.*; *Murray*; *Beng. Phar.* p. 305.

VALERIANA HARDWICKII. *Wall.*

Asarun, Bala, . .	HIND.	Nah'ani . . .	of RAVI.
Taggar, ...	,,	Char .	of TRANS-INDUS.

This valerian grows in various parts of the Panjab Himalaya and beyond the Indus, at from 6000 to 12,000 feet; the root is put among clothes to keep off insects.—*Dr. J. L. Stewart.*

VALERIANA WALLICHII. *D. C.*

Mushkw'ali, . .	HIND.	Bala, . .	HIND., JHELUM.

Grows in the N.W. Himalaya at 5000 to 11,000 feet, up to the Indus. Its roots are exported to the plains to be used medicinally.—*Dr. J. L. Stewart.*

VALKYNE, the fatal sisters of the Suevi or Siebi, are the analogue of the twin sisters of the Apsarases, who summon the Rajput warrior from the field of battle, and bear him to the mansion of the sun, equally the object of attainment with the children of Odin in Scandinavia, and of Budha and Surya in the plains of Scythia and on the Ganges, like the Elysium of the Heliadæ of Greece.—*Tod's Rajasthan*, i. p. 67.

VALLABHACHARYA was born A.D. 1479; he was the son of a Telugu Brahman, and originated the worship of the Bala Gopala, the infant Krishna, and the sect thus founded have the name of Vallabhacharya or Rudra Sampradayi. The worship of the Bala Gopala is widely diffused amongst all ranks of Indian society, particularly in the northern parts of India, but is perhaps best known as the religion of the Gokulastha gosains, the title of its teachers. He taught that privation and asceticism is not sanctity, and that it is the

duty of the teachers and their disciples to worship the deity, not in nudity and hunger, but in costly apparel and choice food; not in solitude and mortification, but in the pleasures of society and the enjoyments of the world. The gosains or teachers, like Vallabha, are always married men, always clothed with the best raiment, and fed with the daintiest viands by their followers, over whom they have unlimited influence. Zealous disciples devote to the guru, tan, man, dhan, body, mind, and means. The temples and houses of the sect have pictures, and metallic, often gold, images of Gopal, of Krishna, and Radha, and other deified forms connected with the incarnation. The idol is richly decorated and sedulously attended in daily ceremonies. Besides their public demonstrations of respect, this sect, before sitting down to any of their meals, take care to offer a portion to the idol. Those of the disciples who have performed the triple Samarpana, eat only from the hands of each other, and the wife or child that has not exhibited the same mark of devotion can neither cook for such a disciple nor eat in his society. This part of their tenets has been subversive of all morality, and in 1862 was notoriously brought before the public in a trial for libel instituted in Bombay by one of the teachers, when it was shown that the women of the wealthiest of this sect deemed it an honour to receive the priest's attentions, he selecting one in the midst of and from amongst hundreds of her fellow-worshippers, and allowing visitors to be present while associating with her. In 1868, in Bombay, during the Holi festival, indecent pantomimes were shown by this sect.

Vallabha was the author of the Bhagavat, also of a Bhashya, of one part of Vyasa's Sutras, and of other Sanskrit works, on which the worship of the sect is founded.

Vittala Nat'h, the son and successor of Vallabha, had seven sons, all of whom were teachers, and their followers, though in all essential points the same, form separate communities. Those of Gokul Nat'h, however, look on their own gosains as the only legitimate teachers of their faith. The worshippers of this sect are very numerous and opulent, the merchants and bankers, especially the Bhattia race from Gujerat and Malwa, belonging to it. Their temples and establishments are numerous all over India, but especially at Mathura, and many hundreds at Brindaban. But at Sri Nat'h Dwar at Ajmir is the most celebrated, the most highly venerated, and most richly endowed of all the Gosain establishments. It is a matter of obligation with members of this sect to visit Sri Nat'h Dwar at least once in their lives, and the head gosain presents them with a certificate to that effect. Gosains are constantly travelling over India under the similitude of pilgrims, but reconcile to themselves on these occasions the profits of trade with the benefits of devotion.

Bitthal Nat'h's descendants settled in Sambat 1535 at Mahaban or Gokula, a town 5 or 6 miles below Mathura. His descendants are now the gosains of the temple there. The law members are called Sevakan; their system of doctrine is called Pushti Mārg, or way of happiness; and its practice as Daiva Jan, or divine life.—*Growse*, p. 264.

VALLAITI ERA and the Bengal era were established by Akbar. That of Bengal began on the 1st of the month Baisakh 963 + 593 = 1556. The Vallaiti-san was used in Orissa, where it was called the Auel-san, and began on the 1st of the month Aswin 963 + 592 = A.D. 1555.

VALLAM, a small town in the Tanjore district, Madras, 7 miles from Tanjore city. Vallam was captured by the British under Captain Joseph Smith in 1771. The quartz crystals found here are made into spectacles.—*Imp. Gaz.*

VALLARIS DICHOTOMA. *Wall.*

Echites dichotoma, *Roxb.*	Pala malle tivva, . TEL.
Hapurmali, . . . BENG.	Putta podara yarala, „

A plant of most parts of India and of Burma, with white fragrant flowers.—*W. Ic.*

VALLARIS PERGULANUS. *Burm.*

Pergularia glabra, *L.*	Flos pergulanus, *Rumph.*
Echites hircosa, *Roxb.*	Emericia pergularia, *Rom.*

A plant of India and the Archipelago, flowers with the smell of a goat.—*Roxb.; Voigt.*

VALLISNERIA, a genus of water plants belonging to the natural order Hydrocharaceæ. They are dicœcious; the male flowers are seated on a spadix; the corolla is monopetalous, with three segments. They grow at the bottom of the water, and yet the male and female flowers are separated, and the mode by which they are brought together affords a singular instance of adaptation. These plants generally grow in running waters, and thus render the difficulty of the contact of their flowers greater. The female flower has a long spiral prolongation, which, a few days before the flower is ready to be fecundated, rises to the surface of the water, where it floats. The male flower has a very short peduncle, which cannot extend, but the stamens are enclosed in small transparent globules, which detach themselves from the peduncle and become free. Small white pearls then rise to the surface of the water, which open near the flowers. When the fecundation is effected, the female flower again rolls up and sinks to the bottom of the water, where the seeds in the ovary mature.

VALLISNERIA SPIRALIS. *Linn.*

Vallisneria spiraloides, *R.*	Serpicula verticellata, *L.*
V. verticellata, *L.*	Udora verticellata, *Spr.*
V. Jacquiniana.	Huttonia serrata, *Will.*
Saivala, ... HIND.	Punatsu, . . . TEL.

A plant of America, Europe, and India. It grows in clear, standing, sweet water, flowers during the cold season, and consists of simple filiform roots, and a number of fine filiform-jointed shoots or stems, some creeping, some floating below the surface of the water; branches solitary, axillary. The sugar-refiners throughout India use this herb while moist to cover the surface of their sugar, as clay is used in the West India islands; and in two or three days the operation is finished exceedingly well. The Vallisneria is supposed to possess cooling powers. Thus Madhava says:

'The gentle pressure of her heaving bosom
Has spread delightful coolness through my frame,
As if combined upon my skin were strewed
Sandal and camphor, Saivala and pearls,
The lotus fibre on the moonstone's dew.'

Hydrilla verticellata also is employed by sugar-refiners to clarify sugar.—*Powell*, i. p. 306; *Roxb.* iii. p. 751; *Wilson's Hindu Theatre*, p. 71.

VALLUVA, also Valluvadu. TEL. A Pariah race, engaging as priests of Pariah families; the priests of the Pariah race of the south of India.

VALMIKI is supposed to have been born in the kingdom of Kosala, of which Ayodhya was the chief town. He is said to have resided on the banks of the Jumna, near its confluence with the Ganges at Allahabad. He is the reputed author of the Ramayana, a poem written in the Sanskrit language. The framework of the story relates to an exile from Hindustan named Rama, combined with a hero who fought in the south of India, aided by the people, who were delineated as bears and monkeys. Valmiki is said to have been of the predatory Badhak tribe, and some of his verses are thought to intimate that he was a robber, and explain the origin of his name. It is a current belief in many parts of India that he was a Thug; he is also said to have been converted when robbing a shrine, which is constructed into a story of considerable effect in the works of Chand. Valmiki is said to have settled at Chitrakuta at the time of the exile of Rama, but at one time to have resided at Bithul. Tradition has marked a hill in the district of Banda in Bundelkhand as his abode, where he eventually received Sita, wife of Rama, when banished by him, and where her two sons, Kusa and Lava, were born.—*Ward's Hindoos*, iv. 376; *Wilson's Hindu Theatre*, i. 313; *Tod's Rajasthan*, i. 29; *Garrett.*

VALONIA, the acorn cups of Quercus ægilops, or prickly-cupped oak, growing in the Morea. About 2 lbs. of valonia are required for the production of 1 lb. of leather, which is said to be less permeable to water than that made with oak bark, and so heavy as to make valonia the cheapest of all tanning materials except catechu or terra japonica. A mixture of valonia and oak bark may be used with good effect.

VALTA-KADEN, a subdivision of the Nair race.

VAMANA, the fifth incarnation of Vishnu in the form of a Brahman dwarf. The four first avatara are said to have occurred in the earliest, or Satya, age of the Hindus, corresponding in character with the golden or virtuous age of the fabulists of other regions. The fifth happened in the second or Treta-yuga. Maha Bali, though a virtuous monarch, was still so elated by his grandeur, that he omitted essential ceremonies and offerings to the deities; and Vishnu, finding it necessary to check the influence of such an example, resolved to mortify and punish the arrogant raja. He therefore condescended to become the son of Kasyapa and Aditi, and the younger brother of Indra, and assumed the form of a wretched Brahman dwarf. Appearing before the king, he asked a boon, which being promised, he demanded as much land as he could pace in three steps; nor would he desire further, although urged by Bali to demand something more worthy of a king to give. Vishnu, on obtaining the king's promise, required a ratification of it, which is performed by pouring water on the hand of the applicant. As soon as the holy stream had reached his hand, the form of the dwarf began to expand itself, and at length became so enormous that it appeared to extend itself up to heaven; then with one stride he encompassed the earth, with another heaven, and with the third was about to obtain patala, when Maha Bali, convinced that the pretended dwarf was no other than the god himself, fell prostrate in adoration before him, and yielded it up. From this incident of Vamana, Vishnu is also called Trivikrama or the three-stepper. It is maintained by other Vaishnava that the ratifying stream poured on the hand of Vishnu in this avatara was the river Ganga, which, falling from the hand of the miraculous dwarf, descended thence upon his, now Vishnu's, foot, whence, gushing as a mighty river, it was received on the head of Siva. In M. le Gentil's Voyage aux Indes, a rough map or plan is given, from a native original, of the course of the Ganges, in which it issues from the foot of Vishnu, and, falling on the head of Siva, flows in the style commonly seen through the cow's mouth. Vamana Purana, a Hindu religious book, about the 15th century, containing an account of Vishnu's incarnation as a dwarf. It divides its homage between Siva and Vishnu. — *Dowson; Moor.*

VAMBERY. Arminius Vambery, a traveller in Central Asia, and oriental scholar. He is a Magyar. He considers the Turanian nations as not less capable of improvement than their Ayran neighbours, but admits that, as a matter of fact, their cultivation has been chiefly derived from the latter. He altogether discredits the theory of an ancient Altaic civilisation, from which the refinement of Western Asia was derived. This question, as he intimates, has an important bearing on the theory which ascribes a Turanian origin to the people by whom the Accadian or original language of Assyria was spoken, and thus virtually refers the civilisation and mythology of Assyria to a Turanian source. His books of travels have all appeared in English, and had a wide circulation.

VAMPYRIDÆ, a family of mammals, comprising the bats, in the following sub-families:—

Sub-Fam. Megadermatinæ.

Megaderma lyra, *Jerdon.*
M. Carnatica, *Ell.* | M. schistacea, *Hodg.*, *Bly.*, *Horsf.*
Long-eared vampire bat, over all India.
M. spectrum, *Jerdon*, Kashmir vampire bat.
M. Horsfieldii, *Blyth*, of Tenasserim.
M. spasma, *Linn.*, Ceylon and Malayana.

Sub-Fam. Rhinolophinæ, Leafy-nosed bats.

Rhinolophus perniger, *Jerdon*, *Hodg.*, *Blyth.*
R. luctus, *Temm.* | Large leaf bat, . . ENG.
Nepal? Malabar? Java? Darjeeling.
R. mitratus, *Blyth*, Chybassa, Mussoori? Central India.
R. tragatus, *Hodg.*, *Blyth*, Nepal, Mussoori.
R. Pearsonii, *Horsf.*, *Blyth*, Darjeeling, Mussoori.
R. affinis, *Horsf.*, *Blyth.*
R. rubidus, *Kelaart.* | R. cinerascens, *Kelaart.*
Malabar? Ceylon, Burma, Malayana.
R. rouxi, *Tem.*, *Blyth.*
R. lepidus, *Blyth.* | Rufous leaf bat, . ENG.
Malabar, Calcutta, Colgong, Mussoori.
R. macrotis, *Hodg.*, *Blyth*, Himalaya, Nepal, Mussoori.
R. subbadius, *Hodg.*, *Blyth*, Nepal, Himalaya.
R. brevitarsus, *Blyth*, Darjeeling.
Several other species of Rhinolophus occur in the Malayan Islands, China, and Japan.
Hipposideros armiger, *Ham. Bn.*
H. nobilis, *var.*, *Blyth.* | Large horse-shoe bat, ENG.
Nepal, Mussoori, Darjeeling.
H. lankadeva, *Kel.*, Ceylon.
H. nobilis, *Cantor*, Burma, Ceylon, and Malay Peninsula.
H. speoris, *Bl.*, *Ell.*
H. apiculatus, *Gray.* | H. Dekhanensis, *Sykes.*
H. penicillatus, *Gray.* | Indian horse-shoe bat.
India generally, Ceylon, Archipelago.
H. cinerascens, *Blyth*, Panjab, Salt Range.

H. murinus, *Jerdon.*
Rhinolophus fulgens, *Ell.* | Little horse-shoe bat, ENG.
S. India, Ceylon, Nicobars, Burma, Malayana.
H. larvatus, *Horsf.*, Burma, Malayana; Sylhet.
H. nobilis, *Cantor*, Malay Peninsula.
H. diadema, *Cantor*, Malay Peninsula.
H. galeritus, *Cantor*, Malay Peninsula.
Cœlops Frithii, *Blyth*, tailless bat of Sunderbans.
Rhinopoma Hardwickii, *Gray, Blyth*, the long-tailed leaf bat of all India, Burma, Malayana.
Nycteris Javanica, *Geoff.*, Java, Malacca.

VAN, a province of Asiatic Turkey, with a town, in lat. 38° 29′ N., long. 43° 10′ 35″ E., and a lake of same name. The population of the city of Van is about 12,000, chiefly Muhammadan and Armenian families. Van is the modern name of the town of Semiramis.

Lake Van, a salt lake about 40 miles long and 20 to 30 broad, surrounded by a beautiful outline of mountains, whose tops are covered with perpetual snow. The old, ruined, stone-built town of Ardische is situated on a narrow strip of land running into the lake. The borders of the lake about it are low and swampy, and abound in wild-fowl and various other kinds of game. On the N.W. and E. of Lake Van dwell the formidable Rewandoozi tribe. They amount to upwards of a hundred thousand families. In the winter they live amongst their embattled rocks, but in the milder months roam about, pitching their tents from valley to valley. The wild Amadi and Bitlisi tribes are their near neighbours. They and the entirely lawless Rewandoozi may be regarded as the most legitimate representatives of the ancient Carduchians, and probably neither in manners nor language are much changed since Xenophon traversed their country on his way to Armenia. —*Porter's Travels*, ii. p. 471. See Iran; Kurdistan.

VANA. SANSK. A grove, a forest; hence Van, Wan, and Ban, wild. Vana-Chara (mas.), Vane-Chari (fem.), fauns, dryads, sylvan guardians, lit. wanderers of the woods. The names of the Banjari and of the Sunderbans are supposed to be from this word.

VAN ABASSI, a kind of moiré made in the province of Van.

VANA-BHATTA, author of the Kadam-bari, a highly-esteemed Hindu poem.—*Ward*, iv.

VANAPRASTHA, in Hinduism, a man who has gone through his scholar and householder life, and has entered the third Asrama or hermit life, has gone prastha to the woods (vana). It is the Hylobios of the Greeks. According to Menu, when the father of a family perceives his muscles become flaccid, and his hair grey, and sees the child of his child, let him seek refuge in a forest, abandoning all food eaten in towns, and his household utensils; let him repair to the lonely wood, committing the care of his wife to her sons, or accompanied by her if she choose to attend him.—*Wilson.*

VANDA CŒRULEA. Near the village of Lernai on the Jaintia Hills are oak woods, on which Vanda cœrulea grows in profusion, waving its panicles of azure flowers in the wind. This is the rarest and most beautiful of all the beautiful orchids. The dry grassy hills which it inhabits are elevated 3000 to 4000 feet. The trees are small, gnarled, and very sparingly leafy, so that the Vanda which grows on their limbs is fully exposed to sun, rain, and wind, and its roots sprawl over the dry, rough bark. The atmosphere is on the whole humid, extremely so during the rains, and at the flowering season the temperature ranges between 60° and 80°. There is much sunshine, and both air and bark are dry during the day. It is under these conditions that all the finer Indian Orchideæ grow, of which are to be found Dendrobium, Farmeri, Dalhousianum, Devonianum, etc., with Vanda cœrulea; whilst the most beautiful species of Cœlogyne, Cymbidium, Boblophyllum, and Cypripedium inhabit cool climates at elevations above 4000 feet in Khassya, and as high as 6000 to 7000 in Sikkim. Wight gives V. pulchella, Roxburghii, spathulata, and Wightiana? Several are found in Borneo inferior to none of those from India. One gigantic species introduced into England Dr. Lindley named V. Lowii, the individual plant fetching a price varying from £3 to £10.—*Hooker, Jour.* p. 319; *Low's Sarawak*, p. 64; *W. Ic.*; *Mason's Tenasserim.*

VANGUERIA, a genus of plants belonging to the natural order Cinchoniaceæ, small trees or shrubs having ovate or oblong petiolate leaves with lanceolate stipules, solitary on both sides. The fruit of V. edulis is eaten by the natives of Madagascar and the Mauritius, where, as well as into the Peninsula of India and into China it has been introduced. V. spinosa, Mayna, Roxb., which is found in many parts of the plains of India and China, is a distinct species though united to the above by Sprengel in his Syst. Vegetabilium. The fruit is eaten. V. [illegible]-phylla occurs in Chittagong.

VANGUERIA EDULIS. *Vahl.*

V. cymosa, *Gœrtn.*	Vavanga edulis [illegible]
V. Commersoni, *Desf.*	V. Chinensis, *A* [illegible]
V. Madagascariensis, *Gmel.*	

A native of Madagascar, but introduced into Mauritius, India, and China.—*Eng. Cyc.*; [illegible] *Voigt.*

VANGUERIA SPINOSA. *Roxb.*

Meynia spinosa, *Lamarck.*

Mayna, . BENG., HIND.	Pindi luka, . . . SANSK.
Alu . . . of BOMBAY.	Pedda munga, . . TAM.
Bangari ki lakri, . HIND.	Vadanike, . . . TEL.
Voa vanguier, . MADAGA.	Chega gadda, . . ,,

A bush or small tree which grows to the height of 25 feet, with a circumference of 1½ feet. The bark is employed medicinally in fever. The dried berries are given to cattle, and the fresh berries are sometimes eaten by people.—*Genl. Med. Top.*; *Captain Macdonald*; *Roxb.*; *Voigt.*

VANILLA plant has been introduced into India, Bourbon, and Mauritius during the 19th century. It adapts itself readily to the climate, can be easily propagated and cultivated, occupies very little space, and the fruit is valuable. All the coffee districts are admirably adapted to the vanilla, but in Ceylon and in parts of the Neilgherries and the Wynad, the plant will not grow in the shade, as it does in Mexico and Brazil, and when trained on trees it soon gets out of reach, which is inconvenient, as the flowers require to be artificially impregnated.

Vanilla has grown well in the Lal Bagh, Bangalore. It was planted in a mixture of leaf-mould and sand, and trained to climb stone pillars seven feet high and three feet apart, with cross pieces atop to form a lattice-work for branches to cling to. Rough bark trees, such as the mango, will also serve as supports for the plant. It

flowers the third year of planting, but does not produce fruit unless artificially fertilized.

In its native country the plant continues to bear from thirty to forty years, and yields, in ordinary seasons, from forty to fifty pods annually, or, say, half a pound weight, so that each plant may be considered equivalent in value to twenty rupees per annum.

M. Genève of the Mauritius found the plants grow better when supported by the Moringa pterygosperma, the Avocado or alligator pear, Persea gratissima, and the Bixa orellana.

The pods should be carefully dried, by exposing them on cloth to the sun's rays, and, while warm, they should be wrapped in woollen, which promotes evaporation, and at the same time absorbs the moisture. When thus treated, the pods blacken and put on a silvery lustre. On this appearing, they must be again exposed to the sun and thoroughly dried. A fully-developed and properly-ripened pod should be from six to seven inches long, about three-eighths of an inch in diameter, and of a very dark-brown colour, almost approaching to black. They should also be moist, and if properly ripened before being packed, they become after a time covered with a circular crystal, which adds to their appearance and marketable value.

VANILLA AROMATICA. *Swz.*
Epidendron vanilla, *Linn.* | Flore viridialbo, *Plum.*
Menaes geraes . . . of BRAZIL.

Vanilla aromatica is said by Martius to yield the true vanilla, but the best Mexican vanilla is the produce of V. planifolia, of which Pereira mentions V. sativa and V. sylvestris as two varieties. It is used in confectionery to flavour chocolates, creams, liqueurs, etc. The vanilla genus of plants belongs to the natural order Orchiaceæ, of which V. aphylla, V. aromatica, V. planifolia, V. Walkeriæ, V. Wightii are grown in the East Indies. Dr. Falconer discovered a species while on his visit to the Tenasserim Provinces in 1849.—*Wight's Icones; Voigt.*

VANNAN, a caste of washermen in Malabar, who can only wash the clothes of inferior castes.

VANNIAR, of Telingana, oil-pressers.

VANNIO, a race in Gujerat, seemingly identical with the Banya or Banyan; they are of the Jain religion. It is the Vani or Wani of the Mahrattas, and is doubtless from the Sanskrit Vani. In Gujerat they are classed as Vaishnava, or as Jain Vannio, both of whom are shopkeepers, merchants, bankers.

VANSA or Bansa. SANSK. A race, a tribe, a family.

VAR or War, a Hindi syllable largely used in composition, meaning according to, after the manner of.

VA'RA or Va'sara. SANSK. A week of seven natural days, named after the planets, and arranged in the same order as they are in the European week. The names of each day (beginning with Sunday, and adding vara to each) are, 1. Ravi, 2. Soma, 3. Mangala, 4. Budha, 5. Gura, 6. Sucra, 7. Sani. The tabular notation of the feriæ, or days of the week, is 0 for Sunday, 1 for Monday, and so forth to 6 for Saturday, 7 being accounted zero.—*Warren's Kala Sankalita.*

VARAGON is an inferior sort of rice, cultivated largely in the French settlements, as well as in the interior of the Madras Presidency. It is round, and of a grey colour. When cooked, it becomes a paste, and is often made into an inferior kind of bread.

VARAHA, or the Boar. In this, the third avatara of Vishnu, he is generally represented four-handed, armed as usual, and with the head of a boar, on whose tusks rests a crescent, containing in its concavity an epitome of the earth, which had been immerged in the ocean as a punishment for its iniquities. So that this, as well as the first and second avatara, seems to be a repetition of the story of the deluge. The second combines with it a portion of astronomical allegory, and none of the other of the ten avatara have any apparent reference to the catastrophe, so pointedly indicated by the three first, which are understood to have occurred in the earliest ages. In Hindu legends, as well as in the mythological romances of Greece and Egypt, the boar is an animal very frequently introduced. In an ancient legend, relating to the destruction of the city of Mahabalipuram, and the seven pagodas, on the coast of Coromandel, by an earthquake and inundation, it is stated that Hirancheren, a gigantic prince or demon, rolled up the earth into a shapeless mass and carried it down to the abyss, whither Vishnu followed him in the shape of a boar, killed him with his tusks, and replaced the earth in its original position. See Boar.

VARAHA LANCH'HANA. SANSK. The boar signet, a symbol of royalty in use by the Chalukya dynasty whilst ruling at Kalian. It was the most celebrated of all their badges. It was the symbol invariably represented on their money and on their seals. Sometimes, in the latter, accompanied by the conch shell, the drum, the peacock fan, or a lotus, an elephant goad (ankus), candelabra, a seat or stool, the swastika cross 卐, and latterly a sword. Rajputs at the vernal equinox hunt the wild boar, and at a few places Hindus worship the image of the boar. In the south of India, the coin called by Europeans a pagoda, the hun of the Muhammadans, received its Hindu name from the people from having on it the figure of a boar, hence Varaha-mudra, boar-stamped. The boar was invariably stamped on all Chalukya coins.—*Tr. Hind.* i. p. 328. See Titles.

VARAHA MIHIRA, an astronomer, author of the Vrihat-sanhita and Brihaj-jatika, who was born at Ujjain A.D. 530, died A.D. 587 (Saka 509). He made some remarkable observations on the moon and on eclipses. He had, however, a strong taste for astrology, and fell into the error which Aryabhata had exposed. Telugu astronomers consider that Varaha Mihira flourished in the 3600th year of the Caliyug (A.D. 499), *i.e.* at the close of the second Padah of the Ayanansa, when the sun, moon, and equinoctial points (according to the doctrines of the Surya Siddhanta) were in the first point of the Hindu sidereal zodiac; or, in other words, when the Rishi were in the first point of the solar sign Mesha *r*, and in the same of the lunar mansion Aswini.—*Warren.*

VARAHA MIHIRA, another astronomer, thought by many to have been contemporary with the emperor Akbar, but whom writers are apt to confound with Varahacharya and others of the same name.

VARANES, also Varanus, the Roman designa-

tion of the name of Bahram, which was borne by five of the Sassanian kings.

Varanes I. A.D. 274 (Sm.), 271 (Mordt.), the 4th king.
Varanes II. ,, 277 (Sm.), 274 (Mordt.), the 5th king, styled Segan Shah.
Varanes III. ,, 294 (Sm.), 291 (Mordt.), the 6th king.
Varanes IV. ,, 390 (Sm.), 389 (Mordt.), styled Kerman Shah.
Varanes V. ,, 420 (Sm.), 420 (Mordt.), styled Bahram Gor.

See Bahram; Sassanian Kings.

VARANIDÆ, the varanians or water lizard family of reptiles of the order Sauria, comprising the two genera Varanus and Hydrosaurus, of which the following species are known to occur in the East Indies:—

Varanus Dumerilii (Monitor Dumerilii, *Muller*). Brown, with obscure cross-bands, with a black spot on side of neck. Shields of the head and over the orbit nearly equal, moderate. Scales large, convex. A native of Borneo.

Varanus heraldicus (Monitor heraldicus, *Gray*). Black, with cross-rows of pale-eyed spots, pale beneath, black-banded. Shields over the orbits small, sub-equal. It is a native of India.

Varanus lunatus. Nostrils large, nearly central, shields over the orbit small, sub-equal. Dark-brown, with lunate bands directed backward on the neck and forwards on the body, and with cross-bands on the tail; belly and under side of tail whitish. Found in India.

Varanus nebulosus (Monitor nebulosus, *Gray;* M. nebulatus, *Schlegel*), the coloured varan. Nostrils large, rather nearer the orbit than the end of the muzzle; orbital shield with a large series; back of neck with converging dark streaks. A native of India, Bengal, and Siam.

Varanus ornatus, the Philippine varan. Nostrils large, central; shields over orbit small, sub-equal. Olive; neck and front of the body with pale-spotted, broad, black cross-bands; the hinder part of the body and tail with pale spots. A native of the Philippine Islands.

Varanus rudicollis. Nostrils large, nearer the orbit than the end of the muzzle; shields over the orbits nearly square, the hinder central ones rather larger. Scales of the back triangular, keeled; of the neck large, prominent; muzzle elongated. Black, with white streaks on back of neck, and bands across the back. Found in the Philippine Islands.

Other Indian species are Varanus flavescens, *Merr.*, Ganges, Indus, Penang; V. dracæna, *L.*, Bengal to Ceylon; V. nebulosus, Bengal, Siam; Hydrosaurus salvator, *Lour.*, Ceylon, Siam, China. —*Gunther, Reptiles.* See Reptiles.

VARARUCHI, supposed to be same with Katayayana, a celebrated Brahman, son of Somadatta, distinguished for his wonderful memory, which enabled him to recite perfectly any discourse he had once heard. He instructed Nyadi, and both of them were writers of note on philological subjects. They were contemporaries of Nanda, who reigned at Patalaputra in the 4th century before Christ, and was one of the predecessors of Chandragupta. Vararuchi is one of the earliest commentators of Panini. He was one of the nine gems (Nava Khanda) of Vikramaditya's court.—*Garrett.* See Nava Khanda; Pali.

VARAVARAHA. SANSK. An outcaste, a man with curly hair, a barbarian, and supposed the source of the Greek Barbaros, the Roman Barbarus, and the Barbarian of the British.

VARENA. Ghilan is a district known to the ancient Aryans as Varena. It was their thirteenth settlement, and the curse of Ahriman there was irregular menstruation. Ghilan formed the nucleus of the ancient possessions of the Aryans in Media. 'Varena with the four corners,' Haug has shown to be Ghilan.

VARI. HIND. A turn, a man's turn to work; a joint-owned well.

VARNA. HIND., SANSK. Colour; hence a tribe, a class, a caste. Varna sankara, SANSK., the mixed caste of Hindus. Varna, colour, is the term used by Hindus to indicate the race.—*W.*

VARNISH. A varnish is a solution of a resin or of a gum-resin in a liquid, which being spread over a surface, evaporates, and leaves the solid in the form of a brilliant, transparent film. The principal substances used in varnishes and their solvents are the following:—

Solvents.	Solids.		Colours.	
Oil of nuts.	Amber.	Elemi.	Gamboge.	Annotto.
Oil of linseed.	Anime.	Benzoin.	Dragon's blood.	Red Sanders.
Oil of turpentine.	Copal.	Colophony.	Aloes.	Cochineal.
Oil of rosemary.	Lac.	Mastic.	Saffron.	Indigo.
Alcohol.	Dammer.	Resin.	Turmeric.	
Ether.	Sandarach.			

The resins or gums and the solvents may be used either singly or combined. One of the most desirable qualities in a varnish is durability, which depends greatly on the comparative insolubility of the resin employed, its hardness, toughness, and permanence of colour. The art of the varnish-maker requires, for its successful prosecution, a considerable amount of chemical knowledge, and the greatest care.

Amber resists the action of ordinary solvents, and requires to be fused at a high temperature. It is hard, and moderately tough, and its colour is scarcely acted on by the air. The objections to amber are its costliness, and the length of time required for amber varnish to dry. It does not become full hard under many weeks.

Those recognised by British varnishers are classed as cabinet, copal, carriage, wainscot, spirit and turpentine, white hard and brown hard varnish. Copal, mastic, and amber varnishes are much employed by the artist and by the photographer.

The Semecarpus anacardium yields a resinous juice, which is known as the black varnish of Sylhet. The black varnish of Malabar is from Holigarna longifolia. In China and Siam, Augia Chinensis yields a varnish; and in Japan, black varnishes are obtained from Rhus vernix, R. succedaneum, and R. verniciferum. In India, a varnish is obtained from the Buchanania latifolia, and another from the Odina wodier. The Martaban varnish is obtained from Melanorrhæa usitatissima. Stagmaria vernicifolia yields the Japan lacquer. Black varnish of Moulmein is used as first coat before gilding, on lacquered boxes and on pagodas.—*Local Committee, Moulmein.*

VARNISHED WARE. In the Burmese process of making this ware, a wooden frame, of wood covered with strips of bamboo woven together so as to form a basket, is the framework of the intended cup; the weaving is like that of a lady's work-basket, and care is taken that it shall be as thin and light as possible, as upon this matter the beauty and delicacy of the ware will

depend. Towards the edges, the weaving is of a coarser nature, and the bamboo is made as fine as hair. The varnish is named thit-tsi (wood-oil), and may be gathered at all times, but if taken during the flowering season, which is at the beginning of the year, it does not harden well. It appears to be in many of its properties analogous to China varnish, and it affects in a similar way the health of those who prepare it. Those unaccustomed to it frequently find their hands blistered, and their arms and faces swollen with its effects. All who use it take certain precautions against accidentally swallowing any portion, and they are careful to touch it with the right hand only, while they take their food with the left. Some persons are more seriously affected by the varnish than others, and its injurious effects appear in blotches so much resembling leprosy that the other Burmese refuse to hold intercourse with the affected person. The varnish is laid on with a brush, to spare the hand as far as practicable; but in all future operations on the same vessel, it is laid on with the hand, both in order to procure a fine surface, and to enable the workman to reject the minutest particles of dust. When first laid on, the varnish looks of a light-brown colour, but rubbing with the hand turns it to a fine black. When the cup is varnished, it must be carefully shut up in a box, to exclude the dust, and then deposited in a deep cold vault. This is said to be essential to its proper setting, and with one of which every manufactory is provided. The cup is kept in the vault at least three days.

In the third process, the cup is covered over with a thick black paste, which is intended to stop up all holes in the baskets, and to give the ware a body. Different pastes are used for this purpose, but all agree in being composed of some fine powder mixed up with thit-tsi; in one sort, the powder is that of calcined bones; in another, the fine sawdust of teak wood. In all cases the paste is dabbed on with the fingers, so as to hide the basket as far as the workman is able to do. After this process, as well as after every other in which the varnish is used in any shape, the cup is returned to the vault, where it must remain at least three days before any subsequent operation can be proceeded with.

In the fourth and fifth processes, the cup is ground smooth inside and outside. The operation is performed on a clumsy lathe, which is turned backwards and forwards with a stick and leather string like a drill-bow. The workman smears the cup with water mixed with an ochrey red earth, turns the lathe rapidly with his right hand, and presses a piece of pumice-stone held in his left hand against the inside of the cup; this process soon rubs down the rough surface of the paste, and is continued until it is quite smooth.

Sixthly, the cup is covered on the inside with an additional quantity of paste of finer quality, which is laid on by the workman after the outside is ground smooth, and dried, in order that it might receive an additional polish on a subsequent day.

In the seventh part of the process, the cup is covered with fine paste on the outside as well as on the inside. In this stage the cup is ground outside and in, and has also received a coat of fine varnish. This is the result of two successive operations with the interval of at least three days between them; the grinding is performed on the lathe, as in Nos. 4 and 5, but instead of pumice-stone the workman employs first a piece of smooth sandstone, then a rag with charcoal and water, and lastly a piece of moist cloth. The cup is dried well in the sun before the varnish is laid on, which is done with the finger.

In the next step, the cup receives a second coat of varnish, and is quite black and glossy, but not even on the surface. Thus far all the Burmese ware goes through the same processes, whatever may be the style in which they are to be finished, whether black or red, plain or figured.

In the ninth part of the process, the cup is simply polished in the lathe. This is performed by turning first against a piece of smooth stone as in No. 7, then by moistened rice husks held in the hollow of the left hand against the cup while turning; thirdly, by a rag dipped in well-pulverized teak wood; and lastly, by the hand smeared with a peculiar polishing powder, said to be made of the petrified wood of a tree. The ware thus furnished is like the black japanned ware used in Britain.

In red colour ware, the colour used is said to be superior to the best Chinese vermilion; it is moistened with an oil called shazi, extracted from the kunyen (Dipterocarpus turbinatus), and then mixed with thit-tsi varnish. The mixture is laid upon the cup after it has gone through the two first operations, and nothing more is required than giving it a polish with the hand, unless extraordinary lustre is desired, when a mixture of shazi and thit-tsi is applied.

Siamese.—In cups executed in Shan or Siamese style, the engraving is done with great ingenuity and rapidity, although the only tool is a needle tied to a stick and whetted on a bit of slate. The artist holds the cup on his knees with his left hand, and keeps his graver almost motionless in his right; he then dexterously turns the cup by the help of his knees to meet the graver. The Shan style consists in engraving a piece of black ware, and filling up the hollows with vermilion; if any figures are represented, they are left in relief, in the manner of wood engraving. The vermilion is laid on, and after drying several days is rubbed off on the lathe with wet bran held in the hollow of the hand. The operation is generally repeated to ensure a complete filling up of all hollows, and the cup is afterwards varnished and polished.

A more expeditious method, called the Burman style, consists in engraving upon a red cup, and filling up the hollows with different colours, usually yellow or green. Some specimens are engraved with grotesque Chinese-looking figures, and with the lines filled with yellow or primrose. The engraving is first prepared by being varnished over, and the colour is immediately rubbed in with the finger until it is quite dry. When the cup is finished, sometimes a small quantity of indigo is mixed with the orpiment, which produces a green colour. The beauty of the engraving consists chiefly in the contrast of bright colours, and the regular interlacing of minute lines, in which some specimens resemble our engine-turning; taste in drawing is totally out of the question.

Other modes of preparing the varnished ware are followed. The finer sorts are sometimes finished with gilding or with raised figures or mouldings.

These are formed of teak-wood paste, which is pressed when soft into tin moulds, and when dry it becomes as hard as the wood of which it was originally made. Europeans have found this paste an excellent material for making the raised work on picture frames and similar objects. Some articles are diversified by leaving portions of the basket-work uncovered by the varnish; in this case the weaving is of the finest quality, and the open parts being of different patterns, the effect is very good. Larger works are made of wood joined together with teak paste, and afterwards covered in the same way as the basket-work, the only difference between the processes being that in the wood-work the first varnishing is omitted, the solid and flat surface of the wood taking the paste at once without preparation.

Chinese.—Mr. Williams says that the beautiful appearance of the lacquered ware of China owes its lustrous colouring to a composition of lamp-black and the clarified juice obtained from a species of sumach called Rhus vernix or R. vernicia. Wood-oils are obtained from other plants of the same family, and the different qualities of lacquered ware are owing to the use of these inferior ingredients. The real varnish tree is about 15 feet in height, and when seven years old furnishes the sap, which is carefully collected from incisions in the trunk opened in summer nights. The body of the ware is wood partially smoothed, or pasteboard, upon which two or three coats of a composition of lime, paper, and gums are first laid, and thoroughly dried and rubbed. The surface of the wood is also hardened by rubbing coarse clay upon it, and afterwards scraping it off when dry. Two coatings of lamp-black and wood-oil, or, in the finer articles, of lamp-black and varnish, are laid upon the prepared wood, and after drying the clear varnish is brushed on, one coating after another, with the utmost care, in close and darkened rooms, allowing it to dry well between the several coats. The articles are then laid by to be painted and gilded according to the fancy of customers, after which a last coating is given them. The varnish is brought to market in brownish cakes, and reduced to its proper fluidity by boiling; it is applied to many purposes both as a varnish and paint, when it is commonly mixed with a red or brown colour. A beautiful fabric of lacquered ware is made by inlaying the nacre of fresh and salt-water shells in a rough mosaic of flowers, animals, etc., into the composition, and then varnishing it. Another kind, highly prized by the Chinese, is made by covering the wood with a coating of red varnish three or four lines in thickness, and then carving figures upon it in relief. The great labour necessary to produce this ware renders it expensive. A common substitute for the true varnish are the oils of the dryandra, jatropha, croton, and other members of the euphorbiaceous family, expressed from their seeds.

In *Peninsular India*, the varnish used by moochee men for palanquins, etc., is prepared by melting sandarus (a kind of copal or anime, called by Dr. Ainslie sandarach), and mixing it with boiled linseed oil, rendered dry by litharge; they do not usually add spirits of turpentine in the way prescribed for making copal varnish in England. Condapilly moochees, for ornamenting boxes, palanquins, etc., dissolve a little aloes in the varnish which is laid over it. A very good varnish is prepared by moochees with shell-lac and wood-oil heated in small quantities.

Wood varnish for teak and Chittagong wood may be prepared by melting three or four bits of sandarus of the size of a walnut or small egg, and pouring upon it a bottleful of boiling linseed oil previously rendered dry by boiling litharge or other drier, and after boiling them together for an hour, gently adding, while cooling, a teaspoonful of Venice turpentine. If too thick, it may be thinned with spirits of turpentine. It should be rubbed on the furniture, and after a little time, during which it may be exposed in the sun, rubbed off; the rubbing should be continued daily, and the polish should not be again applied for eight or ten days, after which it may be slightly applied every one or two months. Water does not injure this polish, and any stain or scratch may be rubbed over with the polish, which cannot be done with French polish.—*Rohde, MSS.; Fortune's Residence*, p. 146; *Williams' Middle Kingdom*, i. p. 121; *Journal Royal Asiatic Society.*

VARNISH TREE. This name is applied to the Dryandra cordata; that of China is the Elæococca vernicia; also Rhus acuminata, *D.C.*, R. succedanea, *Linn.* The black varnish tree of the Chinese is the Melanorrhæa usitatissima, *Wall.*, of Munipur, Pegu, Tenasserim, and Tavoy. It is very extensively used for paying the bottoms of river boats.

VARSHA. Sansk. The third season of the Hindu solar year, comprehending the months of Sravana and Bhadrapada, when the sun is in the signs Carcata and Sinha, answering to the Tamil months Adi and Avani.

VARSHA. Sansk. A region. Of these, nine are named as situated between the great mountain ranges of the earth, viz. Bharata-v-India, Kunpurusha or Kinnara, Hari, Ramyaka, Hiranmaya, Uttaru Kuru, Ilavrita, Bhadraswa, and Ketu-mala.

VARTHEMA. Ludovico di Varthema, a Bolognese, travelled in India and the Eastern Seas from A.D. 1503 to 1508. First he sailed to Alexandria, and, entering on the Nile, arrived at Cairo. Then, returning to Alexandria, he took ship to Baruti (Beyrut), and travelled by Tripoli to Aleppo. From Aleppo he went southward by Aman (Hamath) and Menin (near Helbon) to Damascus. On the 8th of April 1503, he set out from Damascus with the Haj caravan to Medina and Mecca, and he is the only Christian to this day who ever succeeded in reaching these holy places by that route. There he heard of the arrival of the Portuguese by the Cape of Good Hope, in the east, from a Moor who traded with Venice and Genoa, and who complained bitterly to him that articles of merchandise were not arriving at Mecca as usual, and of the king of Portugal as the cause. From Zida (Jiddah), the port of Mecca, he took ship and went on to Chameram, Gezan, and Aden, the strongest city that was ever seen on the level ground. It has walls on two sides, and on the other sides there are very large mountains. On these mountains there are five castles, and the city contained about five or six thousand families. Here some Moors who had escaped the barbarities of the Portuguese denounced Varthema as a spy. But he was sent to the Sultan at Rhada, who ultimately released him, and he re-embarked

at Aden for Diu Bandar in the Persian Gulf, and Diu in India. He visited Goa (Gogo ?), and thence returned to Gulfar in the Persian Gulf, and onwards to Muscat and Ormuz. He visited Eri under the ruler of Khorasan, and returned via Shiraz to Ormuz. Failing to reach Samarcand, he sailed from Ormuz to Cambay, and visited Chaul, Dabul, Gogo, Bijapur, and all the ports on the west coast, then up along the Coromandel coast to Covelong and Coromandel, and S. to Ceylon, and again N. to Pulicat and Bengal, Pegu, Malacca, Siam, Sumatra, Borneo, Java, and the Moluccas, and returned to Negapatam on the Coromandel coast, where he met twenty-two Portuguese. He went to Quilon and Calicut and Cannanore, where he entered the service of the Portuguese, and was present in their great sea fight in 1506 with the Zamorin fleets. Finally, he returned via the Cape of Good Hope to Lisbon, where he was warmly welcomed by Don Emanuel, king of Portugal.

VARUNA, one of the oldest of the gods of the ancient Hindus, of the times of the Vedas. He is the god of the waters, the analogue of Neptune. He is regent of the west, and lord of punishment, in which latter capacity he resembles Yama, and, like him, holds a snaky cord or noose with which he binds incorrigible offenders under the water. His vahana or vehicle is the fabulous fish called makara. Varuna is Uranos (Ουρανος) of the Greek mythology, the vault of heaven personified. Two hymns in the Rig Veda are addressed to him. He gave a son to king Harischandra, and required the same as a sacrifice. Varuna is rain, the sky, or hemispheric firmament, resting on the waters, and has obvious analogies with the Grecian Uranos. To this god, singly or associated with Mitra, are offered the rare and perfunctory prayers for protection from sin, which appear in one or two of the Vedic hymns. A common medium between the Grecian and Aryan mythology may be inferred, and that Mena and the Aswini, Anna and Varuna, were not (so to speak) indigenous.

VARUNI, a festival on the 13th of the latter half of Chaitra, in honour of Varuna. If it fall on a Saturday, it is of especial sanctity, and is termed Maha-Varuni.

VASANT'HI, amongst the Rajputs, is spring personified, as the consort of Har, and is worshipped by them. On the first spring day, the Rajput princes and vassals open the season with a great boar hunt. On that day personal danger is disregarded, as want of success is deemed an omen that, during the year, Oomia, the great mother, may refuse all petitions.

VASANTOTSAVA, Madhotsava, or Kamotsava is a festival held on the thirteenth and fourteenth of the Hindu month Chaitra, at which Kama Deva, the god of love, was formerly worshipped. The season was one of much merriment, and the general influence of returning spring was hailed with music and jollity. Part of the amusement of the people consisted in splashing each other, by means of syringes, with water or fine powder, coloured with saffron. A missile commonly used in some places is rose leaves, large baskets and trays of which are prepared for that purpose. The festival of Kama Deva holds its place in the calendar, but its observance is restricted to a few places. In fact, it seems to have merged into the Phalgunotsava or Holi, celebrated a month before, when the like merriment and affusion of coloured powder or water takes place. In the south of India, Kama is worshipped at this period also, which still further identifies the origin of the festival, although it has undergone some important modifications in date and purpose. — *Wilson's Hind. Theat.* ii. p. 268.

VASCO DA GAMA with three vessels sailed from Lisbon on the 8th July 1497, touched at Melinda, on the African coast, and anchored off Calicut on the 22d May 1498. On first landing, the Zamorin of Calicut received him with cordiality and kindness, but afterwards, on the representations of the Muhammadans, Gama was forced to set sail for Europe, and he re-entered the Tagus on the 29th August 1499, after an absence of 26 months. After him, Cabral commanded an expedition, and Da Gama, in 1502, again visited India. He called on the Zamorin for satisfaction for an insult to Cabral, and it being refused, he fired on the place, and went to Cochin, where he left Pacheo with a few men, and returned to Portugal.

VASHISHTA, a famous rishi or sage of the Vedic ages, one of seven rishi, husband of Arundhati, author of several of the hymns in the Rig Veda, also of a law book. He was the family priest of Nimi, son of Ikshwaku, who was the son of Manu Vaivasvata. Vashishta and Visvamitra are historical persons, and two modern schools were named after them. There are many legends regarding Vashishta in the Rig Veda, the Aitareya Brahmana, the Mahabharata, the Vishnu Purana, the Markandeya Purana.—*Ward's Hindoos*, iv. 19.

VASTU YAGA, a Vedic rite practised by Hindus to sanctify a new house; without its performance, no house can be occupied. Each vastu or home is supposed to have a protecting snake, the Vastu sarpa. The rite consists of offerings of water, fruits, flowers, on a sacrificial altar or vedi, and prayers. On the morning of the day previously fixed for entering a new house, the Hindu owner performs the usual morning prayers and ablutions, and, having thus purified himself, he presents, according to his means, pieces of gold to Brahmans, a waterpot is filled with water, and on it are placed fruits, flowers, and mango leaves.—*Elliot, Sup. Glos.*

VASU, in Hindu mythology, a name of eight semi-divine beings, personifications of natural phenomena, whose names are variously enumerated. In the Vishnu Purana they are thus given:—1. A'pa, water, or, according to others, Ahar, day; 2. Dhruva, the pole-star; 3. Soma, the moon; 4. Dhara, earth; 5. Anila, the wind; 6. Anala or Pavaka, fire; 7. Pratyusha, dawn; 8. Prabhasa, light. They are represented as always attendant on their leader, Agni or Fire, and in their relationship to this deity and to the worship of the sun and light, seem to belong to the Vedic period of Hindu mythology. — *Williams' Nala*, p. 215; *Wilson's Vishnu Purana*, p. 120.

VASU-DEVA, son of Sura, of the Yadava branch of the Lunar race. He was father of Krishna, and Kunti, the mother of the Pandava princes, was his sister. He married seven daughters of Ahuka, and the youngest of them, Devaki, was the mother of Krishna. After the death of Krishna and Bala Rama, he also died, and, according to the Mahabharata, four of his wives burned themselves with his corpse; but the Vishnu Purana

says that he and Devaki and Rohini burned themselves at Dwaraka.

VASUKI, in Hindu mythology, a serpent which the Hindu gods used as a rope or thong when they churned the sea of milk to obtain the amrita. He was called also Sesha, also Ananta, and was king of the serpents who live in Patala.

VASUNDA, a festival for Andal, goddess of the Hindus, in the Natagasalai Teppakulam, Strivilliputur. In front of the tank is erected a pandal, decorated with plantains, sugar-canes, and garlands of flowers, and illuminated with lanterns, globes, and lustres. Early in the morning she is placed on the middle mantapum of the tank, and young and old come to worship the goddess. At night the goddess is taken to the temple in a long and pompous procession through the streets of the town, which are studded with pandals.

VATERIA, a genus of plant of the East Indies, of the order Dipterocarpaceæ. There are four species known, V. Zeylanica, *Wight*, of Ceylon; V. lanceæfolia, *Roxb.*, of Assam and the Khassya mountains; V. Roxburghiana, *Wight, Icon.*, a tree of the Peninsula of India; and V. Indica, of the western coast of Peninsular India and Mysore. A species of this genus, the Le-toak of the Burmese, is plentiful in the Tenasserim Provinces. It is a handsome wood, suited for cabinet-work, the purposes of the turner, and other purposes requiring a wood of dense structure.—*Major Benson; Wight's Icones; Roxb.; Voigt.*

VATERIA CEYLANICA. *W. Ill.* p. 88. Stemonoporus Wightii, *Thw.* A large tree in the forests between Galle and Ratnapura, and at Palmadolla near the latter place; wood not known.—*Thw. En. Pl. Zeyl.* p. 37.

VATERIA INDICA. *Linn.*

V. Malabarica, *Bl.*		Chloroxylon dupada, *Ains.*	
Dupa mara, . . .	CAN.	Payani, . . .	MALEAL.
Piney varnish tree,	ENG.	Hal-gass, . . .	SINGH.
Indian copal tree, .	,,	Piney maram, . .	TAM.
White dammer tree,	,,	Vellay, Kungilium,	,,
Gum-anime tree, .	,,	Dupada chettu, .	TEL.

This large and stately tree grows to the height of about 60 feet. It has entire, smooth, coriaceous leaves, and terminable panicles of white flowers. The young shoots and all tender parts, except the leaves, are covered with fine stellate pubescence. It is common in the hotter parts of Ceylon, up to an elevation of 2000 feet; it grows in Canara and all along the Malabar coast; it is found also in Mysore. Its wood weighs 26 lbs. to the cubic foot, and its timber is said to last ten years. In Ceylon, its timber is used for packing-cases, ceilings, coffins, etc.; on the western coast of India, it is said to be an excellent building timber, not liable to be attacked by the teredo, and much employed in ship-building. The dupada resin is used as a fragrant incense in temples; the quantity procurable is very considerable. It is obtained by wounding the tree, and in commerce occurs either in small lumps or in large masses, generally of a shining appearance and balsamic smell. It has a very cellular structure, which is attributable to the mode of collection. Notches being cut in the trunk of the tree sloping inwards and downwards, the resin collects in the cavity, and is either permitted to dry on the spot, or is collected and dried by the application of heat. It is of all shades, from light-green to light-yellow or white, and is usually translucent. Specimens are sometimes seen, in which, from the desiccation having been improperly conducted, the resin is more opaque, of a dull-green colour, and full of air bubbles, presenting the appearance of having undergone a partial fermentation. This resin may be recognised by its cellular appearance and balsamic smell; this latter, however (which is, of course, due to the volatile oil it contains), is gradually lost by long keeping or constant exposure to the air. What is called East Indian copal, and sold in England as gum-anime, exudes abundantly from this tree. Candles are made of this resin in Malabar, which Dr. Wight informs us diffuse in burning an agreeable fragrance, give a fine clear light with little smoke, and consume the wick without snuffing. These candles were at one time introduced into England, but a very high duty having been imposed, the trade ceased. A solid oil is prepared from the seeds, and is called piney tallow or dupada oil, Piney yennai, TAM., which is used for lamps, but is very suitable for soaps and candle-making. The oil from the seeds becomes perfectly solid even in hot climates, and is prepared by cleaning the seed, then roasting and grinding them into a mass. To 5 seers of seed add 12 seers of water, and boil until the oil rises to the surface. Remove the oil, stir the contents of the vessel, and allow it to stand until the following day, when more oil will be observed on the surface, which may be collected and the process repeated.—*Thw. Enum. Pl. Zeyl.; M. E. J. R.; Roxb. Flor. Indica; Voigt.*

VATERIA LANCEÆFOLIA. *Roxb.* This middling-sized tree is common in Sylhet, and grows in Assam and the Khassya mountains. It has entire, smooth, coriaceous leaves, and terminal panicles of white flowers. It flowers in April and May, and fruits in July and August. It is valuable as a timber tree. It exudes a clear liquid from wounds, etc., in the bark, which soon hardens into an amber-coloured resin. From this the natives distil a dark-coloured and strong-smelling resin called Chooa, also Chova, HIND., and sell it and gond or gum, which the Brahmans use as an incense. — *Roxb.* ii. p. 601; *Voigt; Royle's Him. Bot.; Eng. Cyc.; Mason.*

VATERIA ROXBURGHIANA. *Wight, Ill.* Common in some of our western coast forests, particularly in the South Canara jungles, and planted in avenues, etc., in Travancore; also indigenous in Ceylon, where it is called Mendora. Its timber is much valued in Ceylon, but is not in use in India; the tree produces a gum-resin.—*Beddome, Fl. Sylv.* viii. p. 95.

VATESWARA DATTA, according to some authorities, is the name of the father of Prithu, Prithwi, or Prithi-raj, but by other writers his father was named Someda or Vigraha Deva, and his grandfather Saruga Deva or Visala Deva. The term Datta is also more appropriate to a man of the Vaisya tribe than a Rajput, but then Vateswara is called a Samanta, a term especially implying a warrior and a chief, and, as in the case of the Jat, the agricultural tribes occasionally follow a military life. These considerations, however, leave the individuality of the author very doubtful.—*Asiatic Researches*, xv. p. 407; *Transactions of Royal Asiatic Society; Hindu Theatre*, ii. p. 154.

VATHEK, the hero of the tale by Mr. Beck-

ford, who is made to visit the Takht-i-Jamshid. According to the work called Khalassut-ul-Akhbar, Vathek died of dropsy in the month of Zehuj, 232 Hijira, or A.D. 846.

VATICA, a genus of plants of the East Indies, of the natural order Dipterocarpeæ. They are large trees of great economic value, and the recognised species are V. faginea, grandiflora, Helferi, and scaphula, *Dyer;* V. laccifera, obtusa, robusta, and tumbuggaia, *W. and A.* They are useful as timber trees and for their resins.

VATICA LACCIFERA. *W. and A., W. Ic.*

Shorea talura, *Roxb.*	S. robusta, *Roth.* not *Roxb.*
S. laccifera, *Heyne.*	Talura, ... TAM.

A large timber tree of Mysore and of the Balaghat mountains, Nâikenary, Nundidrug, Palghat, where it blossoms during the dry winds, and ripens its seed in June. It is very abundant in the hill forests of Cuddapah and North Arcot, and is also found in the Mudumalli forests, Animallays, Wynad, Mysore, etc. Its timber is very useful for house-building, panels of doors, and various other purposes; it has a ready sale in the Cuddapah district, and is largely imported into Madras. A species of lac is procured from the tree.—*Beddome, Fl. Sylv.; Roxb.; Captain Puckle in M. Ex. of* 1862*; Useful Plants; W. and A.*

VATICA ROBUSTA. *W. and A.*

Shorea robusta, *Roxb.*

Saj, ... ARAB.	Sala, ... SANSK.
Eing-gyin, . . . BURM.	Uswukunida, . . ,,
Sal tree, . . . ENG.	Guggalam chettu, . TEL.
Sal, ... HIND.	Salwa, Soringhi, URIYA.

Its Resin.

Ral, Rala, Dhoona, HIND.	Guggala, ... TEL.

This valuable timber tree is alluded to in ancient Hindu writings. In the Hindu Theatre (ii. p. 100), Madhava, speaking of the coming rainy season, says—

. . . . . 'The days approach
When the long line of clouds shall shed on earth
Their amaranthine drops, trembling in the breeze
That from the east comes powerful, and embued
With the rich odours of the Sal and Arjuna.'

Forests of it extend over a narrow belt from Kamaon to Assam, and the dammer of Bengal is the resin exuded from it. It grows in the Palghat mountains and to a limited extent on the west coast. West of Burhampore and Russelcondah, the sal forests are the most valuable tract of wood on the eastern coast of Peninsular India. In the taluk of Gumsur and in the zamindari of Bodogoda, the sal forests are important and accessible, for these districts are traversed by rivers, and during the short freshes timber can be rafted to the coast. Captain Beddome found it abundant on the Indrawati. Captain Sankey says that the sal of Nagpur, resembling bejasar somewhat in colour, differs peculiarly from it in the construction of its grain, and in its freeness from the faults to which the other is so subject. In strength, size, and all the qualities of good timber, it appeared to him to stand first of all those procurable in the Nagpur territories for a tie beam or rafter wood. The sal forests of Northern India, according to Dr. Falconer, extend in a nearly unbroken belt along the Terai from the Ganges at Hardwar to the Burhampooter; and it occurs also in the Morung Hills, and in Assam; but in many parts at the foot of the Himalayas, the forests are said to have become much exhausted.

Its seed has the utmost susceptibility of germination, with a vitality so limited in duration that it will not survive many days unplanted. It ripens at the commencement of the rains, and after the first shower falls actually sprouting from the tree. In consequence, young plants come up in the utmost profusion, forming patches of forest, which are literally impenetrable till thinned by the woodman. The tree Vatica robusta furnishes the best and most extensively used timber in the north of India. In Pegu, the tree is found chiefly on the Shan side of the Tounghoo district, and in the forests north of Tounghoo, and it is abundant inland in the Amherst and Tavoy provinces. Sal timber suffers much from exposure, splitting and warping greatly. The wood is hard, of a light-brown colour, and is in great repute; it is most valuable for house and ship building, as vats for liquids, door-frames, and for the rails and battens of doors. It is not suited for planks; it twists, shrinks, and warps whenever the surface is removed, even after many years' seasoning. This wood is in general use for building purposes in the Ganjam and Vizagapatam districts. Compared with teak, its strength is about 1121 to 869. In the Madras gun-carriage manufactory, it is used for beams of gun and howitzer carriages, light field axle-cases of all kinds, all parts of carts, transport carriage cheeks, handspikes of all sorts, perches of waggons, poles, short perches, braces, framing and splinter-bars of limbers, gun and waggon, and framing of all carts. The bark is employed by tanners, and yields an abundance of resin or dammer, which is used as a substitute for pitch, and burnt by the natives as incense, and an aromatic oil is procured from the resin by dry distillation. It is called Sal and Salwa in Gumsur, and Googul in the Godavery forests. Colonel Beddome is not sure that the Burmese tree called Eing-gyin is the same species.

VATICA TUMBUGGAIA. *W. and A.*

Shorea tumbuggaia, *Roxb.*	Sal tumbuggaia, *Roxb.*
Congo-wood tree, . ENG.	Tumbuggaia, . . . TEL.
Thambagam, . . . TAM.	

A large timber tree, a native of the Balaghat mountains, which blossoms in the beginning of the hot season, and ripens its seed in June. In the Balpalli jungles, in the Cuddapah district, the tree abounds, particularly on the ridges of the hills from Balpalli to Yerra Gunta Cottah, and over all the ridges of the hills in the Cuddapah district, growing to a height of from 30 to 35 feet, and from 6 to 7 feet in circumference. It is there chiefly used for house-building purposes, being much prized by the natives of the district on account of its durability. Its wood is used for fuses; it is a strong, heavy wood, close-grained but splintery, superior in strength and finer in grain than sal, too heavy for gun-carriages, but would answer for all purposes where great strength is necessary. It yields a large quantity of the resin called dammer, which is employed in marine yards as a substitute for pitch, but used also as benzoin in temples for incense.—*Roxb.; Voigt.*

VATSYA, a learned Hindu who wrote in the Sanskrit language, about the beginning of the Christian era. His book is the Kama Sutra, or Aphorisms of Love, and is the standard work on love and on social and domestic life in that language. It was composed by him whilst a religious student at Benares. He alludes in it to the

writings of seven earlier authors. He inculcates the necessity of education and cultivation of the 64 arts. Dowson also says that he wrote the Nyaya Bhasha, and that he was known under the name of Malla Naga.

VATTEZ BATTU, an ancient Tamil writing character, still in use by the Moplah in South Malabar.

VAYPI, an island near Cochin, which was thrown up from the sea in the 14th century, and gave rise to a new era, Puduvepa, new introduction.

VAYU. SANSK. Air, wind, Æolus, the atmosphere; one of the gods of the ancient Hindus; the god of winds and the regent of the north-west.

VEDA. The religious books of the Hindus, known as the Vedas, are four in number,—the Rig Veda, the Yajur Veda, the Sama Veda, and the Atharva Veda, but the last of these belongs to a much later age than the rest. Of the four, the Rig Veda is the oldest, and the Yajur Veda, Sama Veda, and the Atharva Veda follow in succession.

Each Veda is subdivided into three parts,—Sanhita, Brahmana, and Sutra.

The Sanhita of the Rig Veda is purely a lyrical collection, comprising the store of songs which the Aryans had brought with them from their ancient settlements on the banks of the Indus, and which they had used in their invocations for prosperity on themselves and their flocks, in their adoration of the dawn, in celebration of the struggle between the god who wields the lightning and the darkness, and in rendering thanks to the heavenly beings for preservation in battle.

The songs are here classified according to the families of the poets to which they are ascribed. This is a purely scientific arrangement, irrespective of their date.

It is known that the sacred books known as Vedas were numerous, and the tradition is that their arrangement into their present form was made by a person who is designated Veda-Vyasa, literally Veda-compiler.

The Sanhita of the Sama Veda, and both the Sanhitas of the Yajur Veda, consist of verses relating to the Soma offering which have been extracted from the Rig Veda; and the extracts forming the Sama Sanhita seem to have been made prior to those of the Yajur Veda.

The object of the Brahmanas is to connect the sacrificial songs and formulas with the sacrificial rite, by pointing out, on the one hand, their direct mutual relation; and, on the other, their symbolical connection with each other.

The Sutras or Aphorisms are founded on the Brahmanas, and must be considered as their necessary supplement, as a further advance in the path struck out by the latter in the direction of more rigid system and formalism. They are the Kalpa Sutra or Srauta Sutra relating to ritual, and the Griha Sutra or Smarta Sutra relating to domestic ceremonial.

The Smarta Sutra exhibit the complete standpoint of Brahmanism.

The language of the Vedas is not Sanskrit in the strictest sense of the term, but there is not sufficient difference between it and classical Sanskrit to authorize its being called a separate language. The difference is not so great as between Anglo-Saxon and modern English, but it is greater than between Homer's and Demosthenes' Greek. The names of the rishi or composers are not always given in the body of the hymns, and there is nothing to guide the historian or chronologist as to their dates. Nevertheless, good scholars are of opinion that Vedic hymns were composed mostly about the fifteenth or seventeenth centuries before Christ, but not committed to writing, and therefore not collected, until the eighth century B.C.

The Veda offers one of the best illustrations of the manner in which ancient literature was preserved in early times. The art of writing was unknown in India before the end of the ancient Vedic literature, about B.C. 800. Now the oldest Sanskrit manuscript we possess cannot be much older than A.D. 1000; but the sons of the three higher castes were required to learn by heart the sacred text. At the present day, youths in some of the Brahmanic families can repeat the whole of the Rig Veda, learned, as their ancestors acquired it thousands of years ago, from the mouth of a teacher, so that the Vedic succession should never be broken. Various readings from these 'walking Rig Veda manuscripts' are being collected for an edition which is to be published in the Sacred Books of the East.

Veda is derived from Vedali, contracted Vetti, he knows, one of the verbs commonly used in Sanskrit, and from which several words are derived of frequent occurrence, as vidya, learning; vidivan, a learned man, etc. This verb, also, has been preserved as vidanti, SANSK.; eidonta, GR.; vident, LAT.; witon, ANGLO-SAXON; and wit, ENG. The body of Vedic literature is immense. In the Brahmana, moral precepts, religious instruction, and information are conveyed.

Their Age.—Good scholars are of opinion that the Vedic hymns were composed after the 17th century B.C., but not collected until later. Professor Wilson supposed them to belong to the 8th century before Christ. But another view has been that the Sanhita or hymns were collected about B.C. 1200 or 1300, and that the Brahmana was written about B.C. 700 or 800; while Professor Max Muller fixes the years 600 and 200 B.C. as the limits of that age during which the Brahmanic literature was carried on in the strange style of the Sutra. According to Colebrooke, at the epoch of the Vedas the summer solstice was in the middle of As'lesha, the 9th lunar mansion; therefore Regulus was half a lunar mansion + 9°, that is 15° 40′ east of the summer solstice, at that time. On 1st January 1859, the longitude of Regulus was 147° 52′ 30″, hence Regulus was at that date 57° 52′ 30″ east of the summer solstice. The summer solstice had therefore retrograded through 42° 12′ 30″ = 42° 20′ 8″ since the epoch of the Vedas. And as the equinoxes and solstices move backward on the ecliptic at the rate of 1° in 72 years, it must have occupied 70° × 42° 20′ 8″ = 3039 years to effect the change. Hence the age of the Vedas was 3039 on the 1st January 1859, or their date is B.C. 1181, *i.e.* the early part of the 12th century before the Christian era.

Only a comparatively small portion of the Vedas has ever been translated, nor is it ever likely that the whole mass of Vedic literature will ever see the light in a modern language. Indeed, Roth calculated that the mere Sanhita or metrical

portion of the Vedas, as distinguished from the Brahmana or later ritual appended to each, contains not less than 30,000 couplets, of which 11,000 go to the Rig Veda. The Rig Veda comprises 1017 short poems, containing 10,580 verses.

Portions of the Rig Veda were translated by the late F. Rosen, the late M. Longlois, and by Professor H. H. Wilson; and Dr. F. Max Muller, who undertook to produce a complete one, has unweariedly devoted much of his useful life to this object. With all their difficulties, they furnish much information regarding the origin and early state of some of the races who are now called Hindus. From what has been published, it is known that during the period through which the Vedas were being produced, the people were progressing in moral culture and in social and political condition. In the earliest period of their migration, they had no money. Their wealth consisted of cattle, horses, sheep, goats, and buffaloes; the cow was the medium of barter. Cow-stealing was a great crime, but from the Rig Veda it is evident that the cow was not reverenced; they had apparently no temples nor images, and they were a cow-eating and spirit-drinking people. In later hymns there is mention of cities, of commerce, of weapons, of chariots, and even of the vices of primitive civilisation. Women throughout held a high social position. The rishi and his wife conversed on equal terms, went together to the sacrifice, and practised austerities together. Lovely maidens joined in processions, and grown-up daughters remained without reproach in their father's house.

The religion of the Aryans, as shown in the Vedas, differs in many very material points from that of the Hindus of the present day. The worship they prescribe is, with a few exceptions, domestic, consisting of oblations to fire, and invocations of the deities of fire, of the firmament, of the winds, the seasons, the moon, the sun, who are invited by the sacrificer, if a Brahman, or by his family priest, if he is not a Brahman, to be present, and accept the offering, either clarified butter or the fermented juice of the soma, Sarcostoma brevistigma, which are poured upon the sacrificial fire, in return for which they are supplicated to confer temporal blessings upon the worshipper, riches, life, posterity, which constitute the sum of heathen prayer in all heathen countries. The second hymn of the Rig Veda thus invokes the gods Indra, Mitra, Vayu, and Varuna:—

'1. Approach, O Vayu, be visible; this soma juice has been prepared for thee; approach, drink, hear our invocation.

'2. Those who praise thee, Vayu, celebrate thee with sacred songs, provided with store of soma juice, and knowing the season suitable for their oblations.

'3. Vayu, thy assenting voice comes to the sacrificer; it comes to many through the offering of the libation.

'4. Indra and Vayu, this juice has been prepared; come with benefits for us; verily the libation desires you.

'5. Vayu and Indra, observe the libations, being present in the offerings, come quickly.

'6. Vayu and Indra, mighty men, approach the priest of the sacrificer quickly, on account of his prayers.

'7. I invoke Mitra, the source of purity; I invoke Varuna, able to destroy; both cherishing earth with water.

'8. Mitra and Varuna, be pleased with this propitiatory offering; for to you, assuredly, do sacrifices owe their success, as the waters do their abundance.

'9. Mitra and Varuna, all-wise divinities, formed for the benefit of multitudes, and multitudinously present, give efficacy to our acts.'

Thus the hymns indicate primarily a worship of the elements, for other Deva named are Agni (Ignis), lord of fire; Surya, the sun; Marut, storms; Prithivi, the earth; Ap, the waters; Ushas, the dawn; Varuna (Ουρανος), the heavens; and to them the hymns are addressed.

Indra, as god of the firmament; Varuna, god of the waters; Yama, the judge of the dead; Agni, god of fire; Surya, the sun; Soma or Chandra, the moon; Vayu, the god of winds; the Marut, the Aditya,—all of them mere personifications of the powers of nature,—were invoked for aid or their wrath deprecated.

The gods of the Vedas were 33 in number, and some of them are not unknown to later systems, but at first perform very subordinate parts; whilst those deities who are the principal objects of Hindu worship of the present day, are either wholly unnamed in the Vedas, or are noticed in an inferior or different capacity. The names of Siva, of Durga, of Kali, of Rama, of Krishna, so far as research has gone, do not occur in the Vedas.

On the other hand, these sacred books contain many passages indicative of a purer thought. Sometimes they expand in glowing adoration of the attributes of the deity invoked, the 'one king of the breathing and awakening world,' whose greatness 'the snowy mountains and the sea proclaim,' 'whose shadow is immortality' (i. p. 29). Sometimes they embody the confessions of the penitent craving for forgiveness. 'Through want of strength, thou strong and bright God, have I gone wrong; have mercy, Almighty, have mercy!' (i. p. 39). 'Whenever we men, O Varuna, commit an offence before the heavenly host, whenever we break the law through thoughtlessness, have mercy, Almighty, have mercy!' They pray that the 'adorable light of Savitri may illumine (or rouse) the spirit of the worshipper.' Now, they recognise a power from whom no secrets are hid. 'If a man stand, or walk, or hide; if he lie down or get up; what two people sitting together whisper, king Varuna knows it; he is there as the third' (i. p. 41). They long for a site 'where life is free, where the worlds are radiant, there make me immortal.' But the Vedas yet fancifully play with the phenomena of nature. The dawn is a young bride, gold-coloured, daughter of the sky, mother of the cows (the mornings), leading the white and lovely steed (the sun). Sometimes their thoughts on the mystery of the universe clothe themselves in solemn words, as in the hymn which Mr. Colebrooke has translated:—

'Nor aught nor nought existed; yon bright sky
Was not, nor heaven's loved works outstretched above.
What covered all? What sheltered? What concealed?
Was it the water's fathomless abyss?
There was not death,—yet there was nought immortal;
There was no confine between day and night,
The only One breathed breathless by itself,
Other than it there nothing since has been.
Darkness there was, and all at first was veiled
In gloom profound, an ocean without light.
. . . . . .
Then first came Love upon it.'

The Vedic Aryans certainly had neither temples nor idols. Even now, in India, images of the deified elements are unworshipped, and, except images of the sun, they are never made. The personification of the divine attributes of creation, preservation, and regeneration, Brahma, Vishnu, and Siva, which are now almost exclusively recognised,

there is no reason, from the invocations addressed to them in common with the air, water, the seasons, the planets, to suppose that they were ever worshipped under visible types. Indeed, ministration to idols in temples is held by ancient authorities infamous. Menu repeatedly classes the priest of a temple with persons unfit to be admitted to private sacrifices, or to be associated with on any occasion; and, even yet, the priests who attend upon the images in public are considered as of a scarcely reputable order by all Hindus of learning and respectability. The worship of images is declared to be an act of inferior merit even by later authorities. It is almost certain, therefore, that the practice of worshipping idols in temples was not the religion of the Vedas. The dwelling-house of the householder was his temple; if qualified, he was his own priest; but as they more extensively engaged in secular avocations, it became almost universally the practice to retain a family priest. This is still the custom. Instead, however, of being a Brahman of learning and character, he is very commonly illiterate, and not always respectable. The office has also undergone an important modification. The family priest was formerly also the guru or spiritual adviser of the family. The priest now rarely discharges that function; he merely conducts the domestic rites; and the guru, to whom extravagant deference, such as is due to deity alone, is paid, is very usually a member of some of the mendicant orders that have sprung up in comparatively modern times.

In 500 hymns translated by Professor Wilson, the following is the number of Sakta allotted to each, viz. Indra, 178; Agni, 147; Aswini, 28; Marut, 24; Varuna, 20; Mitra, 17; Ushas, 11; Vayu, 6; Surya or Savitri, 5; Rudra, 3; Vrihaspati, 2; Vishnu (none in the first Astaka), 2; and Saraswati, 1. In the Vedas, Rudra is the chief of the winds, collecting the clouds as a shepherd's dog does the sheep, and attending on his master Indra; but in the present day amongst the Hindus he is identified with Siva. In the Vedas, however, with the single exception of an epithet, 'Kapardi,' with braided hair, of doubtful significance, and applied also to another divinity, no other term applicable to Siva occurs, and there is not the slightest allusion to the form in which, for the last ten centuries at least, he seems to have been almost exclusively worshipped in India, that of the lingam, priapus, or phallus; neither is there the slightest hint of another important feature of later Hinduism, the trimurti or triune combination of Brahma, Vishnu, and Siva, as typified by the mystical syllable O'm (a-u-m).

Indra and all the gods are everywhere represented as unable to perform any great exploit without the inspiration of the soma juice. 'Sit down, Indra,' says Viswamitra, 'on the sacred grass, and when thou hast drunk the soma, then, Indra, go home' (iii. p. 84). 'Drink, Indra, the soma that is effused for thy exhilaration,' sings rishi Bharadwaja; 'stop the friendly steeds, let them loose; sitting in our society, respond to our hymns' (iii. p. 454). 'Who buys this, my Indra, with ten milch kine? when he shall have slain (your) foes, then let (the purchaser) give him again to me' (iii. p. 107). 'The purifying soma, like the sea rolling its waves, has poured forth songs, and hymns, and thought.' Such worship seems to explain the Greek story of Bacchus, and shows that it was not an invention merely to flatter Alexander.

Professor Max Muller says if we must have a general name for the earliest religion of the Vedic Indians, it would be neither monotheism nor polytheism, but only Henotheism, that is a belief in and worship of those single objects in which man first suspects the presence of the Invisible and the Infinite. This is unintelligible.

The Vedic, in common with other religions, was conservative, and the morality, the ethical conceptions, and social and political condition of the Aryans, moved in advance of the ideas in the earlier hymns. During the period embraced in the composition of the Vedas, Professor H. H. Wilson thinks (Rig Veda, i. 59, 65, i. xxiv.) 'it is inferable from some passages that human sacrifices were not unknown, although infrequent;' and the Satapatha Brahmana relates how men ceased to be the offered victims; first the horse, then other animals, and finally rice and barley and barley cakes, were successively substituted. The ninetieth hymn of the tenth book of the Rig Veda tells how all things were made out of the mangled limbs of Purusha (man). In the Purusha Sakta, a hymn of the Yajur Veda, the gods sacrifice Purusha. The Vedic conception of the creation of animal life is rude.

The Satapatha Brahmana discloses the wildest of cosmogonies,—how Purusha differentiated himself into husband and wife, and these into all forms of animal metamorphoses. There are two hymns in the Rig Veda describing the Aswa Medha rite, and which leave no doubt that in the early religion of the race, this sacrifice was had recourse to as a burnt-offering to the gods. It was, even then, however, *falling into disuse*, and was existing as a relic of an anti-Vedic period, imported from some foreign region, possibly from Scythia, where animal victims, and especially horses, were commonly sacrificed. And, in still later times, the Aswa Medha consisted in certain ceremonies ending in the liberation of the horse, as throughout nearly all India is still practised with a bull or cow, many of which are met with in every village, freed or let loose in the name of Siva or Vishnu or other Hindu god.

From the Vedas are immediately deduced the practical arts of chirurgery and medicine, music and dancing; archery, which comprises the whole art of war; and architecture, under which the system of mechanical arts is included. Next in order to these are the six Vedanga or bodies of learning, three of which belong to grammar, one relates to religious ceremonies, a fifth to the whole compass of mathematics, and the sixth to the explanation of obscure words or phrases in the Vedas. Subordinate to these Anga (though the reason of the arrangement is not obvious) are the series of sacred poems, the body of law, and the six philosophical Shastra.—*As. Res.* iii., xvii.; *Oriental Linguistic Studies; Darwinism in Morals; Sonnerat's Voyages; Wilson's Hindu Sects; Calcutta Review*, No. 109; *Elphinstone's India*, p. 226; *Professor Muller, Lectures; Saturday Review*, 24th Feb. 1883; *Weber*, p. 12; *Archdeacon Pratt in Beng. As. Soc. Journ.* No. 1 of 1862.

VEDA-MATRI, mother of the Vedas, the Gayatri.

VEDAN, also styled Vedar, Veddah, Bedan,

Veddar, Beder, and Weden, a wild forest race in Malabar and the S. of India, engaged in hunting. Those of the Malabar forests are predial slaves, who cut timber, and do not cultivate. The Beder of Zorapur in the doab of the Kistna and Bhima are settled but predatory. There are many of the Beder race throughout Mysore, in parts of the Ceded Districts. Tipu Sultan employed them in his armies, and they followed in the wake of the Mahratta armies. It is from their name that the term Pindara was formed. See Veddah; Vettuvan.

VEDANGA, from Veda and Anga, the name of six Sanskrit books explanatory of the Veda, viz. Siksha or pronunciation, by Panini; Chandas or metre, by Pingala; Vyakarma or grammar, by Panini; Nirukta, a glossarial comment; Jyotisha or astronomy; Kalpa or Vedic ceremonial.

VEDANTA is a school of philosophy or psychology founded on scattered texts of the Vedas, and thence termed the 'Anta' or end or substance. The voice of Hindu antiquity ascribes the origin of the Vedantic system to the sage Badarayana, otherwise named Veda-Vyasa. The manner of his birth is thus described in one of the works attributed to him,—

'Of birth and death,
A multiplicity of souls is to be inferred.'

The germs of this philosophy, and even its principal doctrines, are, however, contained in the Brahmanas of the Vedas; then it is seen in a more complete form in the Sutras of Vyasa; and lastly, this philosophy is recorded in the great commentaries which eminent scholars have written upon the original authorities.

The Vedanta, Sankhya, Vaiseshika, Nyaya, and Yoga philosophers all appeal to the Upanishads in support of their tenets. The philosophy of Vyasa considers all existing beings and things to be an evolution of the deity.

Sankaracharya was the most distinguished expounder of Vyasa's theory, which he held with some modifications. As it inculcates the existence of one sole essence, it is often called the Adwaita or non-dual system. Ramanuja was one of its ablest antagonists. It would be difficult to find two sets of opinions more absolutely irreconcilable than Vedic hymns and Vedantic philosophy. The Sutra (aphorisms) or Brahma Sutra, the chief authorities of the pantheistic Vedanta school, though much later than the rest, are still mnemonics, as also is the Vaiseshika or Atomic school of Kanada.

The Vedanta system is the second great division of the Mimansa school of Hindu philosophy. It is chiefly engaged in the investigation of Brahm or the supreme spirit, and the relation in which the universe, and especially the human soul, stands to it; and, in contradistinction from the Purva-Mimansa or the investigation (Mimansa) of the former (Purva) part of the Vedas, viz. the Sanhita, and especially the Brahmanas, which contain the Dharma or religious law, it is called the Uttara-Mimansa, or the investigation of the latter (Uttara) part of the Vedas, viz. Aranyaka and Upanishad, which treat of (the neuter) Brahm or the supreme spirit (not to be confounded with [the masculine] Brahma or the god of the mythological Trimurti). Sometimes the name given to it is Sarira-ka-Mimansa, or the investigation of the soul. In its method, the Vedanta differs from the Nyaya by endeavouring to explain the universe as a successive development from one ultimate source or principle; whereas the Nyaya, in both its divisions, treats of the object of human knowledge, of which the universe is composed, under different topics, unconcerned about their mutual relation of effect and cause; and from the Sankhya it is distinct, inasmuch as that system is based on the assumption of a duality of principles, whence the universe derives its origin.

VEDANTA-SUTRA or Brahma-Sutra, aphorisms of Badarayana on the Vedanta philosophy.

VEDDAH, a wild, semi-savage race, about 400 in number, residing in the interior of Ceylon. The forest Veddah dwell in hollow trees or caves, subsist on game, which they kill with rudely formed bow and arrows, wandering from jungle to jungle as the game becomes scarce. Their language is said to be unintelligible to all others. The village Veddah dwell in certain districts, hold but slight intercourse with the other inhabitants of the island, and do not intermarry with them. They can make themselves understood to the Singhalese. Their sole clothing is a strip of cloth which is fastened by a coir cord passed round their loins. Their hair, beards, and whiskers are never shorn or cleansed, but hang down in matted masses. The forest Veddah are skilful in snaring the wild elephant. The two tribes do not intermarry, as they mutually distrust each other. They have their own headmen, whom they elect and obey. They use bows and arrows, and clubs of iron and wood. They occupy a district about 90 miles long and 45 broad in the south-eastern side of Ceylon, lying between the sea and the base of the Badulla and Oovah Hills. They are said to be a remnant of the Yakko, the aborigines of Ceylon, who, 2000 years ago, after the conquest of the island by Wijayo and his followers, returned into the wilds. Their language is a dialect of Singhalese, free from Sanskrit or Pali, but the vocabulary is very limited, and they have recourse to gestures and signs. They cover their dead with leaves in the jungle. Veddah is the Sanskrit Vyadha, a hunter.—*Davy's Ceylon.*

VEDI. SANSK. An altar, a seat for an image.

VEDYAVAN, 'the man of secrets of knowledge,' is the term used by way of reproach to the Buddhist and Jain sects, having the import of magician. Their opponents believe them to be possessed of supernatural skill, and it is recorded of the celebrated Amara, author of the Cosa or dictionary called after him, that he miraculously 'made the full moon appear on Amavus,' the ides of the month, when the planet is invisible.

VEERANROOSTY. The jangam religious mendicants, and those of the Veeranroosty caste, blow the chank shells as trumpets.

VEGETABLE-IVORY PALM (Phytelephas macrocarpa, *R. and P.*), of Central America and New Granada. It grows between the 9th degree of north and the 8th degree of south latitude, and the 70th and 79th of west longitude, and is found in narrow valleys and damp localities from the coast to 3000 feet above the sea. From the kernels or albumen of the fruit, turners fashion the knobs of walking-sticks, the reels of spindles, and little toys, which are whiter than animal ivory, and equally hard when dry, but soften when placed in water. The plant is supposed to belong to Endlicher's class Spadiciflora and Lindley's alliance Arales; but Martius regards it

as the type of a new natural order, and named it Phytelephanteæ, and is called the ivory palm.—*Seeman.*

VEGETABLE KINGDOM. This term is applied collectively to the various forms of plants, as the terms Animal Kingdom and Mineral Kingdom are applied to animals and minerals.

Extent.—Drs. Hooker and Thomson relate that all the main elements of the Indian flora exist in its surrounding countries, and that the families of plants peculiar to it are of very limited number. The Aurantiaceæ, Dipteraceæ, Balsamineæ, Ebenaceæ, Jasmineæ, and Cyrtandraceæ are the only orders which are largely developed in India, and sparingly elsewhere, and of these few contain one hundred Indian species. India contains representatives of every natural family on the globe, and it contains a more general and complete illustration of the genera of other parts of the world than any other country whatsoever. The Compositæ are, however, especially deficient, as also are the Gramineæ and Cyperaceæ in some regions, Leguminosæ, Labiatæ, and ferns in others; whilst Euphorbiaceæ and Scrophulariaceæ are universally present, and Orchideæ appear to form a larger proportion of the flora of India than of any equally extensive country. The total number of Indian species of plants were estimated by Drs. Hooker and Thomson at 12,000 to 15,000, but they are not generally diffused, and it is believed that no part of the whole area in India produces 2000 species of flowering plants in a radius of 10 miles. In the more humid jungles, many species may be gathered in an extensive area. In the dry arid tracts of Central India it would be difficult to collect 150 species in several miles. At 4000 to 5000 feet elevation in the Khassya, fifty species of Gramineæ and twenty to thirty species of Orchideæ have been collected in an 8 miles' walk. The mountains of India, when above 4000 or 5000 feet, present a temperate vegetation, which becomes wholly temperate at greater elevations, and passes into an alpine flora over a large extent of still loftier mountain country. In the humid parts of tropical India, as in the impenetrable green jungles of the equable and rainy Malay Peninsula, of Eastern Bengal, the west coast of the Madras Presidency, and of Ceylon, the flora contrast strongly with the drier parts of the intertropical zone, and still more so with the loosely timbered districts of Central India and of the base of the Western Himalaya. The drier tropical forests of India are much modified in luxuriance and extension by the winter cold in those extra-tropical latitudes over which they spread; hence many tropical genera and families, as most palms, Cycas, Dipterocarpeæ (except Vatica), Aurantiaceæ, Connaraceæ, Meliaceæ, Myrtaceæ, Rubiaceæ, Ebenaceæ, and many more, which are sensitive to cold, are comparatively local when found beyond the tropics; others which are indifferent to the cold of winter, as are many Leguminosæ (viz. Bauhinia, Acacia, Erythrina, Butea, Dalbergia, and Milletia), Bombax, Vatica, Nauclea, Combretaceæ, Verbenaceæ, Lagerstræmia, Grislea, Jasmineæ, and Bignonia Indica, are indifferent to the cold of winter, provided they experience a great summer heat; and they advance far beyond the tropics, and lend a more or less tropical aspect to the flora even of the base of the North-Western Himalaya in lat. 35° N. On the other hand, the perennially humid forests are uniformly characterized by the prevalence of ferns; and at elevations below 5000 to 7000 feet, by the immense number of epiphytal Orchideæ, Orontiaceæ, and Scitamineæ. They contain a far greater amount of species than the drier forests, and are further characterized by Zingiberaceæ, Xyrideæ, palms, Pandaneæ, Dracæna, Piper, Chloranthus, Urticaceæ (especially Artocarpeæ, and Fici), Araliaceæ, Apocyneæ, shrubby Rubiaceæ, Aurantiaceæ, Garciniaceæ, Anonaceæ, nutmegs, and Dipterocarpeæ. Besides species of the Gramineæ and Cyperaceæ, a vast number of annual plants vegetate only during the hot rainy season, and, neither exposed to drought or cold, the small Leguminosæ and Scrophularinæ occur amongst Sida, Corchorus, Nama, Blumea, and other Compositæ, some Labiatæ (as Leucas, Anisomeles, etc.), Amarantaceæ, Acanthaceæ, Convolvulaceæ, Ludwigia, Jussieua, etc. And these tropical annuals and perennial-rooted plants with annual stems, are not confined to the plains, but ascend the loftier mountain valleys as far as the well-marked rainy season extends, and only disappear where the accession of heat and humidity is not sufficient in amount, or regular enough in period, to stimulate their vegetative organs. Among the most remarkable of these extra-tropical examples of tropical genera are species of Bignonia, Osbeckia, Argostemma, Plectranthus, various Cyrtandraceæ, Scitaceæ, Araceæ, Commelynaceæ, and a few epiphytical Orchideæ. And during the cold months only, in the extra-tropical regions of India, numerous genera and species of annual plants of the north temperate zone flower when the tropical plants are torpid.

Besides the chenna, wheat, barley, and more rarely oats, with various kinds of pulse, which form the winter crops of the Gangetic plain of Central India, of Berar, of the Central Dekhan, of Mysore, and Coimbatore, there are of wild plants, Ranunculus sceleratus and R. muricatus, Capsella bursa-pastoris, Selene conica, Alsine media, Arenaria serpyllifolia, Euphorbia heleoscopia, Medicago lupulina and M. denticulata, Lathyrus aphaca, Gnaphalea, Xanthium, Veronica agrestis and V. anagallis, Heliotropium Europeum, various Polygona, Juncus bufonius, Butomus umbellatus, Alisma plantago, and very many Cyperaceæ, Gramineæ, and such aquatics as Myriophyllum, Potamogeton natans and P. crispus, Vallisneria, Zannichellia, Ranunculus aquatilis, Lemna, and many others.

In the regions at the base of the mountains in the perennially humid provinces of India, from the atmosphere being more loaded with moisture, the climate is more equable than that of the adjacent plains, and a warm temperate flora, unknown to the plains, commences at elevations of 2000 to 3000 feet, and prevails over the purely tropical vegetation which appears amongst it in scattered trees and shrubs. Amongst other orders may be mentioned Magnoliaceæ, Ternstrœmiaceæ, sub-tropical Rosaceæ (as Prunus, Photinia, etc.), Kadsura, Sphærostema, Rhododendron, Vaccinium, Ilex, Styrax, Symplocos, Olea, Sapotaceæ, Lauraceæ, Podocarpus, Pinus longifolia, with many mountain forms of truly tropical families, as palms, Pandanus, Musa, Clusiaceæ, vines, Vernonia, and hosts of others.

In the *Himalaya*, the truly temperate vegetation supersedes the sub-tropical above 4000 to 6000 feet; and the elevation at which this change takes place corresponds roughly with that at which the winter is marked by an annual fall of snow. This phenomenon varies extremely with the latitude, longitude, humidity, and many local circumstances. In Ceylon and the Madras Peninsula, where mountains attain 9000 feet, and where considerable tracts are elevated above 6000 to 8000 feet, snow has never been known to fall. On the Khassya mountain, which attains 7000 feet, and where a great extent of surface is above 5000 feet, snow seems to be unknown. In Sikkim, snow annually falls at about 6000 feet elevation; in Nepal, at 5000 feet; in Kamaon and Garhwal, at 4000; and in the extreme West Himalaya lower still. In the mountains of Ceylon, on the Neilgherries, and on the Khassya Hills, the temperate forms of plants are more numerous than upon the Himalaya. Violent winds sweep over the broad, grassy, undulating tops of the Khassya Hills, and hundreds of species common to the Sikkim Himalaya and to the Khassya ascend higher in the warm forest-clad and sheltered Himalayan valleys at 5000 to 7000 feet in Sikkim than they do in the Khassya Hills. In the Himalaya, the genera Rhododendron, Monotropa, Pedicularis, Corydalis, Nepeta, Carex, Spiræa, Primula, Cerasus, Lonicera, Viburnum, and Saussurea, attain their maximum of development over all other parts of the world. Ephedra ranges from the plains of the Panjab up to 16,000 feet in the N.W. Himalaya; the genus Marlea ascends from 3000 to 8000 feet in Sikkim, and in the Western Panjab, at scarce 4000 feet, accompanies Celtis and a species of ash; sub-tropical Myrsine extend into Afghanistan. Juniperus excelsa, found as low as 5000 feet in Afghanistan, ascends to 15,000 feet in Tibet. Populus Euphratica, a Cynanchum, Chloris barbata, Cyperus aristatus, are tropical and sub-tropical plants which ascend to 11,000 feet in Ladakh, and Peganum harmala attains to 9000 feet. The alpine or arctic flora, on the alpine region of the Himalaya, commences above the limit of trees throughout a great part of the Himalaya, and hardly reaches its extreme limit at 18,500 feet (3½ miles) of elevation. It has a comparative paucity of cryptogamic plants, is poor in the luxuriant mosses of tall growth and succulent habit, and, though fully representing the flora of the polar regions, it partakes in its characteristic genera of the temperate flora, and contains so many types foreign to the flora of the polar regions (as Gentiana, Ephedra, Valerianeæ, Corydalis), and some which are even rare in Siberia, that it must rather be considered as a continuation of the alpine flora of Europe than a representation of that of the arctic zone.

The bulk of the flora of the perennially humid regions of India, as of the whole Malayan Peninsula, the Upper Assam valley, the Khassya mountains, the forests at the base of the Himalaya from the Brahmaputra to Nepal, of the Malabar coast, and of Ceylon, are of one type, which includes a very large proportion of the Indian genera.

The floras of the frontier provinces of India are identical with those of the countries which surround them, and there is even a decided affinity between the floras of areas separated by oceans, deserts, or mountain chains, which present many natural characters in common, for which neither migration nor climate will account.

Of the flora of Australia, Pittosporum and Scævola are found all over India and Africa; and of two species of Stylidium, one extends to Midnapur in the Gangetic delta, and one in the Malay Peninsula, along with several genera of Myrtaceæ (Leptospermum, Bœkia, Metrosideros), and the genus Tristania, which advances to Moulmein, in lat. 17° N. Also the Casuarina grows wild up to Ramree, Helicia in the Malay Peninsula, and the Lagenophora of N. Zealand and Australia has a representative in the Khassya and Ceylon. Many species of tropical plants of the Neilgherry and Khassya Hills, of Ceylon, and of the Himalaya, are identical with Javanese mountain plants. Gaultheria nummularia is found in the N.W. Himalaya, through the whole range into the Khassya, and also on the Javanese mountains 3000 miles distant. The Sedgwickia cerasifolia of Griffith (Liquidamber altingia of Blume), also the curious Cardiopteris lobata, several oaks and chesnuts, Antidesma, a willow, and Myrica, are common to the Khassya and Java; and Marlea is spread into China, throughout the Himalaya, and to the mountains south of Kashmir.

Amongst the Indian flora are many temperate genera and species which are common to N. America west of the Rocky Mountains, besides many tropical species that are also Malayan and West Polynesian.

The *Chinese* type is abundant in the temperate regions of the Himalaya, is fully developed in the Khassya, in Sikkim, and Butan, and extends westward to Garhwal and Kamaon. Chinese and Japanese species of Aucuba, Helvingia, Stachyurus, Enkianthus, Abelia, Skimmia, Bucklandia, Adamia, Benthamia, Corylopsis; and of those common to India and China are Microptelea parvifolia, a species of elm, Hamamelis Chinensis, Nymphæa pygmæa, and Vaccinium bracteatum, all of the Khassya; Quercus serrata of China, Nepal, Sikkim, and the Khassya; while species of Illicium occur in the Khassya, Thea in Assam, and Magnolia in Sikkim and Khassya, with species of Camellia, Deutzia, Hydrangea, Viburnum, several Corneæ and Houttuynia. Schizandreæ are peculiarly characteristic of the Chinese flora, but also extend into Java. Lardizabaleæ belong to the Himalaya, Japan, and China. The fern Bowringia is found in Hong-Kong and in the Khassya; and the genera Daphne, Bucklandia, Enkianthus, Henslowia, Scepa, Antidesma, Benthamia, Goughia, Myrica, and others are both Chinese and Indian. Euryale ferox is abundant in China, in the delta of the Ganges, and in Kashmir; and Nepenthes phyllamphora is a native of the Khassya, of Macao, and of the Louisiade Archipelago.

The *Siberian* type of plants is very fully represented in the upper and alpine regions of the Himalaya, and is most confined to the drier parts of the chain, but may be observed even in the most humid regions of the Himalaya, and occasionally on the mountains of tropical India. It approaches in many respects to the south European vegetation, but is characterized by the predominance of Fumariaceæ, Potentillæ, Leguminosæ (especially Hedysarum and Astragaleæ), of Umbelliferæ, Lonicera, Artemisia, Pedicularis,

and Borragineæ, and by the rarity or total absence of the European Cistaceæ, Rosa, Rubus, Trifolium, Erica, ferns, and other cryptogams. Artemisia and Astragalus of the Siberian type are abundant throughout Tibet and the interior Himalaya, are represented by a few species in the plains of the Panjab and on the Khassya mountains. Spiræa Kamtschatika, Chamædrifolia, and Sorbifolia, and Paris polyphylla are alike Siberian and Himalayan forms, while Corydalis Siberica and Nymphæa pumila are identical in Siberia and on the Khassya Hills.

European.—222 British species have been ascertained to extend into India; and a multitude of mountain plants, many of them the most conspicuous in Europe, range from the coasts of the Levant and the Black Sea to the Himalaya. This is the more remarkable, as the Himalaya range is, in idea rather than really, connected with the mountains south of the Caspian, or with the Caucasian Alps, or those of Asia Minor, for the mountain mass of Asia sinks to the westward of Afghanistan, rising again only in isolated peaks. The Corylus colurna (C. lacera, *Wall.*) ranges from the Levant and the Black Sea to the Himalaya. Quercus ilex, Ulmus campestris, Celtis Australis and orientalis, extend from Spain to the N.W. Himalaya; but the walnut, ivy, juniper, yew extend from Europe through the Himalaya, across China, through Mexico, and throughout N. America. The yew, the juniper, Aquilegia vulgaris, Calla palustris, etc., are common to most parts of Europe, N. Asia, the Himalaya, and N. America. The Mediterranean flora, Celtis, Quercus ilex, Olea Europea, Myrtus communis, etc., are also Himalayan plants. The European plants, however, rapidly disappear to the east of Kamaon, but there is a blending of the European flora on the east of the Himalayan chain; as to the eastwards, there is a mixture of Chinese and Malayan forms with that of the Himalaya.

Many *North African* or *Arabian* forms, such as Peganum, Harmala, Eagonia cretica, Balanites Ægyptiaca, Acacia Arabica, Alhaji, Grangea, Calotropis, Salvadora Persica, extend through the drier parts of India; and others, Cleome, Balsamodendron, Astragalus hamatus, Cucumis colocynthis, Berthelotia, Anticharis Arabica, etc., have a less extensive range, and there is a striking resemblance between the vegetation of tropical Africa and tropical Asia.

Zones.—In descending from Darjeeling, the zones of vegetation are well marked. At a little below 7000 feet, or between 6000 and 7000, by (1) the oak, chesnut, and magnolia. (2) Immediately below 6500, the tree-fern appears (Alsophila gigantea, *Wall.*), a widely-distributed plant, common to the Himalaya from Nepal eastward to the Malay Peninsula, Java, and Ceylon. Of this Dr. Hooker saw but one species in the mountains; a very similar, or possibly distinct species, grows at the foot of the outer range. (3) Palms, a species of Calamus, the renoul of the Lepchas. The fruit of all the Calami are eaten by the Lepchas, and the stems of larger species applied to various economic purposes. This, though not a very large species, climbs lofty trees, and extends some 40 yards through the forest; 6500 feet is the upper limit of palms in the Sikkim Himalaya, and one species alone attains so great an elevation. Four other Calami range between 1000 and 6000 feet on the outer hills, some of which are found 40 miles distant from the plains. Among the other palms of Sikkim is the Simong, a species of Caryota, which is rare, and ascends to nearly 6000 feet. Firing the forest is so easy in the drier months of the year, that a good deal of cultivation is met with on the spurs at and below 5000 feet, the level most affected by the Lepchas, Limbu, and Sikkim Bhoteas. The mountain slopes are so steep, that these spurs, or little shelves, are the only sites for habitations between the very rare flats on the river banks and the mountain ridges, above 6000 feet, beyond which elevation cultivation is rarely if ever carried by the natives of Sikkim. The varieties of grain are different, but as many as 8 or 10 kinds are grown without irrigation by the Lepchas, and the produce is described as very good (80-fold). Much of this success is due to the great dampness of the climate; were it not for this, the culture of the grain would probably be abandoned by the Lepchas, who never remain for more than three seasons on one spot. A large bamboo (Pao, LEPCHA) is the prevailing plant near the base of these valleys; it attains a height of 40 to 60 feet, and the culms average in thickness the human thigh; it is unarmed, deep-green or purplish, and used for large water-vessels. Besides this there are nearly a dozen kinds of bamboo known to the Lepchas, and all have been pointed out. A timber of the Himalaya, universally adopted for ploughshares and other purposes requiring a hard wood, is the Singbrang-kun of the Lepchas, which ascends 4000 feet on the mountains. In very dry soils it is replaced by sal (Vatica robusta), and more rarely by the Pinus longifolia. Sterculiæ, of two species, are common, as Pæderia fœtida, which, as well as many Cucurbitaceæ, peppers, Gnetum, Porana, a few Convolvulaceæ, and many Asclepioideæ, Hoya, etc., climb high. A troublesome dipterous insect swarms on the banks of the streams; it is very small, floating like a speck before the eye. The bite of this (the Peepsa) leaves a small spot of extravasated blood under the cuticle, very irritating if not opened. A white-flowered rue, Ruta albiflora, is sometimes cultivated, and very common; truly wild at elevations of 3000 to 7000 feet; it is commonly used for all diseases of fowls, mixed with their food. Two species of bamboo, Payong and Praong of the Lepchas, here replace the Pao of the foot of the hills. The former flower abundantly, the culms, 20 feet high, being wholly a diffuse panicle of inflorescence. The Praong bears a round head of flowers at the apex of the leafy branches.

Timbers.—A thousand feet above Punkabari in the Outer Himalaya, the prevalent timber is gigantic, and scaled by climbing Leguminosæ, as the Bauhinia and Robinia, which sometimes sheath the trunks or span the forest with huge cables joining tree to tree. Their trunks are also clothed with parasitical orchids, and still more beautifully with Pothos (Scindapsus), peppers, Gnetum, vines, convolvulus, and Bignoniæ. The beauty of the drapery of the Pothos leaves is pre-eminent, whether for the graceful folds the foliage assumes, or for the liveliness of its colour.

From one steppe, the ascent to Punkabari is sudden and steep, and accompanied with a change in soil and vegetation. The mica-slate and clay-

slate protrude everywhere, the former full of garnets. A giant forest replaces the stunted and bushy timber of the Terai proper; of which the Duabanga and species of Terminalia form the prevailing trees, with Cedrela and the Gordonia Wallichii. Smaller timber and shrubs are innumerable; a succulent character pervades the bushes and herbs, occasioned by the prevalence of Urticaceæ. Large bamboos rather crest the hills than court the deeper shade; and of the latter there is abundance, for the torrents cut a straight, deep, and steep course down the hill flanks; the gulleys they traverse are choked with vegetation, and bridged by fallen trees, whose trunks are richly clothed with Dendrobium Pierardi and other epiphytical orchids, with pendulous Lycopodia, and many ferns, Hoya, Scitamineæ, and similar types of the hottest and dampest climates. The forest is truly magnificent along the steep mountain sides. The proportion of deciduous trees is considerable, partly probably due to the abundance of the Dillenia, Cassia, and Sterculia, whose copious fruit is all the more conspicuous from the leafless condition of the plant. The white or lilac blossoms of the convolvulus, like Thunbergia and other Acanthaceæ, were the predominant features of the shrubby vegetation, and very handsome. All around, the hills rise steeply 5000 or 6000 feet, clothed in a dense deep-green dripping forest. Torrents rush down the slopes, their position indicated by the dipping of the forest into their beds, or the occasional cloud of spray rising above some more boisterous part of their course.

Trade.—British India is largely independent of all other countries for its supplies from the vegetable kingdom.

'The Indian nut alone
Is clothing, meat, and trencher, drink and can,
Boat, cable, sail, and needle, all in one.'

But its imports are also considerable; in 1882-83, as under:—

Imports.		Exports.	
Canes, rattans,	Rs. 2,46,476	Caoutchouc,	Rs. 12,59,165
Caoutchouc,	2,11,010	Coffee,	1,39,22,040
Coffee,	7,52,563	Coir,	14,20,884
Coir,	86,139	Cotton,	16,05,00,268
Corks,	2,35,797	Cotton goods,	2,57,20,616
Cotton, raw,	9,80,199	Drugs,	12,51,206
Cotton goods,	24,81,00,625	Dyes and colouring materials,	4,16,14,273
Drugs,	39,16,367	Fruits and vegetables,	2,80,222
Dyes, etc.,	20,66,395	Rice,	8,47,58,404
Flax, raw, etc.,	14,00,923	Wheat,	6,07,13,170
Fruits and vegetables,	21,14,346	Gram, jowari, bajra, etc.,	31,73,426
Gram and pulse,	8,75,476	Gums and resins,	30,66,805
Gums and resins,	11,78,231	Hemp,	4,33,501
Hemp,	2,10,083	Jute, raw,	5,84,69,259
Hops,	4,29,829	Jute manufactures,	1,48,78,304
Jute manufactures,	3,97,938	Oils,	38,18,275
Opium,	3,692	Oil-cake,	3,91,252
Paper,	33,04,784	Opium,	11,48,13,764
Seeds,	3,26,212	Perfumery,	69,279
Spices, betel-nuts, cloves, nutmegs, pepper,	51,08,537	Seeds,	7,20,25,931
Sugar of all kinds,	1,08,69,610	Spices,	37,69,109
Tea,	19,30,515	Sugar,	67,86,420
Tobacco,	8,36,087	Tea,	3,69,95,085
Wood,	9,93,844	Tobacco,	9,89,358
		Wood, timber,	67,10,265

—*Dr. Hooker; Hooker and Thomson; A. R. Wallace.*

VEGETABLE MARROW.

Squash gourd, . . ENG. | Suppara roomro, . HIND.

This very delicate vegetable of the gourd species is the Cucurbita ovifera, *Linn.* The crooked-necked variety, when about six inches long, is well flavoured, but soon gets hard and stringy. The pear-shaped is the best of any, but must be dressed when young. Propagation only by seed, and the plants should never be removed, but remain where sown, only thinning the weakly ones. The soil should be a rich loam, the same as for cucumbers. Train the plant on sticks. It is often necessary to fertilize the female blossoms, by approaching the anthers of the male flower when charged with pollen.—*Riddell.*

VEGETABLES OF INDIA.

Abelmoschus esculentus.
Achyranthes aspera.
Ærua lanata.
Æschynomene aspera.
Agati grandiflora.
Allium ascalonicum.
A. porrum.
A. sativum.
Alternanthera sessilis.
Amarantus atropurpureus.
A. campestris.
A. frumentaceus.
A. oleraceus.
A. polygamus.
A. spinosus.
A. tenuifolia.
A. tristis.
Amorphophallus campanulatus.
Andropogon esculentum.
Artocarpus integrifolia.
Asparagus acerosus.
A. officinalis.
Asystasia Coromandeliana.
Atriplex heteranthera.
Bambusa, *sp.*
Basella alba.
B. purpurea.
Batatas edulis.
Bauhinia albida.
Benincasa cerifera.
Bergera Kœnigii.
Beta vulgaris.
Boerhaavia procumbens.
Brassica oleracea.
B. rapa.
Bryonia coccinia.
Byttneria herbacea.
Caladium esculentum.
Canavalia ensiformis.
C. gladiata.
C. grossum.
C. obtusifolia.
Capparis brevispina.
C. Decaisnæi.
Capsella bursa-pastoris.
Capsicum frutescens.
C. minimum.
C. purpureum.
Caralluma adscendens.
Carica papaya.
Chenopodium album.
Cleome pentaphylla.
Cocos nucifera.
Commelina communis.
Convolvulus batatas.
Coriandrum sativum.
Cucumis usitata.
Cucurbita citrullus.
C. maxima.
C. ovifera.
Cyamopsis psoraloides.
Cynodon dactylon.
Cyperus, *sp.*
Daucus carota.
Desmanthus natans.
Dillenia scabra.
D. speciosa.
Dioscorea aculeata.
D. anguina.
D. atropurpurea.
D. glabra.
D. purpurea.
D. rubella.
Dolichos catjang.
D. ensiformis.
D. lablab.
D. pilosus.
Emblica officinalis.
Eruca sativa.
Erythroxylon areolatum.
Euphorbia pilulifera.
Ficus racemosa.
Fœniculum vulgare.
Fungus, *sp.*
Gisekia pharnaceoides.
Glinus trianthemoides.
Grewia affinis.
G. rigida.
G. salicifolia.
Hibiscus sabdariffa.
H. Suratensis.
Hoya viridiflora.
Ipomœa reniformis.
I. reptans.
I. separia.
Lablab vulgaris.
Lactuca sativa.
Lagenaria pipo.
L. vulgaris.
Lepidium sativum.
Leptadenia reticulata.
Leucas aspera.
Luffa angula.
L. fœtida.
L. pentandra.
Lycopersicum esculentum.
Mangifera Indica.
Momordica charantia.
M. charantia, *var.*
M. dioecia.
M. muricata.
Morinda umbellata.
Moringa pterygosperma.
Musa sapientum.
Nasturtium, *sp.*
Nelumbium speciosum.
Nymphæa pubescens.
Ocimum villosum.
Oxalis corniculatus.
Phaseolus trilobus.
Pisonia morindifolia.
Pisum arvense.
P. sativum.
Plectranthus aromaticus.
Portulacca oleracea.
P. quadrifida.
Premna integrifolia.
P. serratifolia.
Psophocarpus tetragonolobus.
Raphanus sativus.
Rivea fragrans.
Rothia trifoliata.
Rumex vesicaria.
Salsola Indica.
Sinapis, *sp.*
Solanum incertum.

S. lycopersicum.	Suæda Indica.
S. melongena.	Tamarindus Indica.
S. torvum.	Trianthema obcordata.
S. tuberosum.	Tribulus terrestris.
Sonchus oleraceus.	Trichosanthes anguina.
Spatheum Chinense.	T. cucumerina.
Spinacia oleracea.	Vitis quadrangularis.
Spondias mangifera.	Webera tetrandra.
Stellaria media.	Zizyphus jujuba.

The Chinese raise a great abundance of vegetables, and their range in the vegetable kingdom is extended beyond that of the people of Europe, perhaps only equalled by the races occupying Burma and Cambodia. A process of preserving vegetables by desiccating them, has been successful. While the moisture is completely abstracted, the other matters are left perfectly untouched and unaffected. Apart from the power of being able to put upon the table at any season, and at a moment's notice, any vegetable that may be desired, it affects largely the utilization of much waste fruit and vegetables, and affords a new means of keeping our armies and navies supplied with a very necessary portion of their commissariat.

The following list shows the time needed for the ordinary plants to come to maturity :—

	Days.		Days.
Mustard,	10 to 12	Onions,	60 to 90
Cress,	,,	Maize,	90 to 105
French bean,	45	Spinage,	40
Double bean,	50	Lagenaria vulgaris,	60 to 90
Scarlet runner,	50 to 75	Cyamopsis psoraloides,	150 to 180
Amarantus tristis,	45 to 60	Sorrel,	42 to 60
A. oleraceus,	,,	Parpoo kiri (Portulaca ?)	42 to 56
A. campestris,	,,	Fenugreek,	42
Egg plant,	90	Soi kiri, TAM. ?	42
Momordica charantia,	60 to 90	Sakotti kiri, TAM. ?	42 to 60
Luffa acutangula,	90 to 105	Turnips,	90
Roselle,	150	Cucumber,	60
Snake gourd,	90 to 135	Water melon,	90 to 120
Radish,	42	Musk melon,	,,
Lettuce,	35 to 42		

VEGETABLE TALLOW is obtained from the China tallow tree or Stillingia sebifera. It has flowered and seeded at Amritsar and Lahore.—*Powell, Handbook*, i. p. 423.

VEGETABLE WAX is obtainable at Shanghai in China, in the northern parts of which and in Japan the plant is indigenous. From its high melting point and other physical characteristics, it has of late attracted a good deal of attention. It is admirably suited as a material for the manufacture of candles.

In India, in the middle of the 19th century, Mr. Loarer manufactured from castor-oil a solid oil, to which he gave this name, competing successfully, as regards cost, with the cheapest oil or fat now employed in England. It was thought that his process of converting the oil into wax, by enabling the ryot to store the solid substance far more easily than the seed or fluid oil, would lead to the oil being expressed from the seed whilst clear and free from impurities.—*Simmonds' Commercial Products*, p. 540. See Wax.

VEHAR LAKE, in Salsette Island, about 15 miles from Bombay, is an artificial reservoir formed to provide the town of Bombay with drinking water. The quantity of water supplied by the reservoir is about 8,000,000 gallons a day, or between 12 and 13 gallons a head for the population of Bombay.—*Imp. Gaz.*

VEIL. In the Koran, women are enjoined to be concealed. The Muhammadan women of Western Asia, Northern Africa, and Turkey in Europe appear abroad with veils (Burqa) so constructed as to conceal the lower part of the face. Their sisters in British India are almost all confined to their homes; the few of humble rank who appear abroad have no covering on their faces. The veil of the Hindu women is nothing more than the garment brought over the face, which is always very carefully used by the higher classes of women when they appear in the street.

VELAIYA TESIKAR was born at Kanjipuram, but studied under the head of the Mantam of Sindupunturai in Tinnevelly. He wrote the following works:—Nallur Puranam, Virasingkatanar Puranam, Ishdalingka Kaittala Malai, Namasivaya Lilai, Kirushna Saritiraparisata Lilai, and Mayilattiraddai Malai. The Kalatti Puranam, commenced by his brothers Siva Pirakasa and Karumai Pirakasa, was also completed by him. He died at Perumatur.

VELLALA or Vellazhar, Vellaler or Vellan. Amongst the Tamil races who have adopted Brahmanism, the Vellala, alike in numbers and in social rank, take the chief place. They are very largely agricultural, and in the northern part of the Tamil country take the honorific appellation of Mudali or first man, which seems to be from the same root as the word Mandal, the village headman of Bengal. In the southern districts they adopt that of Pillai. Their number in the Madras Presidency in 1881 was 1,770,669. The designation Vellala means charitable, and they claim to be Vaisya of the Bhu-vansa or agricultural section. They believe that they came from the north. They are shorter and darker than Brahmans, darker even than the Teling people; but they have, in general, well-formed countenances and graceful forms, though amongst them also occur the decidedly African lip and nose and forehead of which Mr. Logan makes mention. Under the native Tamil government this race alone was allowed to hold land in Tonda Mandalam. The Vellaler are, to the present day, said to be of foreign origin. They are called the Ganga Kula, and are said to have come to the country on the invitation of Adondai of Tanjore, after overthrowing the Kurumbar, and to supply the deficient population of Tuluva-desam (modern Canara). A broken tribe of this name are said to wander about in the jungles of the Puducottah estate. They are scantily clothed, and subsist on the produce of the jungles. Srivigundam town in the Tinnevelly district, in lat. 8° 38′ 20″ N., and long. 77° 57′ 20″ E., has a fort occupied by Natha Kothi Vellalers, a caste of Sudras who have peculiar customs. There is also a fine temple. The Vellala of Ceylon are chiefly in the low country.

VELLAR or Vasishthanadi river, in the Peninsula, formed by the streams of the Tinunda and Kalrayan Hills in Salem district. It flows through the Attur pass into the plain of South Arcot, and across the latter district into the sea at Porto Novo. Total length about 135 miles. Since 1870 the Vellar or Pelandorai anicut, in the South Arcot district, has been built across the Vellar river for the irrigation of the fifty villages in the Chellumbrum taluk.

VELLORE, a town and military cantonment in the Carnatic, on the right bank of the Palar, in lat. 12° 55′ 17″ N., and long. 79° 10′ 17″ E., 70 miles W. from Madras, and 695 feet above

the sea. It is known to the people as Rai Ellur or Stony Ellore, to distinguish it from Ellore on the sea-coast, which they name Uppu Ellur or Salt Ellore. It has a strongly-built fortress, which is overlooked by hills in the vicinity. It seems to have been built about the beginning of the 16th century by the Vijayanagar rulers, but in 1646 it fell to the four confederate Muhammadan kings, and in 1677 it and Ginji were captured by Sivaji. During the war of 1782 it was relieved by Sir Eyre Coote in the face of Hyder's army. After the fall of Seringapatam, the family of Tipu, consisting of 12 sons and 8 daughters, were located in Vellore. On the 10th July 1806, the sepoys of the garrison, incited by Tipu's descendants, mutinied and massacred most of the officers and European soldiers, but were subdued by Colonel Gillespie with a party of the 19th Dragoons from Arcot, 18 miles distant, and a remnant of the Europeans saved, after which all the family of Tipu were removed to Bengal. The Palar river runs about half a mile from the fort. Besides its imposing and picturesque fortress, which contains many interesting buildings, Vellore possesses a handsome Vishnuvite temple with some good carving.

VELMA, Ailma, Yelmi, or Velama, in the Northern Teling country, are a dominant agricultural tribe with military proclivities, who claim to be Rajputs, and of descent from the rajas of Warangal. They take the title of Rayadu. They are soldiers and agriculturists, brave and high spirited, and on points of honour will sacrifice themselves. In 1881 they numbered 348,066.

VELVET INSECT, the Bir-buti of the Hindus, about the size of the nail of the little finger. It appears in the rains, is of a bright red colour, and has a soft unctuous feel. An oil is extracted from the unctuous bodies, which is used as a vesicating agent and counter-irritant.

VEMANA, a Telugu author of a large collection of popular aphorisms and moral subjects, whom Dr. Caldwell supposes lived at the beginning of the 18th century.

VENCATES, a name of the idol of Balaji at Triputty, near Madras. The idol is also called Venkatramma Govinda, also Vencatachella, and Venkat Eswara. The god of Tripatty was brought into notice by Ramanuja Charya as an incarnation of Vishnu; and since then the names have been favourites amongst the Teling Hindus.

VENDIDAD, the book containing the religious code of the Parsee Zoroastrians. It has undergone three various processes of composition, of the Avesta, Zend, and Pa-zend. The Avesta is of very ancient date, and is the groundwork of the existing Vendidad, though all of it almost is post-Zertushtrian. In the course of time, several explanations and interpretations of the laws have been made, which acquired as much force as the original, and were incorporated with it. This is the Zend, and the incorporation of further explanations was styled the Pa-zend. Avesta means direct highest knowledge, divine revelation. Zend means the explanation of this, and Pa-zend the supplements to the Zend, or further explanation of the Zend doctrine. All the three steps exist in the present Zendavesta, or more properly Avesta-Zend. In recent years, the researches of Chevalier Bunsen and Professors H. H. Wilson and Max Muller and Mr. Wheeler seem to prove that much of the earlier history of two branches of the Aryan race are embodied in the Vendidad of the ancient Persians and present Parsees, and in the Vedas of the Hindus. According to Dr. Haug, the opening to the Vendidad, or Code of the Fire-worshippers of Iran, dates from the most ancient times, and its contents are the reminiscences of the passage of the old Aryans into India on the south and into Persia on the south-west. According to Ch. Bunsen, the Aryan emigration from Sogd to Bactria took place prior to B.C. 5000, consequently before the time of Menes; the immigrations into the Indus country about B.C. 4000; and the opening to the Vendidad describes the succession of the foundation of the fourteen kingdoms, the last and most southern of which was the land of the Five Rivers (the Panjab). Also, according to that writer, in the same way that political tradition represents that of the western aborigines, so does the Aryan one represent that of the eastern tribes in the primeval land. The vast climatic change which took place in the northern countries is attributed in the Bible to the action of water. In the other, the sudden freezing up of rivers is the cause assigned. Both may have resulted from the same cause, the upheaving of the land by volcanic action, elevating portions and depressing into basins such as the Caspian Sea. Ten months of winter is now the climate of Western Tibet, Pamir, and Belur at the present day, and corresponds with that of the Altai country, and the district east of the Kouen Lun, the paradise of the Chinese. The country at the sources of the Oxus and Jaxartes, therefore, is supposed to be the most eastern and most northern point whence the Aryans came. Wherever the Indians may have fixed the dwelling-places of their northern ancestors, the Uttarukuru, we cannot, he considers, venture to place the primeval seats of the Aryans anywhere but on the slopes of the Belur Tagh, in the high land of Pamir, between lat. 37° and 40° N., and long. 86° and 90° E. On this western slope of the Belur Tagh and the Mustagh (the Tian Shan or Celestial Mountains of the Chinese), the Haroberezaiti (Albordsh) is likewise to be looked for, which is invoked in the Zendavesta as the principal mountain and the primeval source of the waters. At the present day, the old indigenous inhabitants of that district, and generally those of Kashgar, Yarkand, Khoten, Turfan, and the adjacent highlands, are Tajak, who speak Persian, and who are all agriculturists. The Turkoman either came after them and settled at a later period, or else they are aborigines whom the Aryans found there. On this point Chevalier Bunsen likewise remarks that the opening of the sacred code of the Vendidad as certainly contains an historical tradition of the Aryans, as does the 14th chapter of Genesis an historical account of the oldest recorded war between Mesopotamia and Canaan. The Fargard is divided into two great parts, one comprising the immigration from the eastern and north-eastern primeval countries to Bactria, in consequence of a natural catastrophe and climatic changes, the other the subsequent extension of the Aryan dominions through Eastern Central Asia, which terminated in the Panjab. The following passage contains

a genuine description of the climate of the primeval land of the Aryans, Iran proper: —'There Ingromaniyus (Ahriman), the deadly, created a mighty serpent, and snow, the work of Deva; ten months of winter are there, two of summer.' The following passage, which is omitted in the Huzuresh or Pehlavi translation, and which Lassen considers an interpolation, is irreconcilable with the above:—'The warm weather lasts seven months, and winter five.' The fathers of the Aryans, therefore, originally inhabited Iran proper, the land of pleasantness, and they left it only in consequence of a convulsion of nature, by which a great alteration in the climate was caused. They did not follow the course of the Oxus, or they would have come in the first instance to Bactria, and not to Sogd. Their course, therefore, was more northerly. Its present climate is precisely what the record describes it to have been when the changes produced by the above commotion took place. It has only two months of warm weather. In the course of the Aryans after their expulsion from the primeval country between Sogdiana and the Sutlej, they formed, by the conquest of fourteen countries, as many kingdoms in the whole of the eastern part of Central Asia and India proper, in the country of the Indus and its confluents. In the intervening countries they passed amongst the Turanians (Scythians and Turkomans), and there is evidence that the inhabitants whom they found in India were likewise Turanians. The main direction of these travellers was southerly, and on the southern bank of the Caspian is a group the nucleus of the Aryan Media. Under the heading Aryan will be seen Professor Muller's list of the successive settlements of the race.—*Wheeler's History of India; Professor Muller's Lectures; Calcutta Review*, 1859; *Edinburgh Review; Bunsen's Egypt*, iii. iv.

VENERIDÆ, a family of molluscs of the class Conchifera, of the following genera:—

Venus, rec. 176 sp.; fossil, 260 sp.
? Volupia rugosa, fossil.
Saxidomus Nuttali, rec. 8 sp.
Cytheræa, syn. Meretrix, 80 sp. Dione, rec. 113 sp.; fossil, 80 sp.
Meroe, syn. Cuneus, Sunetta, rec. 11 sp.
Trigona, rec. 28 sp.; also fossil.
Sub-genus. Grateloupia, fossil, 4 sp.
Artemis, syn. Dosinia, rec. 85 sp.; fossil, 8 sp.
Sub-genera. Cyclina, rec. 10 sp.; fossil, 1 sp.
Clementia, rec. 3 sp.
Lucinopsis, syn. Dosinia, Mysia, Cyclina, rec. 10 sp.; fossil, 3 sp.
Tapes, syn, Paphia, Pullastra, rec. 78 sp.; also 6 fossil.
Venerupis, syn. Gastrana, rec. 19 sp.; also fossil.
Petricola, syn. Rupellaria, Choristodon, Naranio, rec. 30 sp.; fossil, 12 sp.
Glaucomya, syn. Glauconome, rec. 12 sp.

VENGI, the ancient name of Southern Telingana, the capital of which was situated 5 miles N.N.W. from Ellore on the road to Nagpur. Two modern villages have been built on the rivers, and called Pedda Vegi and Chinna Vegi. Buddhist princes reigned at Dara Nagara near Amaravati and at Vengipuram in Vengi-desam.

VENICE, capital of Venetia, now an important section of the kingdom of Italy, is built on 72 islands on piles in the midst of a salt lagoon or shallow lake. It is divided into two unequal parts by the Canalazzo, or Grand Canal, the course of which through the city follows the form of an inverted S; is 300 feet wide, crossed near the middle of its course by the Ponte di Rialto, a splendid marble structure of one spacious arch. In the midst of the labyrinth of canals and streets there are several large piazzas, nearly all of which are adorned with fine churches or palaces. The principal of these is the Piazza di San Marco, a large oblong area 562 feet by 232, surrounded by elegant buildings, and containing at its eastern extremity the metropolitan church of San Marco, a singular but brilliant combination of the Gothic and the oriental style of architecture. Before the discovery of the Cape of Good Hope by the Portuguese in 1486, Venice was one of the most powerful commercial and maritime states in Europe. The people of Venice had opened a trade route to India down the river Euphrates. Venetian merchants sailed from Venice to Tripoli, thence their goods were carried in caravans to Aleppo, which was a famous mart, whose reputation even Shakespeare did not fail to notice. From Aleppo the caravans made their way to Bir, on the banks of the Euphrates. Here the merchandise was transferred to boats, and conveyed down the river to a point near Baghdad on the Tigris. Baghdad being reached, the merchandise was then transferred to boats on the Tigris, and carried down to Bussora and the island of Ormuz in the Persian Gulf. In those days Ormuz was the greatest emporium in the east. There all the velvets, cloths, and manufactures of the west were exchanged for the spices, drugs, and precious stones of the east. The wealth acquired by the merchants of Venice in their trade with the east excited the envy of the whole of Europe. The Portuguese especially spared no expense in their endeavours to discover a new route to India, and, after nearly a century of the most indomitable exertions, they in the latter part of the 15th century found their way to Calicut by way of the Cape. The Indian trade of those days was revolutionized. In a very short time the trade routes by the Red Sea and the Euphrates were completely forgotten, and the cheapest and shortest route between Europe and India was the high sea; but, after making use of the sea route for 500 years, the route followed by the ships of king Solomon and Hiram, king of Tyre, is again found to be the best, and the great ships of the Peninsular Company make Venice their final port.

Venice was founded about A.D. 452 by those who fled from before Attila the Hun. So early as A.D. 525, it was importing silks from the east; and from A.D. 802 dates her great trade in eastern spices, drugs, and silks. Both Genoa and Venice co-operated in the Crusades, and both suffered by the capture of Constantinople by the Ottoman Turks, A.D. 1453; and Venice yet further in consequence of the annexation of Syria and Egypt to the Ottoman empire by Selim, A.D. 1516-17. When Venice, A.D. 1475-87, acquired possession of Cyprus, Famagusta became the emporium of its overland trade with the east, both through Egypt and Syria, and continued to be the first commercial city of the Levant, until taken by the Turks, A.D. 1570-71.

VENI SANHARA, the binding of the braid, a drama by Bhatta Narayana. The plot is taken from the Mahabharata, and relates how Draupadi was dragged by the hair of her head by Duh-

sasana into the hall of the Kaurava; she left it unbraided till the death of the Kaurava.—*Dowson.*

VENKATAGIRI, town and ancient zamindari estate in Nellore district, Madras. The town (lat. 13° 57′ 7″ N., and long. 79° 37′ 20″ E.) contained, in 1871, 7524 inhabitants. The estate pays to Government a pesh-kash or permanent revenue of £40,400.—*Imp. Gaz.*

VENKULLY, a town near Quilon. Its cliffs, about midway between Quilon and Trevandrum, are immediately on the sea-beach, and rise almost perpendicularly to 80 and 180 feet, capped by 25 to 40 feet of laterite. Immediately below the laterite are variegated sands 40 to 60 feet in thickness; and below all, generally at the base of the small cliffs, are the lignite and carbonaceous deposits. Where the cliffs rise to 130 or 160 feet, two, three, or more deposits of lignite occur. At Quilon, layers of lignite shell lie immediately above the shell limestone.

VENTILAGO ACALYCULATA, a native of the northern parts of India.

VENTILAGO MADERASPATANA. *Gært.*
Funis viminalis, *Rumph.*

Ruktupita, . . BENG. | Surati pette-tige, . TEL.
Erra chiratali, . . TEL. | Suralatige, Surugudu, ,,

Grows throughout the E. Indies and Archipelago. The fishermen of Amboyna use the long climbing stems as substitutes for ropes. It is a very large climbing shrub, a native of forests and other uncultivated places amongst the mountains, flowering during the cold season.—*Roxb.*

VENUS, supposed to be from Vana, SANSK., the fair one, but the etymology of the word is also given from Banu or Benu of Eastern Asia; Hebrew, Benoth; Syrian, Benos; and the Greek and Latin forming Venus. Venus is the analogue of Bhawani. Venus in Sanskrit is also called Asphujit (Αφροδιτη); Maghabhava, son of Magha; Shodasansa, having 16 rays; and Sweta, the white.

In Assyria and Babylonia, Baaltis was the analogue of Venus, an active and independent power; Istar was the goddess of love and war, the patroness of the moon; and the planet Venus, the equal, and sometimes the rival of the male deities.

In the temple of Venus at Cyprus, the presiding divinity was placed in the porch, as in a kind of shrine or enclosure. The second book of Kings (xvii. 30), when recounting the idolatrous practices of the people transported by the Assyrian monarch into the Samaritan cities, observes that the 'men of Babylon made Succoth-Benoth,' which is literally rendered by Parkhurst, the tabernacle of the daughters, or the young women. Calmet, however, supposes that we are to understand Benoth as denoting a female idol, the Benos of the Syrians, and the Venus of the Greeks and Latins. The heathen strangers there made booths or tents in honour of the deity whom they worshipped, and representations of pavilions consecrated to Venus may be seen on many ancient medals. These tents of Venus, the Succoth-Benoth of the Babylonians, the tabernacle of Moloch, and the silver shrines of Diana, mutually illustrate each other. The procession of idols was of frequent occurrence in antiquity. The gods were carried in chariots, niches, or miniature temples, analogous to the shrines of the Ephesian idols. The image being in a small temple of wood, gilt, was carried out the day before to another building. Among the Egyptians, the shrine of Jupiter was annually transported over the river (Nile) into Libya, and after some days returned, as if the god himself were come from Ethiopia. The sacred procession of idols was also common among the Gauls, who, according to Sulpitius Severus, carried their gods into the fields, protected from the profanation of vulgar eyes by a white veil. Examples of the portable shrine are common in Russia, and in all the countries of the Greek Church. The ιερα of the Greeks, says Dr. Clarke, as well as the tabernacles of the eastern nations, were sometimes not only portable, but they were so small, that the κιστοφόροι used for enclosing them could also be carried. The idols of the Hindus are generally kept in the interior of temples, but during festivals the idol is placed in a car with or without wheels, or in a palanquin, and is carried out dressed up with all the jewellery of the temple, preceded by the deva-dasa and the Brahmans. When outside the temple, the worshippers burn camphor and present cocoanuts as offerings, and the dancing girls sing and dance before the god, and the Brahmans chant passages from the Puranas. If at night, fireworks are also exhibited. Some of the cars or rath are of great size, with large wheels. The village gods at stated periods are carried round the village boundaries. The Venus of the Hindus is Rati.—*Milner's Seven Churches of Asia*, p. 132.

VENUS FLOWER BASKET, a siliceous sponge of the Philippines, is the Euplectella aspergillum. Euplectella cucumer, *Owen*, occurs in the Comoro Islands, in E. Africa; Japan has the glass-rope sponge, Hyalonema Sieboldii; Rossella Philippinensis is a sponge of Cebu Island, Philippines; lace-work sponge of Cebu is the Meyerina claviformis; Geodia Japonica is the great vase-shaped sponge of S. Japan.

VERAJENDERPET, situated on the road leading to Cannanore from Mercara, 20 miles from the latter place. There is a cross-road from Mysore, which joins the road to Cannanore a few miles below Verajenderpet, and along this road passes all the direct traffic between Mysore and the coast.

VERAPOLI, a town in Travancore State, Madras, in lat. 10° 4′ N., and long. 76° 19′ 20″ E., 9 miles north-east of Cochin; the seat of a Carmelite mission and of the Vicar-Apostolic.—*Imp. Gaz.*

VERATRUM NIGRUM, Li-lu, CHIN., black hellebore, takes its name from the dark colour of its roots. The flowers are mostly white, dark-purple, and green. It is cultivated in a rich garden soil by seed, or dividing the roots, which contain powerful medicinal properties.—*Riddell.*

VERBASCUM THAPSUS. *Linn.*

V. Indicum, *Wall.* | Vular, . . . KANGRA.
Ghidar, Phasruk, CHENAB. | Spin kharnar, TRANS-IND.

This plant grows in Europe, in the Caucasus, Siberia, and in the Himalaya, up to 11,000 feet, a white-flowered variety occasionally occurring at the higher elevations. It is eaten by camels, goats, etc. In Bissahir the root is given as medicine.—*Roxb.; Voigt.*

VERBENACEÆ, *Juss.*, a useful order of plants in the East Indies, comprising the vervain tribe, consist of 19 genera, 153 species,—40 Clerodendron, 1 Ægiphyla, 14 Callicarpa, 36 Premna, 26 Vitex, 8 Congea, 1 Symphorema, 8 Gmelina, 2 Tectona, 1 Phryma, 1 Streptium, 3 Verbena, 1 Stachytarpheta, 2 Zapania, 5 Lantana, 1 Asaphes,

1 Glossocarya, 1 Hymenopyramis, 1 Avicennia. Of the genus Verbena, several exotics are cultivated; these are pretty little flowering plants which require shelter and good drainage. Species of the genera Clerodendron, Callicarpa, Premna, Vitex, and Gmelina furnish useful products.—*Jaffrey.*

VERBENA OFFICINALIS, common vervain, grows throughout Europe, America, Persia, and the Himalaya. It is the holy herb of Dioscorides, who ascribed great powers to it, especially in incantations. In most countries where it grows it seems to have been invested with extraordinary powers. It entered into the composition of various charms and love philters, and has even now a popular reputation for predisposing persons favourably towards those who administer a dose to them. This plant is described as astringent, febrifuge, etc., but has fallen into just neglect. Still among the ancient Greeks and Gauls it held the highest place in popular estimation; it was used to purify the altars, and formed the crowns of heralds and ambassadors. The Druids gathered it with the same marks of veneration as the misletoe, next to which it was revered. Formerly employed extensively as a medicine, it was also the base of numerous philters or love potions, and hence derived its name of Veneris vena, or source of love. It is well known for its strong aromatic lemon scent. It grows from cuttings or layers, and no doubt would also from seed, as it blossoms freely.

VERBENA TRIPHYLLA: *Leher.*

Aloysia citriodora.	Lemon-scented verbena.
Pila-bhungara, . DUKH.	Lemon-scented vervain.

This plant is a native of Chili. An infusion when cold is administered as a cooling drink in fevers, slight catarrhs, etc.

VERBESINA PROSTRATA. Bhangra, HIND. A small creeping plant growing in wet soil. A white variety is much used in medicine. Alchemists believe there is a black-flowered species, and eagerly search for it.—*Eng. Cyc.; Riddell; O'Sh.*

VERDDHAMANA, Mahavira, the 24th Tirthankara of the Jains; one of the four eternal Jinas, born in Behar.—*As. Res.* pp. 282, 292.

VERDIGRIS. ENG. Subacetate of copper.

Zungar, ... ARAB.	Sanam, . . . MALAY.
Tung-ts'ing, . . . CHIN.	Sennang, . . . MALEAL.
Tung-luh, ... ,,	Jar, ... RUS.
Vert-de-gris, . . . FR.	Pittalata, . . . SANSK.
Grunspau, . . . GER.	Cardenillo, ... SP.
Chungal, . . GUJ., HIND.	Verdete, Verdegris, . ,,
Verderame, ... IT.	Vungalap-patchei, TAM.
Jingal, ... KASH.	Zenghalie-patse, . TEL.

Subacetate of copper, of a beautiful bluish-green colour, extensively used by painters and in dyeing.—*Ainslie; Rohde, MSS.; Faulkner; M'C.*

VERDITER, a blue pigment, made by decomposing a solution of sulphate of copper with the addition of chalk.

VERJUICE.

Verjus, ... FR.	Agresto, ... IT.
Agrest, ... GER.	Agraz, ... SP.

A kind of harsh vinegar, made of the expressed juice of the wild apple or crab. The term is also applied to the expressed juice of unripe grapes.—*Faulkner.*

VERMICELLI. ENG., FR., IT.

Fen-sze, Yin-sze, . CHIN.	Save, ... HIND.
Lock-soy, . . . ,,	Tagliolini, ... IT.
Meelneepen, Proppen, DUT.	Alterias, ... SP.
Nudeln, ... GER.	Seme, Saywian, TAM., TEL.

Vermicelli or vermichelly is an Italian composition of various edible articles, reduced to a paste, and formed into slender worm-like pieces, from whence its name. The simian of India is made from wheaten flour. The Chinese make coarse kinds of vermicelli from rice flour, and they are used by both natives and foreigners in making soups. The Yin-sze or silver threads are vermicelli made from wheaten dough, drawn out on a frame and dried in the sun.

Lock-soy also is a kind of vermicelli prepared from rice at Cochin-China, and thence exported in considerable quantity to Japan and China, where it is much esteemed. It is transparent, and gives a consistence to soup. Chinese lock-soy is opaque, and less esteemed.

The natives of India usually prepare Saywian vermicelli between the hands instead of using a press. Saywian-ka-takhta, a board for making Saywian on. Vermicelli is also prepared by being run through sieve holes into hot water.—*Morrison's Comp. Des.; M'Cull.*

VERMILION.

Yin-chu, ... CHIN.	Sulphide of mercury, ENG.
Tsze-fen-shwang, . ,,	Red sulphuret of ,, ,,
Vermilioen, . . . DUT.	Cinnabar, . ENG., GER.

This substance is mentioned in Jeremiah xxii. 14, and Ezekiel xxiii. 14. In China this beautiful pigment is made by mixing together two catties of red sulphur and one catty of mercury, and subliming the mixture. The crystalline sublimate on the cover of the alembic is called cinnabar, whilst that on the sides is the vermilion. These bright red or dark orange acicular crystals are carefully powdered, levigated, decanted, and dried upon tiles, and then sifted, sorted, and packed in glazed black paper in quantities of about an ounce. The more patiently and thoroughly the vermilion is ground, the more beautiful is the red colour. The article is regularly exported to England, in boxes of some 50 catties, selling at an advance of some 25 per cent. upon the current cost of mercury. Foh-kien vermilion is the best, but it is made in other Chinese towns. It is often adulterated with minium or oxide of lead, and with sesquioxide of iron. Large quantities are used for colouring candles, and paper for stamping and writing purposes, and in the making of varnishes.—*Smith, Mat. Med.*

VERNAG, in Kashmir, is the source of the river Jhelum. It is a sheet of water, the reflections of which are from azure to turquoise and emerald.

VERNICIA MONTANA, *Lour.* (Elæococca montana), a tree of Cochin-China and China, yields a clear yellowish-coloured fatty oil.

VERNONIA ANTHELMINTICA. *Willd.*

Serratula anthelmintica, *R.*	Baccharoides anth. *Mœnch*
Conyza anthel., *Linn.*	Ascaridia Indica, *Juss.*
Som raj, ... BENG.	Kanana ziraka, . SANSK.
Kali ziri, . . . DUKH.	Sauni naya, . . . SINGH.
Purple fleabane, . ENG.	Kaattu siragum, . TAM.
Bakchi, ... HIND.	Adivi jilakarra, . . TEL.

The small and dark-coloured seeds are extremely bitter. They are considered as powerfully anthelmintic, and are also an ingredient of a compound powder which is occasionally prescribed in cases of snake-bite. An infusion of them is given on the Malabar coast for coughs and in flatulencies. A rather hard fibre is obtained from this plant.—*Roxb.; Voigt; Ains.; M. E. J. R.*

VERNONIA CINEREA. *Less.*

Serratula cinerea, *Rh.*	C. purpurea, *Linn.*
Conyza cinerea, *Linn.*	C. mollis, *Willd.*
Chata koksun, . . BENG.	Sira-shengalnir, . TAM.
Kak-jangi, . . . HIND.	Nedsitu, ... ,,
Saha-devi, ... ,,	Gariti kamma, . . TEL.
Puvanku runal, MALEAL.	

This annual plant grows in the Peninsula and in Bengal. Its seeds are used in medicine, and said to be a powerful anthelmintic. All the parts of the plant are very bitter, used as a diaphoretic in fever, and its ground seeds are used to destroy vermin in the hair. Dr. Wight gives V. conyzoides, multiflora, Neilgherrensis, pectiniformis, salviæfolia, and Wightiana, to which Voigt adds V. aspera, multiflora, vagans, and volkameriæfolia. — *Roxb.; Voigt; Waring; Ainslie; Powell, Handbook; Useful Plants; O'Sh.; Birdwood.*

VERNONIA VOLKAMERIÆFOLIA. *D.C.* This good-sized tree occurs on the South Travancore ghats, at about 3000 to 4000 feet elevation (Attraymallay Ghat), but has not been found on the Neilgherries, or anywhere north of the Palghat gap; but if it be the volkameriæfolia of D.C. (and Colonel Beddome's specimens were named at Kew), it also occurs in Nepal. Its timber is soft and worthless. It is the only compositæ known to Colonel Beddome in the Madras Presidency which grows to a tree, except Monosis; but Vernonia Javanica, a considerable tree, occurs in Ceylon; and is probably also found in S. Tinnevelly or Travancore.—*Beddome, Fl. Sylv.*

VERSOVA, a basaltic island, one of the numerous islands which fringe the Bombay Archipelago. It is in lat. 19° 7′ 40″ N., and long. 72° 47′ E., and now desolate; about 7 miles north of Mehim, north of Bombay.—*Findlay.*

VESADÆ or Bisadæ or Besadæ are alluded to in the tract of Palladius de moribus Brachmanorum, written about A.D. 400, and the same name is applied by Ptolemy to a similar race inhabiting Northern India.

VESPA MAGNIFICA. *Sm.* This enormous hornet, nearly two inches long, was brought to Dr. Hooker at Choongtam in Sikkim alive, in a cleft stick, lolling out its great thorn-like sting, from which drops of a milky poison distilled. Its sting is said to produce fatal fevers in men and cattle, which may very well be the case, judging from that of a smaller kind, which left great pain in his hand for two days, while a feeling of numbness remained in the arm for several weeks. It is called Vok by the Lepcha race, the common name for any bee. Its larvæ are said to be greedily eaten, as are those of various allied insects.—*Hooker, Him. Jour.* ii. p. 26.

VESPERTILIONIDÆ, the bat family of mammals, which may be thus shown:

Sub-Fam. Scotophilinæ.

Scotophilus serotinus, *Jerdon.*
Vespertilio noctula, *Geoff.* | V. serotinus, *Schr.*
Europe, Himalaya, Tyne Range beyond Mussoori.
S. Leisleri, *Jerdon.*
Vespertilio dasycarpus, *Blyth,* hairy-armed bat, Tyne Range, Himalaya.
S. pachyomas, *Jerdon,* the thick-muzzled bat of India.
S. Coromandelianus, *Jerd.* (Kerivoula Sykesii, *Gray, Ell.*), the Coromandel bat of all India.
S. lobatus, *Jerd.* (Vespertilio abramus, *Temm.*), the lobe-eared bat of India.
S. fuliginosus, *Jerd.* (Nycticejus atratus, *Blyth*); the smoky bat of Nepal.
S. fulvidus, *Ell.*, Tenasserim.
S. pumiloides, China.
Noctulinia noctula, *Gray.*
Vespertilio lasiopterus, *Sch.* | V. altivolans, *White.*
V. labiata, *Hodg., Blyth.*
The noctule bat of England, Nepal; flies high.
Nycticejus Heathii, *Horsf., Bl.*, large yellow bat, Southern and Central India.
N. luteus, *Blyth* (N. flaveolus, *Horsf.*), Bengal yellow bat, all India, Assam, Burma.
N. Temminckii, *Jerd.*
Vespertilio belangeri, *Geoff.* | V. noctulinus, *Is. Geoff.*
Common yellow bat of India, Burma, Malayana.
N. castaneus, *Gr., Bly.*, chesnut bat of Bengal, Burma, Malayana.
N. atratus, *Blyth* (Scotophilus fuliginosus, *Bly.*), sombre bat of Darjeeling.
N. canus, *Blyth* (Scotophilus Maderaspatanus, *Gray*), hoary bat of all India.
N. ornatus, *Blyth,* harlequin bat of Darjeeling.
N. nivicolus, *Hod., Hors.*, near the snows of Sikkim.

Sub-Fam. Vespertilioninæ.

Lasiurus Pearsoni, *Horsf., Bl.* (Noctulinia lasiura, *Hodgson*), the hairy-winged bat of Darjeeling.
Murina suillus, *Jerd.*
N. lasiura, *Hodg.* | L. Pearsoni, *Bl.*
The pig bat of Darjeeling, Malayana.
M. formosa, *Jerd.*, the beautiful bat.
Vespertilio, *Hodg.* | Nycticejus Tickelli, *Blyth.*
Kerivoula, *Gray.* | N. Isabellinus, *Horsf.*
Central India, Nepal, Sikkim, Darjeeling.
Kerivoula picta, *Jerd.* (Vespertilio kerivoula, *Bodd.*), all India, Burma, Malayana.
K. pallida, *Blyth,* the pale-painted bat of Chybassa.
K. papillosa, *Jerd.*, the papillose bat of Ceylon, Calcutta, Java, Sumatra.
K. tenuis? *Tomes* (Vespertilio tenuis), Java, Sumatra.
K. Hardwickii, *Tomes* (Vespertilio Hardwickii), Java, Sumatra.
Vespertilio caliginosus, *Tomes,* mustachoed bat of India.

VESPIDÆ, a family of insects belonging to the order Hymenoptera. It comprises the species of the genus Vespa of Linnæus, of which the common wasp and the hornet are familiar examples. They were formed into a family by Latreille, under the name of Diploptera, afterwards changed into Diplopteryga by Kirby. They form the third and last division of the first sub-section (Prædones) of the second section (Aculeata) of Hymenoptera in Westwood's revision of Latreille's arrangement. When at rest they fold their wings throughout their entire length, whence their distinctive appellation. The wings of all the insects of the family have a similar neuration, their eyes are lunate, and there are glands at the extremity of the labrum. The four wings have one marginal and three perfect submarginal cells, with an incomplete terminal submarginal cell. Among the wasps are insects of the most dissimilar habits; some solitary, others living in societies, some phytophagous, others carnivorous. Such as are social rival the bees in the complicated instincts which regulate their societies. Among the wasps, structure, and not economy, is the real source of essential character. Each species of the solitary wasps comprises males and females only, and constitutes the family Eumenidæ. The genera Eumenes and Odynerus belong to it. The habits of the solitary wasps are interesting. Odynerus murarius (Vespa muraria) of Linnæus makes a hole several inches deep in the sand, or in the sides of walls, constructing a tube of earthy paste, at first straight, and then curved at its entrance. In this burrow it constructs its cell, and deposits in the cavity of the interior cell from eight to

twelve little green caterpillars, arranging them spirally in layers above each other. In the midst of these it deposits its eggs, then closes the mouth of the hole with the materials of the tube, which it had used as a sort of scaffold. The larvæ when hatched feed upon the caterpillars. The social wasps constitute the restricted family of Vespidæ of Westwood, the Polistides of Saint Fargeau. They live in numerous societies, consisting of males, females, and neuters, which are temporary, being dissolved at the approach of winter. The mandibles of the Vespidæ proper are not longer than broad, and broadly and obliquely truncated at their extremities.—*Eng. Cyc.*

VESYA. TEL. The third of the three great sections of the Hindus, their third cast or caste. There are four castes,—the Brahman, the Chetria or Kshatriya, the Vaisya, and the Sudra. The pure Vaisya occupies himself in commerce and other peaceful avocations.

VETAKIRI MUDALIAR was born in 1795. He established a press in Madras, and published editions of several classical works. Besides four ethical poems, Manuniti Satakam, Manuvikkiyana Patakam, Niti Sintamani, and Sanmarkkassaram, he prepared the addendum to the Jaffna Tamil Dictionary, and composed the additions to the 11th part of the Nikandu, printed at Manepy in 1843.

VETAL, the demon-god of the non-Aryan races. Outside almost every Hindu village in the Dekhan is a circle of large stones, sacred to Vetal. Vetala, a goblin that haunts cemeteries and animates dead bodies. Vetala-Deva, king of the demons.—*As. Res.* ix. p. 120.

VETALA-PANCHAVINSATI. SANSK. The twenty-five stories of the Vetala, by Jambhaladatta. It is the Hindi Baital-Pachisi, and has been translated into all the languages of India.

VETUSTA or Betusta, the Jhelum or Hydaspes, one of the sacred rivers invoked by a Brahman when saying his daily prayers.

VETUVAR, a forest and hunter tribe in Malabar and Konkan. They are predial slaves. A subdivision of the Vetuvar is employed in agriculture, also as boatmen and salt-makers.

VI. SANSK. A privative term, as Viragi, without desire; the a privative of Latin.

VIBHISHANA, brother of Ravana, who sided with Rama, and was therefore seated on his brother's throne.

VIBHUTI, also Vibudi. TAM. The sacred ashes of burnt cow-dung with which the Hindu Saiva sect besmear their forehead, and sometimes their whole body. See Tripundra.

VIBURNUM, a genus of plants belonging to the natural order Loniceraceæ. The species consist of shrubs with opposite petiolate leaves and corymbose flowers. Drs. Wight and Voigt name 12 species. V. cotinifolium, *D. Don*, and V. fœtens, plants of Kaghan and the Himalaya.—*Stewart.*

VIBURNUM OPULUS. *Lindley.*

Siueh-k'iu, . . . CHIN. | Snowball, . . . ENG.
Guelder rose, . . ENG. |

This ornamental shrub, called snowball, grows also in China, where its leaves are used as a purgative.

VIBURNUM PUNCTATUM, *Ham. in Don. Prod.* p. 142, the Viburnum acuminatum of Wallich, W. A. Prod. p. 386, is a middle-sized or small tree, very common in many of the sub-alpine and alpine jungles from no great elevation up to 6000 feet; it is also found on the Himalayas and in Java.—*Beddome, Fl. Sylv.*

VIBURNUM STELLIONUM. *Rich.*

Aklu, Guch, Kuch, KAGH. | Thalin . . of KOTGHAR.

V. cotinifolium, V. fœtens, and V. stellionum form the underwood of forests in the N.W. Himalayan valleys. The wood is used chiefly for fuel. The berries of both V. fœtens and V. cotinifolium are edible. — *Mr. Powell; Cleghorn; Stewart.*

VICHITRA-VIRYA, son of Santanu, raja of Hastinapur, married Amba and Ambalika, daughters of the raja of Kasi, but he died without children. His widows were taken by his half-brother Vyasa, and were the mothers of Dhritarashtra and Pandu. Vyasa also begat Vidura out of a slave girl of Ambika. Dhritarashtra, Pandu, and Vidura were thus half-brothers.

Arrian gives the story thus: 'He (Hercules) had a daughter when he was advanced in years, and, being unable to find a husband worthy of her, he married her himself, that he might supply the throne of India with monarchs. Her name was Pandea, and he caused the whole province in which she was born to receive its name from her.' This, says Tod, is the very legend contained in the Purana of Vyasa (who was Heri-cul-es, or chief of the race of Heri), and his spiritual daughter Pandea, from whom sprang the grand race of the Pandu, and from whom Dehli and its dependencies were designated the Pandu sovereignty. Her issue ruled for 31 generations in direct descent, or from B.C. 1120 to 610, when the military minister, connected by blood, was chosen by the chiefs, who rebelled against the last Pandu king, represented as 'neglectful of all the cares of government,' and whose deposition and death introduced a new dynasty. Two other dynasties succeeded in like manner by the usurpation of these military ministers, until Vikramaditya, when the Pandu sovereignty and era of Yudishtra were both overturned. According to a writer in the Westminster Review, Vichitra-virya died childless, and Vyasa begot two sons by his two widows, and a third son by a slave girl, whom the third widow, Ambika, substituted for herself. This practice of a relative raising children for a deceased childless relative is sanctioned by Menu, who says: 'On failure of issue by the husband, the desired offspring may be procreated either by his brother or some other near relative, called Sapinda, on the wife, who had been duly authorized.' Pandu also, when lamenting his childlessness, says to Pritha, 'In distress men desire a son from the oldest brother-in-law.' Menu, regarding the choice of a husband, enjoins parents to select a handsome son-in-law; and adds, 'Three years let a damsel wait, though she be marriageable, but after that term let her choose for herself a husband of equal rank.' Another mode of ancient Hindu marriage was the Swayamvara or self-choice, where a girl chose her own husband. In the Mahabharata, the cases of Pandu with Pritha, Yudishtra with Devika, Sahadeva with Vijaya, Sivi and Devaki, Nala and Damayanti, Draupadi and Arjuna, are mentioned. Menu describes eight modes of marriage, viz. Brahma, Deva, Arsha, Prajapatya, Asura, Gandharva, Rakshasa, and the eighth and worst, Paisacha; the first six for a

Brahman, the four last for a warrior, and the same four, the Rakshasa excepted, for the third and fourth class.—*West. Rev.*, April 1868; *Prinsep by Thomas; Tod's Rajasthan*, i. p. 31.

VICIA, a genus of plants belonging to the natural order Fabaceæ. The species are usually climbing herbs with abruptly pinnate leaves, with many pairs of leaflets. About fifteen species are known.—*Riddell; Hogg.*

VICIA FABA. *Linn.* Faba vulgaris, *Mænch.*

Ful, ... EGYPT.	Faba græca, . . . LAT.
Garden bean, . . ENG.	Faba major, . . . ,,
Bakla-kabli, . . . HIND.	Faba minor, . . . ,,

This plant, a native of the environs of the Caspian Sea, is cultivated in India. Its flowers are large white, striped and dotted with black.

VICIA SATIVA, common vetch.

Luh-tau, ... CHIN. | Akra, Ankra, . HIND.

Grows in fields under spring crops, creeping round the stalks of the young plants and checking their growth.

VICTORIA CROSS, a decoration established by the Queen-Empress Victoria for conspicuous gallantry in the field.

VICTORIA REGIA, one of the Nymphæaceæ, a beautiful water-lily of S. America, Guiana, and Brazil, is now to be found in many parts of India. It was first successfully raised in the garden at Calcutta from seed sent by Dr. Wallich from England on the 9th of September 1851. It was received and sown in the garden on the 6th of November following, where it lay in a dormant state until the 23d of April 1853. On the 13th of May, same year, the seedling had made a healthy growth, and was transferred on that date to the mound prepared for it.

In Guiana and Brazil, the leaves have been observed in deep water to measure 12 feet across; the expanded flowers are about one foot in diameter. The seeds are eaten by the Indians.

It was discovered by the botanist Hænke in 1801, was noticed at Corrientes by Bonpland in 1820, and again by M. D'Orbigny in 1827. Its seeds, mais del agua, are roasted like maize. Sir R. H. Schomburgh found it on his ascent of the Berbice river in British Guiana in 1837; but it was not successfully introduced into cultivation until 1849, after various fruitless attempts.

VIDDHAGAHA MADHAVA, a seven-act drama by Rupa. Viddha-salabhanjika, the Statue, a comedy of domestic intrigue by Raja Sekhara, probably earlier than the 10th century.

VID'HARBHA, an ancient territory, always identified with Berar, but the limits of the province included the adjoining district of Beder, in which the name of Vid'harbha or Biderbha is traceable. Local traditions also assert that the ancient capital, still called Beder, is the same as Vid'harbha.—*Hind. Th.* ii. p. 11.

VIDVAN-MODA TARANGINI, or Fountain of Pleasure, a philosophical work by Rama Deva.

VIDYA. SANSK. Learning. The Hindus have eighteen Vidya of true knowledge, or sciences, and some branches of knowledge, falsely so called. The first four are the Vedas, which are entitled in one compound word, Rigyajush-samat'harva, or, in separate words, Rig, Yajur, Sama, and At'harvana. The Rig Veda consists of five sections, the Yajur Veda of eighty-six, the Sama Veda of a thousand, and the At'harvana Veda of nine, with eleven hundred shac'ha or branches, in various divisions and subdivisions. The Vedas, in truth, are infinite, but were reduced by Vyasa to this number and order. The principal part of them is that which explains the duties of man in a methodical arrangement; and in the fourth is a system of divine ordinances.

From these are deduced the four Upa Veda (Upa Veda, Upanga, Upuran, are terms which infer a work deduced, respectively, from its principal; up, like to sub, implies inferiority), namely, Ayush, Gandharva, Dhanush, and Sthapatya. The first of these, the Ayur Veda, was delivered to mankind by Brahma, Indra, Dhanwantari, and five other deities, and comprises the theory of medicine, with the practical methods of curing diseases. The second, the Gandharva, treats of music, was invented and explained by Bharata; it is chiefly useful in raising the mind by devotion to the felicity of the divine nature. Dhanush, the third Upa Veda, composed by Viswamitra, was on the fabrication and use of arms and implements handled in war by the tribe of Kshatriya. Viswakarma revealed the fourth, in various treatises on sixty-four mechanical arts, for the improvement of such as exercise them. Six Anga, or Bodi of learning, are also derived from the same source; their subjects chiefly are—1. of the pronunciation of vocal sounds; 2. detail of religious acts and ceremonies; 3. grammar; 4. prosody; 5. astronomy; 6. on the signification of difficult words and phrases in the Vedas. Lastly, there are four Upanga, called Purana, Nyaya, Mimansa, and Dharmashastra. Eighteen Purana (that of Brahma and the rest) were composed by Vyasa for the instruction and entertainment of mankind in general. Nyaya is a collection of treatises, in two parts, on metaphysics, logic, philosophy, etc. Mimansa is somewhat similar, divided into two parts; the latter, called Uttara, abounding in questions on the divine nature and other sublime speculations, was composed by Vyasa in four chapters and sixteen sections. It may be considered as the source of all the Anga; it exposes the heretical opinions of sophists, and, in a manner suited to the comprehension of adepts, it treats on the true nature of Ganesa, Bhaskara or the sun, Nilakanta, Lakshmi, and other forms of one divine being. The body of the law, called Smruti, consists of eighteen books, etc. etc., delivered for the instruction of the human species by Menu and other sacred personages. As to ethics, the Vedas contain all that relates to the duties of kings; the Puranas, what belong to the relation of husband and wife; and the duties of friendship and society (which complete the triple division) are taught succinctly in both. This double division of Anga and Upanga may be considered as denoting the double benefit arising from them in theory and practice. The Bharata and Ramayana, which are both epic poems, comprise the most valuable part of ancient history. Sanchya is two-fold, that with Iswara and that without Iswara, called Patanjala and Kapita; the latter, in six chapters, on the production of all things by the union of Prakriti, or nature, and Purusha, or the first male, etc. These books contain infinite contradictions. The Mimansa is in two parts, the Nyaya in two, and Sanchya in two; and these six schools comprehend all the doctrines of the theists. Lastly appears a work

written by Buddha; and there are also six atheistical systems of philosophy, entitled Yogachara, Sidhanta, Waibhashica, Madhyamica, Digambara, and Charvaka, all full of indeterminate phrases, errors in sense, confusion between distinct qualities, incomprehensible notions, opinions not duly weighed, tenets destructive of natural equality, containing a jumble of atheism and ethics; distributed, like all orthodox books, into a number of sections, which omit what ought to be expressed, and express what ought to be omitted; abounding in false propositions, idle propositions, and impertinent propositions. The Vedas consist of three Kanda, or general heads, namely, Carma, Gnyana, Upashasana, or Works, Faith, and Worship, to the first of which the author of the Vidyadesa, or View of Learning, a rare Sanskrit book, wisely gives the preference; as Menu himself prefers universal benevolence to the ceremonies of religion.—*Cal. Review; Wilford; As. Res.* ii. p. 302.

VIDYA-DHARA, with other names in Hindu mythology, inferior deities dwelling beneath the earth and sky; generally benevolent.—*Dowson.*

VIGHNESWARA, Siva Mahadeva's elder son; his image is often standing in the temples of the Gramma-devata or village deities, and is called Ganesa.

VIGNE, G. T., a traveller who wrote on Persia, India, Kashmir, the Panjab, Kābul, Ladakh, and Afghanistan; Personal Narrative of a Visit to Ghazni, Kābul, and Afghanistan, and of a Residence at the Court of Dost Muhammad, 1840; Travels in Kashmir, Ladakh, Iskardo, the Countries adjoining the Mountain Course of the Indus, and the Himalaya, north of the Panjab, 1842.

VIHARA. The Buddhist vihara or monasteries are of two kinds:—1st, Cave vihara, of which several magnificent specimens have been described by Mr. Fergusson; and 2d, Structural vihara, of which some specimens still remain at Sanchi, but in a very ruinous condition.

The vihara or monastery caves of the first class consist of—(1) natural caverns, or caves slightly improved by art; these are the most ancient, and are found appropriated to religious purposes in Behar and Cuttack; next (2) a verandah opening behind into cells for the abode of monks, as in Cuttack and in the oldest vihara at Ajunta; the third (3) has an enlarged hall supported on pillars. The most splendid of these caves are those of Ajunta, though the Dherwara at Ellora is also fine, and there are some good specimens at Salsette and Junnar. The word vihara is supposed by some to be the source of the name Behar. Bihar or Vihar, the Sanskrit term for monastery, occurs in Unao in the province of Oudh, and again in Partabgarh in the same province. Vihara are also called Bhikshu griha. Vihara were for the accommodation of Buddhist bhikhshus or mendicant monks living together in communities. The earliest form seems to have been one or more griha or cells with a verandah (padasala) or porch. Groups of caves are often called Lenas. There was usually a permanent spring or a cistern cut in the rock, beside or under the cell. In former times this term was applied differently from now. Hiwen Thsang named the great tower at Buddha Gya a vihara, and the Mahawanso applies the term indiscriminately to temples and residences. Modern writers restrict it to monasteries of the Buddhists. —*Ferg. and Burg. Cave Temples.*

VIJAYA or Vyjya, a Buddhist prince from Kalinga who made a successful expedition to Ceylon, B.C. 483. His title is taken from the Sanskrit word written similarly, meaning conquest. A system of caste was introduced by king Vijaya amongst the Ceylon Buddhists, which still prevails there, though directly opposed to Buddhist doctrines, and not existing in any similar form in other Buddhist countries.

Vijaya, one of the warders of Vishnu's palace.

Vijaya, the ever-victorious tree produced from the churning of the ocean.—*Fergusson.*

VIJIANAGAR, called also Vidyanagara, is the modern Bijanagar, in Bellary district, Madras, lat. 15° 18′ N., long. 76° 30′ E.; population (1871), 437. It is in ruins, on the right bank of the Tumbudra. The proper name of this village is Humpi, but Vijianagar was the name of the dynasty and the kingdom which had its capital here. The dynasty claimed descent from the Yadava race, and they seem to have founded it in the 14th century, about S.S. 1258 or A.D. 1336, after the overthrow of the kingdom of Warangal by the Muhammadans in A.D. 1323. It was founded in the reign of Muhammad Taghalaq, according to one account, by two fugitives from Telingana, but according to Prinsep, in 1338 by Bilal Deo of Carnata, who resisted Muhammad Taghalaq, and founded Vijianagar. The family genealogy deduces a descent in the direct line from Pandu of the Lunar dynasty, and imperfectly follows the Puranic lists to Chandrabija, the last of the Magadha rajas. The first in authentic history is Nanda, A.D. 1034, who founded Nandapur and Warangal. On the capture of Warangal, A.D. 1323, and the subversion of the Belala dynasty, two of its officers established a new government at Vijianagar on the banks of the Tumbudra. The city was completed A.D. 1343, Anagundi being a suburb on the opposite bank of the river. The rulers were designated Rayel or Rayer, and were Saiva Hindus. In 1490, Narsingha, a Vaishnava, founded a new dynasty; he extended his power into the Dravida country, erected strong forts at Vellore and Chandragiri, and in 1510 or 1515, a successor, Krishna Rayer, reduced the whole of Dravida, including the Chola and Pandiyan kings. In 1564, the Vijianagar army was defeated at Talikottah by the confederate Muhammadan kings of Bijapur, Ahmadnaggur, Golconda, and Beder? and Ram Raja, the 7th prince of the house of Narsingha, was slain. Vijianagar was sacked and depopulated, and the doab between the Kistna and Tumbudra partitioned amongst the conquerors. The successor of Ram Raja established himself in Pennakonda, 85 miles S.W. of Bellary, from which, in 1570, Timmah Raja removed to Chandragiri, about 11 miles W.S.W. of Tripatty, at which place and at Vellore in 1597 he was ruling with some magnificence over the Naiks of Ginji (Kistnapa), Tanjore, Madura, Chinnapatam (Jug Deo-rayer), Seringapatam (Trimulraj), and Pennakonda. The Dutch had been established at Pulicat, and persuaded this ruler to refuse the English a settlement. In 1599, two Portuguese missionaries visited Chandragiri, and were received by the ruler. About 1644, the Carnatic was invaded by an army from Bijapur, when Ginji and Chandragiri were reduced, and

Sri Ranga Rayel, after concealing himself in the Northern Circars in 1646, escaped to Bednore, where he was sheltered by the raja, formerly one of his own dependents. This is the last that is known of the old Vijianagar dynasty, though a branch of the family long resided at Chingleput, and continued for a time to assume a kind of state.

Abd-ur-Razaq, an ambassador from the grandson of Timur, visited the south of India in A.D. 1442. He describes Vijianagar in terms so glowing, that it is scarcely surpassed by that in the story of Prince Ahmad in the Arabian Nights. Nicolo di Conti (A.D. 1420) is so extravagant as to say it is 60 miles in circumference; Bartema says 7 miles, and adds that it is very like Milan.—*Elph.* p. 428.

VIJNANESWARA BHATTA flourished in the 10th century of the Christian era, author of the Mitakshara, a commentary on the law book of Yajna Valkya.

VIKRAMADITYA, meaning sun of might or sun of prowess, is a title which was assumed by more than one ruler in India. Mr. Fergusson gives the following names:—

	A.D.
Vikramaditya of Malwa, ...	490
Siladitya of Malwa, ...	530
Prabharakara of Kanouj, . . .	580
Raja Vardhana, ...	605?
Pulakesi II. of Kalyan, . . .	609
Sri Dharasena III. of Balabhi, . .	650
Vikramaditya of Kalyan, . . .	660?
Vinayaditya of Kalyan, . . .	680
Vijayaditya of Kalyan, . . .	695
Vikramaditya II., ...	733

At another place Mr. Fergusson (p. 731) names five Chalukya rulers of this title at Kalyan—

Vikramaditya I., the 10th of the line.
Vikramaditya II., the 13th, began to reign A.D. 733.
Vikramaditya III., the 20th, restored the monarchy A.D. 773.
Vikramaditya IV., the 22d, began to reign about A.D. 1008.
Vikramaditya V., Kali Vikrama, Tribhu vana Malla, A.D. 1076.

Vikramaditya, king of Ujjain, won his paramount place in Indian story by driving out Scythian invaders. An era, the Samvat, beginning in B.C. 57, was founded in honour of his achievements. He reigned at Ujjain in Malwa from A.D. 495 to 530. He was a liberal ruler, a patron of learning, encouraged art. He was a follower of the Brahmanical religion, a worshipper of Siva and Vishnu. His successor Siladitya seems to have returned to the Buddhist faith. Some modern works state that king Bhoja, ruler of Malwa, who about A.D. 1040–1090 dwelt at Dhara and Ujjayini, was the Vikramaditya whose court was enlivened by the nine learned, known as the nine gems, nawa-ratna,—Dhanwantari, Kshapanaka, Amarasinha, Sanku, Vetalabhatta, Ghata Karpara, Kalidasa, Varamihira, and Vararuchi. Dhanwantari wrote the Nirghanta on medicine, and two others; Kshapanaka wrote on the primary elements; Amarasinha, a Sanskrit dictionary, and a work on the Mimansa philosophy; Sanku, Vetalabhatta wrote on the Alankara, and a commentary on the Vaiseska philosophy; Kalidasa wrote the Sankhya tatwa Kumudi, the Kumara. Ragoba Moraba of Bombay translated into English the adventures of Vikramaditya of Ujjain.

The Vikramaditya, king of Kalyana, is supposed to have reigned from A.D. 1076 to 1127. His adventures have been written by the poet Bilhana. He was the son of the great king Ahavamalla, whose queen, after some time, bore to him three sons, Someswara, Vikram, and Jayasimha. Vikram ultimately succeeded to the throne. He twice made war against the Chola kingdom, and he took Kanchi. On Jayasimha revolting, 1077, he attacked and defeated him.—*Dr. James Fergusson, P. A. S. J.* iv., 1870, p. 94; *Weber*, p. 202.

VIKRAMADITYA ERA, or Samvat or Sambut era, B.C. 56, is in use throughout Telingana and Hindustan. The prince from whom it was named was of the Tuar Rajput dynasty, and is supposed to have reigned at Ujjain (Ujjayini) 135 years before Salivahana, the founder of the Saka era, south of the Nerbadda (Narmada). The Vikramaditya or Samvat era commenced when 3044 years of the Kaliyug had expired, *i.e.* B.C. 57 years, so that if any year, say 4925 of the Kaliyug, be proposed, and the last expired year of Vikramaditya be required, subtract 3044 therefrom, and the result, 1881, is the year sought. To convert Samvat into Christian years, subtract 57, unless they are less than 58, in which case deduct the amount from 58, and the result will be the date B.C. The era Vikramaditya is little used in the Peninsula of India, although its current year is generally inserted at the head of the calendar. In those provinces where it is current, it serves to number the luni-solar years, in the same manner as the era Salivahana in the Carnatic does for the solar ones.—*Cole. Myth. Hind.; Warren's Kala Sankalita; As. Res.* vi.; *Thomas' Prinsep*, p. 157.

VIKRAMCHARITRA, or the Adventures of Vikramaditya, king of Ujjain, is a celebrated book, in much favour with the Hindu races of British India. The author is not known. Further adventures of Vikram are related in a Prakrit poem by Haridas, whose era is not known.

VIKRAMORVASI, Vikrama and Urvasi, or the Hero and the Nymph, a story in a drama by Kalidasa, in which the hero is Pururavas, and Urvasi is an Apsaras who came down from Swarga, from having incurred the imprecation of Varuna and Mitra. On earth Pururavas and she fell in love with each other, and she bore him six or eight or nine sons. The story is in the Satapatha Brahmana, and in the Bhagavata and other Puranas. The myth is supposed to refer to the action of the sun (puru-ravas) on the morning mist (urvasi).—*Dowson.*

VIKRAMU. TEL. Any idol.

VILLAGE.

Hiang, ... CHIN.	Grama, . . . SANSK.
Basti, Gaon, . . HIND.	Bang, ... SIAM.
Kyong, . . . LEPCHA.	Thiong, ... TIB.

Go, Gao, Gon, Grama, Gama, Gramamu, Gramam, Gram, Gam, Ganw, Gaon are derived from the Sanskrit. In former times, in the whole of India, the property in the land resided in the village communities, and this is still the case with the greater part of it. The village community is not, however, co-extensive with the cultivating inhabitants of the village; it consists of the descendants or representatives of those by whom the village was, at some remote period, conquered or reclaimed from waste. In most cases these proprietors are a part, and in some the whole of the agricultural population of the village. Any remainder consists of the descendants of persons who have taken up their residence in the village

at later periods, with the permission of the proprietors, some of whom have remained tenants-at-will, while others have by grant or prescription acquired a fixity of tenure. The village proprietors formed prescriptively the municipal government of the village, and village government was the only institution, properly so called, which the Hindus possessed.

Corporate villages are still in many parts of India an institution of the country. They are municipalities governed by a headman, often hereditary, and the different trades and professions practised by individuals, who received a regulated remuneration. Village communes of India are little republics, having nearly everything they can want among themselves, and almost independent of any foreign relations. The village watchmen are called Pasban, Gorayet, Peik, Douraha in Hindustan; Tillari in the south of India amongst the Teling race; Paggi in Gujerat. There never was cultivation in common, but each man broke up as much land as he could, and it belonged to him who first tilled it. Local taxes for common expenses were rateably raised. By the term village is strictly meant, not merely the collection of dwellings which the cultivators inhabit, but the whole area which is in their occupation. Agriculturists in Northern India dwell in village communities, in Central India they are village proprietors, and in Southern and Western India they are ryots under the ryotwari system, much like the peasant-proprietors of Europe. Gujerat cultivators do not live, as those of European countries do, each upon his own farm, but are invariably concentrated into villages.

The village system of land assessment is current in the N.W. Provinces, the Panjab, Nagpur, and Oudh. In Cuttack is a mixed plan of the ryotwar and village system.

Land surrounding the village homestead in N. India is called bara, also in the Upper Doab, goind. The circle beyond the bara is called munda, majhola, or agla, and the outer circle jungle (jangal).

The Gramma-deva, the tutelar deity of a village, is sometimes one of the Hindu pantheon; sometimes, as in the south of India, it is Hanuman; sometimes one of the Ammun; often a shapeless stone or piece of wood. The Gramma-devata are generally on the outskirts of the villages, frequently beneath a tree, and are usually exposed to the open air without any covering temple. So long as the affairs of the community are ordinarily prosperous and no calamity threatens, they are content with the worship common to the sect to which they belong, but in seasons of trouble the Gramma-devata are largely resorted to. When the calamity is general, such as a drought or a pestilence, or a murrain amongst the cattle, the entire village will repair to the village deity, and seek by prayer and offerings to obtain release. All the Assamese regard high trees and sequestered groves as the haunts of spirits. — *Select Committee, House of Commons*, 1832; *Forbes' Rasamala*, ii. p. 241; *Wils.*; *Campbell*, p. 6; *Mor. and Mat. Prog.*, 1858.

VILLANOUR, a small native village, situate about 7 miles to the west of Pondicherry, containing a huge pagoda. Inside the pagoda is a large square tank.

VILLAPAKAM TANDAVARAYA, a Mudaliar, was a teacher in the College of Fort St. George, Madras. In 1825 he wrote a catechism of Tamil grammar, entitled Ilakkana Vina Vidai; he translated the Panchatantra stories into Tamil, and wrote a book of fables called Katamangsari. He likewise edited several Tamil lexicons. His prose style is greatly admired.

VILLARSIA, a genus of plants belonging to the natural order Gentianaceæ, named after Villars, a French botanist. There are about 16 species of this genus, either aquatic or marsh plants, with alternate entire leaves and yellow flowers, inhabitants of all parts of the world. One only is a native of Europe; Villarsia Indica, cristata, and nymphæoides occur in every part of India, and afford a good bitter.

Villarsia cristata, *Spreng.*

Menyanthes cristata, *Roxb.*	Chirialli, . . . TEL.
Ch'hoto-pan-chuli, BENG.	Autara tamara, . ,,

A common plant, with small white flowers, floating in sweet water ponds all over the East Indies.

Villarsia Indica, *Vent.*

Menyanthes Indica, *Linn.*	Indian buckbean, . ENG.
Buro-pan-chuli, . BENG.	Nedel ampel, MAL., TAM.
Chuli, . BENG., HIND.	Autara tamara, . TEL.

This fresh-water plant is found floating in lakes and tanks. Its tuberous roots are used medicinally. It has middle-sized flowers, with a yellow tube and a white-bearded limb.

Villarsia nymphæoides, *Vent.*

Kuru, ... KAGHAN.	Khair posh, . KAGHAN.
Gul jafari purnka, ,,	

A floating plant, found in ditches and slow-running streams in every part of Hindustân; in Kashmir it vegetates on the lakes, and is given as food to cows, in the belief that it increases their milk. It is a beautiful plant, and may be easily cultivated. It has a large yellow flower, which is curiously plaited.—*Honig.* p. 364; *Stewart; Roxb.; O'Sh.; Voigt; Hogg; Irvine.*

VILLI are a race dwelling in hamlets of five or six huts on the outskirts of most of the villages in the district of Chingleput, and sometimes called Yenadi. They are herbalists. They have Mongol features; the men have scant hair on the lip or chin, and no whiskers. They are polygamists. They eat all animal food except the flesh of the cow. They dig up the wild chay root. The average height of the men was 5 feet 5 inches, and weight 83 lbs. Other forest races are the Chenchuar, Irular, Kampani, Matraj or Muttaracha, and Yanadi.

VILLIPUTTURAR was a Vaishnava Brahman. Opinions differ with respect to the time he lived. He wrote an imitation in 3373 stanzas of the first ten Parvas of the Mahabharata.

VIMANA, the pyramidal tower of a Hindu temple, erected over the spot where the idol is placed.

VINA, the Hindu lyre, formed by a flat piece of wood with strings, having a gourd at one end, and sometimes one at both ends; seen in plates in the hands of Nareda, Saraswati, and the celestial choristers. See Krishna.

VINAGO AROMATICA, the Columbia aromatica of Latham, is of a mild and timorous disposition, and is generally seen in flocks or societies, except during the period of reproduction, when they pair, and retire to the recesses of the forest. The nest is simple, and composed of

a few twigs loosely put together, and the eggs are two.

VINAYA. SANSK. In Buddhism, morality or discipline. Vinaya-pitaka, SANSK., the Treasury of Discipline, one of the Tripitaka or Three Treasuries of the Buddhists.

VINCA, a genus of plants belonging to the natural order Apocynaceæ. V. herbacea, V. major, V. minor, V. pusilla, and V. rosea are known. Their English name periwinkle is derived from the French pervenche; but the French also call V. major the Violette des sorciers, and the Italians Fiore di morte, from the practice of making garlands of it in sorceries and incantations.

Vinca pusilla (V. parviflora, *Roxb.*), a small erect annual, common in the East Indies; stem smooth. Applied in India as an external stimulant in lumbago.—*Royle.*

Vinca rosea, *Linn.* Catharanthus roseus, *Don.*

Madagascar periwinkle. | Rattan jot, . . . HIND.
Gul-firingi, . . . BENG. | Billa ganneru, . . TEL.

A native of China, Cochin-China, common in Indian gardens, with large rose-coloured flowers. —*O'Sh.*

VINCENT, WILLIAM, author of The Voyage of Nearchus from the Indus to the Euphrates, London 1797; The Periplus of the Erythræan Sea: an Account of the Navigation of the Ancients from the Sea of Suez to the Coast of Zanguebar, London 1800–1805.

VINCETOXICUM CANESCENS. *Dne.*

V. vulgare, *Rœm. and Sch.* | Tranna . . . of RAVI.

Not uncommon in parts of the Western Panjab Himalaya, from 5000 to 9500 feet. In some places the natives commend its khushbu (perfume), which is really a rank heavy smell given out when it is bruised.—*Stewart.*

VINDHYA or Vindhyachala, also Bind'h and Bindhya, a great series of mountain ranges separating the Gangetic basin from the Dekhan, and forming a well-marked, although not quite continuous, chain across India. The name was formerly used in an indefinite manner to include the Satpura Hills, south of the Nerbadda; and indeed certain of the Sanskrit Puranas apply it specially to the Satpuras. The Vindhyas are now restricted to the ranges on the north of that river. The Vindhyas occupy a considerable place in the mythology of India as the great demarcating line between the Madhya-desha, or 'middle land' of the Sanskrit immigrants, and the non-Aryan Dekhan. They are still inhabited to a large extent by aboriginal races, and the name Vindhya in Sanskrit means also a 'hunter.'

The range separates Hindustan proper from Southern India, and forms the northern boundary of the valley of the Nerbadda river, extending from Gujerat on the W. to the basin of the Ganges on the E., and comprised between the 22d and 25th parallels of latitude. The average height, 1500 to 2000 feet. Chumpanir, lat. 22° 34′ N., and long. 73° 41′ E., 2500 feet; crest of Jam Ghat, 2300 feet; mountain in Bhopal, 2500 feet; Chindwarra, 2100 feet; and Patchmaree, vaguely stated to be 5000 feet, but this is probably an exaggeration; Dokgur, stated to be 4800 feet; Putta Sunka and Choura Doo, the highest, conjectured at 5000 feet; Amarkantak, a jungly table-land computed to be 3463 feet; Leela, a summit in Lanjhi Hills, lat. 21° 55′ N., and long. 80° 25′ E., 2500 feet; another of the same hills, in lat. 21° 40′ N., and long. 80° 35′ E., 2400 feet. The chain forms the southern buttress of the plateau of Malwa, Bhopal, etc. In the Saugor and Nerbadda territories its crest is but the brow of this table-land; but in the western part it rises a few hundred feet above the high land on its northern side. Connected with the western limits of the Vindhya range by a curved line of hills are the Aravalli mountains, which stretch almost to Dehli, and serve as a barrier between Central India and the western desert. The eastern portion of the Vindhya chain is a spreading table-land, from which spurs descend to the north and south, the latter separating the different valleys of Orissa. The table-land of Chutia Nagpur averages 3000 feet, and westwards near Sirguja is higher. Hazaribagh is about 1800 feet, and Parisnath Hill on the east is about 4500 feet; the most easterly spurs approach the Ganges at Monghir, Bhagulpur, and Rajmahal.

Geologically, few parts of India have excited more interest and attention than the districts adjoining the Nerbadda river; the great thickness of sandstones and associated beds, which form the mass of the Vindhya range, being the most striking and remarkable feature in that country. There is a great faulting, accompanied by much disturbance mechanically, and by much alteration chemically (more especially to the south of this fault), in the rocks which pass along the main line of the Nerbadda valley, along the continuation eastward of this line down the valley of the Sone, and thence across Behar, where the continuation of the same rocks forms the Gorakhpur Hills. It is considered a high probability that this line of dislocation was continued to the east by north up or towards the valley of Assam; its main direction being 15° E. to 18° N., corresponding with the main direction of the Vindhya range and the Khassya Hill range. South of this dislocation, the great group of sandstones, shales, etc., forming the Vindhya Hills, is almost entirely absent, unless the highly metamorphosed rocks there seen be the continuation downwards of the same series, greatly altered. This great group is altogether of a different character and of a more ancient epoch than the beds associated with the coals of Bengal and of Central India,—the latter resting quite unconformably on the former. Mr. Oldham gave the name Vindhyan to this great group, being best seen in the well-exposed scarps of the Vindhyan range; and to the subdivisions in ascending order, the names Kymore, Rewah, and Bundair; but he applied these names only provisionally, as he thought it possible that the Rewah limestone and Bundair sandstone are only repetitions of the Sone valley limestone and sandstone, produced by faulting. Resting unconformably upon the Vindhya formation, there is a considerable thickness of sandstones, shales, and coals in Central India, much disturbed and traversed by trap-dykes. The total thickness of this group in this district exceeds some thousand feet. In these beds occur numerous fossil plants, which thoroughly identify these rocks with the coal-groups of Bardwan, of Hazaribagh, and of Cuttack. Taking it as proved that the strata at Kotah, from which fish and Saurian remains had been obtained, are the same with those of

Kampti near Nagpur, the strong Permian analogies of the Saurians (Brachyops) ought not to be overlooked.

The Nerbadda is fed almost entirely from the south, as the watershed of the Vindhyan tableland stands but little back from its southern face. On both sides of the valley the high ground is often occupied by basaltic trappean rocks. On the north such rocks spread into wide patches over the country towards Bhopal, Saugor, and Damoh, in which direction they gradually die out; on the S. and S.W. the trap is found to cover considerable areas among the Gondwana Hills, and it becomes more and more the prevailing surface rock in this direction, towards the great trap area of the Dekhan. The prevalence of regularly-bedded, fine-grained grits, with a characteristic red colour, is the most striking lithological feature of the Vindhyan group; and, speaking of the formation generally, its most marked characteristic certainly is the persistency of this lithological aspect over great areas. This sameness of texture is strongly in contrast with the prevailing character of all the more recent sandstone formations to the south. Ripple-marking may be considered as a phenomenon characteristic of the Vindhyan series; almost totally absent in all the other groups of sandstone of Central India, it is almost everywhere throughout them found preserved in the most extraordinary perfection.

The Vindhya mountains form the southern limit of Hindustan, but, further south, separated by the deep valley of the Nerbadda, is a parallel chain called Injadri or Satpura, which must be crossed before we reach the next natural division in the valley of the Tapti. This small tract is low, but the rest of the Dekhan is almost entirely occupied by a table-land of triangular form about the level of that of Central India.

The Vindhyan languages, and particularly the Gond, have a closer agreement with the Carnatica and Tuluva, and even with the Kodagu and Todava, than with the adjacent Telugu. This is seen in the forms of many common Dravidian roots and particles. Gondi has also some special affinities with ancient Tamil. It is probable that the Telugu and Mahrati have spread inland from the east and west into the upper basin of the Godavery, and thus cut off the ancient connection between the Gondi and the Carnatica and the Malealam, which, with the Konkani, Tulu, and Tamil, prevail on the low country throughout the rest of the belt to Cape Comorin. The main portion of the South Dravidian land is occupied by three populous nations, speaking as many dialects.

Professor Max Muller is of opinion that when the Aryan tribes immigrated into the north of India, they came as a warrior people,—vanquishing, destroying, and subjecting the savage and despised inhabitants of those countries; but that, in the countries south of the Vindhya, their entry was in the way of colonization and instead of introducing their own Sanskrit language, they adopted those of the southern nations,—refined and improved them, till they even rivalled the Sanskrit in perfection, though there remain up to the present day, in some parts of the interior of the Peninsula, savage tribes never reached by the superior civilisation of the Aryan. These earlier inhabitants of India were considered by the Brahmans as impure and unworthy to partake of their religious sacrifices, and found a refuge in the thick forests of the mountain districts, and in the countries south of the Vindhya range, while some of them were tolerated by the Brahmans, so as to remain in a state of slavery.—*Imp. Gaz.; Williams' Nala*, p. 220; *Ritchie*, i. p. 6; *Hind. Th.; Prof. Max Muller, Rep. Brit. Ass.*, 1847, p. 330; *Elphinstone's India*, p. 3; *Dr. Oldham.*

VINDRA-VANA, the forests of Vindra, in which were placed many temples sacred to Kaniya. One is on the Yamuna, a few miles above Mathura. A pilgrimage to this temple is indispensable to the true votary of Krishna. See Bindraban.

VINDUSARA or Bimbasara, son and successor of Chandragupta, to whose court a second Greek embassy was sent, either by Seleucus, or by his son Antiochus Soter. The ambassador Daimachas was considered by Strabo the most lying of all the Greek historians of India. Vindusara died B.C. 263, and was succeeded by his son Asoka.—*Thomas' Prinsep.*

VINE. Of this order of plants, the Ampelideæ, the grape-vine (Vitis vinifera, *L.*), the most important plant of the order, may be taken as the type. They are all climbing, jointed shrubs, often with abortive flower branches serving as tendrils to lay hold of their support. None of the order are native in Europe; they are chiefly East Indian. The grape-vine, cultivated extensively in many parts of India, Persia, Afghanistan, France, Germany, South Europe, Atlantic Islands, United States, Cape, etc., was very probably native originally of Western Asia, and to the south of the Caspian. From its innumerable varieties, affected by different climates and soils, we have, besides grapes yielding the various wines of commerce, other sorts which are dried, forming the Valencia, muscatel, sultana, and kishmish (without seeds, from Turkey) raisins; also currants, the dried fruit of a small-fruited variety of the grape-vine (V. vinifera, *var.* Corinthiaca), cultivated in the Ionian Islands, Greece, Liparis, etc. These are quite distinct from any species of Ribes, the currant bush of orchards, to which they are not botanically related. See Wine.

VINEGAR. Acetum, LAT.

Khull,	ARAB.	Vinagre,	PORT., SP.
Tsu, Nung,	CHIN.	Ukzus,	RUS.
Azyn, Azyn zur,	DUT.	Ganchica,	SANSK.
Vinaigre,	FR.	Eisel,	SAX.
Essig saure,	GER.	Kadidia,	SINGH.
Sirka,	HIND.	Kadi,	TAM.
Aceto,	IT.	Pulla millu,	TEL.
Chuka,	MALEAL.		

Vinegar is an impure acetic acid, and several varieties of it are known in commerce, such as wine, malt, wood, sugar, toddy, etc., vinegar, all extensively employed for pickling, in domestic cookery, etc. Acetic acid is the volatile principle, to the presence of which, diluted with variable proportions of water, vinegar owes its aroma and pungency. This acid exists, ready formed, in notable quantity in certain plants, as Sambucus niger, Phœnix dactylifera, and Rhus typhenus. It may be readily generated by the fermentation of various vegetable and animal substances, especially the former. For commercial purposes, vinegar is made from certain vegetable and spirituous infusions, as those of the grape, malt, and the sugar-cane; but any vegetable infusion capable of yielding alcohol will also, when exposed to the necessary conditions, furnish vinegar. In

most cases, and indeed whenever vinegar is manufactured on a large scale, and the vinous or alcoholic fermentation precedes the acetous, the vinegar is formed entirely at the expense of the alcohol. In India, vinegar is obtained from the Dolichos uniflorus, but is also made from the sediment of palm wine or toddy, and is coloured artificially. The juice of the gomuti palm, Arenga saccharifera, put into a jar for five days, is converted into excellent vinegar, equal in strength to that produced by the vinous fermentation of Europe. Large quantities of the palmyra toddy are converted into vinegar in Ceylon, and used for pickling gherkins, limes, the undeveloped leaves of the cocoanut and palmyra trees, and other substances. It is also prepared from the toddy of the cocoanut palm. The toddy is collected in fine weather, put into jars, and kept covered for a month; it is then strained and replaced in the same jars, with the addition of a little chilli (Capsicum frutescens), commonly called bird pepper, a small piece of ghorka, fruit of the gamboge tree, the red sort of which is to be preferred, being most acid, and the pod of the Hyperanthera moringa. At the expiration of five weeks or a month, it becomes very excellent vinegar. The vinegar obtained from sugar-cane juice is generally a poor stuff, and does not contain more than 2 per cent. of acetic acid; but at some places it is made well, especially at Dehli, and really excellent at Peshawur, made from grapes, quite fit for table use. Acetic acid can be distilled from vinegar, but the common country vinegar of the bazar generally contains only a very small portion of acetic acid, often not more than 2 per cent. If ten measures be taken of vinegar, it should be distilled till nine have passed over. It is made in China from rice and from all other grains, and is used in lieu of rennet in making cheese.—*Powell, Handbook*, i. p. 312; *Faulkner; M'Culloch; Royle; O'Sh.; Eng. Cyc.; Tennent.*

VINGORLA, a seaport town, with fort, in the Ratnagherry district, Bombay, situated 84 miles S. by E. of Ratnagherry town, in lat. 15° 51′ 30″ N., and long. 73° 39′ 45″ E. A lighthouse erected in 1870 is situated on an isolated rock in the west of Ratnagherry district, Bombay, Burnt Island, lat. 15° 53′ 30″ N., and long. 73° 27′ 30″. The bay is quite sheltered, except from the south.

VIOLA, a genus of plants of the natural order Violaceæ. About 19 species are known. The roots of most have an acrid, nauseous taste, and have emetic properties; and in Europe, V. arvensis, canina, odorata, and tricolor are so used. The Akukira and Banafsha plants of Kaghan are species of Viola; V. distans and V. serpens are of the Khassya; V. glaucescens is of the Peninsula; V. odorata is of Europe, Siberia, and China; V. Patrinii is of Siberia, the Neilgherries, and in Hazara, a dark-flowered variety has a particularly fine scent; V. Roxburghiana is of Bengal; and V. Wightiana is of the Peninsula. V. hirta, lactea, and lutea are other species. V. cinerea, *Boiss.*, grows in the plains, Trans-Indus, and in the Salt Range; and several species are found in the Himalaya up to 10,000 feet, perhaps the commonest being V. serpens, *Wall.* The plants of the species are found in the bazars of India, and considered diaphoretic and aperient. The Persian name Banafsha is given to several species. Dr. Royle figured three Himalayan species, V. serpens, V. reniformis, and V. Kanawarensis; the first of which is found in Mussoori, the second on the Chur mountain, the last in Kanawar.

Under the name of Bekh-banafsha, or violet root, and having precisely the smell of the fresh flower of V. odorata, the well-known orris root, or Iris florentiana, is also sold in the bazar. Excellent issue peas are made from this root.—*Royle; O'Sh.; Stewart; Murray.*

VIOLA ODORATA. *W.* Sweet violet.

Behussej, . . . ARAB.	March violet, . . ENG.
Tsze-kin-hwa, . . CHIN.	Banafsha, HIND., PERS.

This violet has no stem. It is native throughout the whole of Europe and in Siberia and China, and its delicious scent has made it a great favourite. In the dry state it is sold in all Indian bazars, and is prescribed in infusion by the hakims as a diaphoretic in the treatment of fever. It nauseates slightly, owing to its containing a very minute quantity of the principle termed violina, closely resembling the emetine on which depend the virtues of the ipecacuanha of Brazil. The V odorata, as sold in the bazar, has dry, thready, fibrous roots, a pale-yellow colour, knotty, some as thick as a quill. The leaves are heart-shaped, flowers blue. The entire plant retains slightly the delightfully sweet smell characteristic of this tribe.—*Royle; Riddell; O'Sh.; Jaffrey.*

VIOLA TRICOLOR, Heartsease or pansy; flowers vary much in size; some only are odorous. The colours are mixed and numerous, being from deep-purple and yellow to blue and white, crimson, etc. In Europe this flower has been brought to great perfection, by the mode of continual offsets. The flowers are not generally scented, but some are found so on the Neilgherry Hills. The seed should be taken as soon as the seed-vessels appear round and full; they may be dried in the house and the seeds preserved; if left on the plant, the capsules dry and open of themselves, fresh plants springing up from the seed that drops out. Requires a light, loamy, vegetable soil.—*Riddell.*

VIOLIN, or Fiddle.

Vioolen, ... DUT.	Violini, ... IT.
Violons, ... FR.	Violines, ... SP.
Violinen, ... GER.	

A stringed musical instrument.

VIPASA, the Sanskrit name of the river known to the Greeks as the Hyphasis; the river Beas.

VIPERINE SNAKES form the third sub-order of the Ophidia or poisonous snakes, and may be thus shown:—

3. SUB-ORDER, VIPERINE SNAKES.

1. Pit-Vipers—Crotalidæ.

Trimeresaurus gramineus, *Shaw*, eastern part of Asia.
T. erythrurus, *Cant*, Bengal, China, Siam, Java.
T. carinatus, *Gray*, Sikkim, Bengal, Rangoon.
T. purpureus, *Gray*, Penang, Singapore.
T. Animallensis, *Gthr.*, Animallay Hills.
T. monticola, *Gthr.*, Nepal, Sikkim.
T. Wagleri, *Schleg.*, Malayan Peninsula.
T. strigatus, *Gray*, Neilgherries, Dekhan.
T. trigonocephalus, *Merr.*, Ceylon.
T. mucrosquamatus, *Cant*, Assam.
Peltopelor macrolepis, *Beddome*, Animallay.
Calloselasma rhodostoma, *Reinw.*, Siam.
Halys Blomhoffii, *Boie*, Japan, Formosa.
H. Pallasii, *Gthr.*, Tartary.
H. Himalayanus, *Gthr.*, Tibet.
H. Ellioti, *Jerd.*, Neilgherries.
Hypnale nepa, *Lam.*, Ceylon, Southern India.

II. Vipers—Viperidæ.

Daboia Russellii, *Shaw*, Ceylon, S. India, Himalayas.
Echis carinata, *Schneid.*, Southern India.

—*Gunther's Reptiles.* See Reptiles.

VIR or Bir. SANSK. Man, the Latin Vir. Birbani, the term amongst the Jat for a man's own wife. A femme couverte.

VIR. PUKHTU. Lamentation.

VIRABHADRA or Ehrabadra, in the mythology of the Hindus, a terrible being, created by Siva for the purpose of destroying the sacrifice of Daksha. His image stands in the temples of the Gramma-devata, is by some called an avatar. Sculptures of him are in the caves of Ellora and Elephanta. Many Teling and Tamil Hindus take his name. As son of Siva, he is fabled to have been produced from the jatra, or plaited locks of that deity, which he cut off and threw on the ground in a moment of frenzy, on learning the death of Sati, caused by the curse of Daksha. Virabhadra immediately attacked Daksha and cut off his head, which fell into the fire prepared for a sacrifice, and was burned. He is represented armed with various instruments of destruction; and the representations of him are usually seen with the head of a goat (with which that of Daksha was replaced on his body) near them, or accompanied by a human figure with a goat's head.—*Cole. Myth. Hind.* p. 74. See Daksha.

VIRA-CHARITA, tales by Ananta.

VIRAGI, Hindu religious devotees. They are ascetic religious mendicants, properly Vaishnava sectarians, especially in the form of Rama, and in relation to him of Sita and Hanuman. Some of these ascetics live in mat'hs, though others of them find employment in conveying, for purposes of worship, the holy water of the Ganges to many of the most distant parts of India, in pitchers slung on bamboos. The term is from the Sanskrit Vi, privative, and Raga, passion, implying a person devoid of passion, and is therefore correctly applicable to every religious mendicant who affects to have estranged himself from the interests and emotions of mankind. Virakta, the dispassionate, and Avadhuta, the liberated, have a similar import, and are therefore equally susceptible of a general application. They are, indeed, so employed in many cases, but it is more usual to attach a more precise sense to the terms, and to designate by them the mendicant Vaishnava of the Ramanandi class, or its ramifications, as the disciples of Kabir, Dadu, and others. The ascetic order of the Ramanandi Vaishnava is considered to have been instituted especially by the twelfth disciple of Ramanand, Sri Anand. They profess perpetual poverty and continence, and subsist upon alms. The greater number of them are erratic, and observe no form of worship; but they are also resident in the mat'h of their respective orders, and are the spiritual guides of the worldly votaries. It is almost impossible to give any general character of these Viragi, as, though united generally by the watchword of Vishnu or his incarnations, there are endless varieties amongst them, both of doctrine and practice. Those who are collected in the mat'h are of more fixed principles than their vagrant brethren, amongst whom individuals are constantly appearing in some new form with regard to the deity they worship or the practices they follow.—*Professor Wilson, Hindu Sects; Cole. Myth. Hind.*

VIRAJ, the primeval being, represented under a form half male, half female. The term is sometimes applied to Siva and Parvati. Viraj is the male half of Brahma, the type of all male creatures. Mr. Colebrooke informs us that, according to one account of the cosmogony of the Hindus, the primeval being felt no delight, for man delights not when alone. He wished the existence of another, and instantly became such as is man and woman in mutual embrace. He caused this, his own self, to fall in twain, and thus became a husband and wife; therefore was this body, so separated, an imperfect moiety of himself. This blank, therefore, is completed by woman; he approached her, and thus were human beings produced, etc. etc.—*Cole. Myth. Hind.* p. 100.

VIRAKAL and Maastikal. TAM. Monumental stones and trophies in various parts of India.

VIRA-KANKANAM. TEL. A bracelet worn by warriors; the mark that they were bound to vanquish or to die.

VIRAKTA, a class of the Dadhu *Panthi* sect of Hindus. They go bare-headed, and have but one garment and one water-pot.

VIRA-RAJENDRA-PET or Kukluru, a town in Yedenalknād taluk of Coorg, lat. 12° 12′ 34″ N., and long. 75° 51′ 6″ E.; pop. (1871), 3413. In 1805 a colony of native Christians, immigrants from the Konkan, settled here, under the charge of a Roman Catholic, who receives an annual allowance from the Government, also grants towards the restoration of the church.—*Imp. Gaz.*

VIRA-SAIVA, Hindu worshippers of the god Siva. They are divided into two sects, one semi-Brahmanical or High Church, called Aradhya; the other is anti-Brahmanical, and is called Jangam. The Aradhya claim to be descendants of Saivite Brahmans, and between them and the Smartta Brahmans there is a certain degree of reluctant intercourse, founded upon the rites of initiation (Upanayanam) which both parties use.

The Vira-Saiva form a subdivision of the Saiva, worshipping only the male energy. The other Saiva associate the Yoni, or female energy, with the linga. The origin of this sect is attributed to Basava, minister of a king of Kalyana, in the 12th century. He is fabled to have been an incarnation of the sacred bull Nandi, the vehicle of Siva. Allama Prabhu, afterwards regarded as an incarnation of Siva, was associated with him. The Vira-Saiva wear a small linga, enclosed in a metal case. Hence they are called Lingaet or Lingadhari. Vira is derived from a word denoting bravery. They nearly exterminated the Jaina in some parts of the Dekhan. Sometimes they are called Jangama, from Jangama, motion, claiming to be living symbols of deity. The mendicants often lead about a bull, the living type of the vahan bull of Siva.

Vedantists all bury the dead, also all the Gosai, all the Lingaet or Vira-Saiva, the five artisan castes, the Kansala, goldsmith, carpenter, iron-smith, brazier, and stone-cutter, all the Byragi and Sanyasi, and the gurus of the sects; likewise all the non-Aryan races, and tribes not admitted into Hinduism. The Vedantists' dead, and those of the Lingaet artisans, are all placed seated in a grave five feet square with a ledge on the south. As life becomes extinct, the body is made to

assume the attitude to be preserved in the procession and in the grave. It is placed against a wall, the legs are crossed underneath in the usual sitting attitude, and the head is fastened to a nail driven into the wall, and so retained till rigidity ensue. They are borne to the grave in a car, on the shoulders of relatives or friends. On reaching the burial-place, the Udwan reads prayers, and the body is seated on the side ledge with its face looking northwards; salt and ashes of cow-dung are placed on the head.

The Vira-Saiva are chiefly found where Canarese is spoken. A few of their books have been printed in Tamil,—Apisheka Malai, Nedungkalinedil, Kurungkalinedil, Nirangana. Malai, and Kaittala Malai. These are by Siva Pirakasa Tesikar, who lived about the 17th century. They were printed in a small pamphlet by Saravana Perumal Iyer. The first treats of the anointing of the linga, specifying what articles may be offered. A small linga is often placed on the hand, considered as an altar. This is the subject of the last work. The others contain praises of Siva, for repetition during his worship.—*Brown's Essay on the Jangams.*

VIRATA, the modern town of Bairat, 105 miles S. of Dehli. Its raja sheltered the Pandava princes and Draupadi; he fought on the Pandava side, and was killed by Drona.—*Dowson.*

VIRGIN. Several races derive their descent from miraculously impregnated virgins. According to the Puranas, Ella, the earth, daughter of the sun-born Ikshwaku, while wandering in the forests was encountered by Budha (Mercury), and from the rape of Ella sprang the Indu race.

Yu (Ayu) was the first monarch of the Chinese. A star (Mercury or Fo) struck his mother while journeying; she conceived and bore Yu. Chengiz Khan was of this descent. The legend is that three sons were born of the queen from the visits of a ball of light that daily fell through the roof into her apartment, and on reaching the ground became transformed into a young man of an orange colour, with eyes of extraordinary beauty. The descendants of these three sons were called Niroun, signifying purity of descent. Chengiz Khan was eighth in descent from Boudantchar, the youngest of the three sons.

Amongst the ancient Mexicans Vitzli-putzli was the god of mercy. His name refers to the sun. He is said to have been the offspring of a virgin who was impregnated by a plume of feathers invested with all the colours of the rainbow, which descended from heaven into her bosom. The rainbow was a type of the reappearance of the sun.—*Fytche*, ii. p. 149.

VIRGIN OIL is the product of the perfectly recent fruit of the olive. It is of a greenish colour, and highly esteemed; common olive oil results from the expression of the fruits after they have undergone a slight fermentation; it is yellow, sweet, and well suited for culinary purposes. The oils inferior to this are consumed almost exclusively in the fabrication of soap, and are obtained by subjecting to the press a second time the crushed fruits which have already yielded the first and second qualities of oil. The finest olives and the worst oil are produced in Spain.

VIRIKA, amongst the Canarese race of Mysore and in the Southern Mahratta country, the ghost or evil spirit of unmarried or unchaste persons; or of those who have met a violent death. They are appeased by offerings.

VIRK or Birk, one of the most distinguished of the Jat tribes, is admitted among the Chalukya Rajputs by Tod.

VIRU PAKSHA, SANSK., or misformed eyes, a name of Siva.

VIS or Viss, or Passeree, an Indian weight. The Burmese viss or picktha is 140 tolas 100 tikals 40 pollams, or 3 catties=3 lbs. 2 oz.; 8 viss therefore make a maund of 25 lbs. The viss, however, varies in different localities. In Trichinopoly it is 3 lbs.; in Masulipatam, 3·515 lbs.; in some other places it is much more. Visary is a name in the Madras Presidency for the viss.—*Simmonds' Dict.*

VISABADI. KARN., TAM., TEL. A coparcenary village, of which the lands and profits are allotted by sixteenths and fractions of sixteenths.

VISA KANDRIKELU. TEL. Kandrika means a lot of land or portion of a village granted free of rent.—*Br.* p. 159.

VISAKHA DATTA, author of the drama Mudra Rakshasa.

VISAL DEVA, brother of Vira Dhavala of the Waghela dynasty, ruled at Patan from A.D. 1243 to 1261.

VISARJANA. SANSK. Liberating a bull; throwing images of divinities into the water at the conclusion of ceremonies to their honour.

VISCUM ALBUM. *L.*

Mistletoe, . . . ENG.	Jang, Ahalu, . KAGHAN.
Banda, Bhangra, . HIND.	Kakbang, Ringi, SUTLEJ.
Bambal, Wahal, KAGHAN.	Turapani, . . TR.-INDUS.

This parasite occurs at from 3500 to 9000 feet in the Panjab Himalaya up to the Indus, and in the Sulaiman Range. The plant was connected with Druidical superstitions; but the mistletoe of the Druids was exclusively that found upon the oak, and its appearance on that tree is now so rare that many persons have believed the mistletoe of the Druids either to have been some other plant, or to have had no real existence. Honigberger states that it is given in enlargement of the spleen, in cases of wound, tumour, diseases of the ear, etc. The fruit is covered with a viscid pulp, and is made by the Italians, and in Herefordshire, into a kind of bird-lime; and as it is a favourite food of the large or missel thrush, it is thought to have given rise to the proverb, 'Turdus malum sibi cacat.' The embryo curves its radicle down upon the bark, and then adheres firmly to it, and it is a twelvemonth before the plumule begins to extend. This may be to give the radicle time to pierce the bark and introduce itself below the liber, where it expands and acts the part of a root, by attracting thence the fluids which are necessary for the support of the parasite. This plant, and others of its order, offer the singular fact of the ovule not existing at the time of impregnation, nor appearing till from six weeks to two months later. Dr. Wight describes Viscum coralloides, moniliforme, orbiculatum, ramosissimum.—*Wight, Ic.; J. L. Stewart.*

VISCUM MONOICUM. *Roxb.* Kuchila ka mulung, HIND. It was accidentally discovered in 1836 that the Viscum found on the nux vomica trees of Cuttack possessed all the properties of the supporting tree. In 1837, Lieut. Kittoe, then at Cuttack, received information of the existence of a parasite on the nux vomica trees, which the natives

held to be an extremely powerful narcotic, and poisonous in small doses, and they used it in the treatment of agues and rheumatism. Mr. Kittoe having procured specimens of the leaves, sent them to Dr. O'Shaughnessy for experiment. Given in three-grain doses to dogs and kids, tetanic spasms set in in the course of from five minutes to a quarter of an hour, recurring at intervals, and proving fatal by fixing the diaphragm and causing asphyxia. A species is met with in China growing on the willow, called Liu-ki-sang.—*O'Sh.* p. 375; *Eng. Cyc.*

VISENIA VELUTINA. *W. Ic.*

Riedelia velutina, *D.C.*
Glossospermum velutinum, *Wall.*
Visenia umbellata, *Blain., W. Ic.*

A considerable tree of Sumatra, Java, and Mauritius, of great beauty, with rose-coloured flowers and velvety leaves. It was introduced from Sumatra into the Calcutta Garden by Dr. Wallich.—*Voigt; Dr. Cleghorn in M. E. J. R.*

VISH. HIND. Ativisa, TEL. Aconitum ferox, *Wall. Cat.;* also any poison, and variously pronounced bis, bish. The Sanskrit syn. Ati visha is from Ati, very, and Visha, poison. Wallich applies the term to a species of betula, which he states to be an antidote to poison; and in like manner the word Nirvisha, an antidote, has been given to some kinds of aconite. But the Telugu word is always understood as designating an active poison, which is the character of the vish, bish, or bikh of Upper India.—*Royle; Roxb.; O'Sh.; Elliot.*

VISHA, the poison ordeal. If the accused person swallow it with impunity, he is innocent. Another ordeal is the kusha, or drinking of holy water.

VISHAKALLU and Pamukallu, also Telukallu. TAM. Bezoars. The terms mean respectively poison-stone, snake-stone, and scorpion-stone.

VISHALGARH, a native state in the Bombay Presidency. Its central point is in about lat. 16° 52′ N., and long. 73° 50′ E. Area, 235 square miles; population (1872), 32,414. The ruler of this state, with the rank of prithinidhi, or vicegerent, is a feudatory of Kolhapur, paying a yearly tribute of £598.—*Imp. Gaz.*

VISHNU, said in the Vedas to be called the unconquerable, and occasionally associated with Indra. In the Brahmanas he acquires new attributes. He is mentioned in Menu, the Mahabharata, and the Puranas. There is extant the anonymous Institutes of Vishnu, known as the Vishnu-Smriti, which Julius Jolly translated in 1883. But to ordinary Hindus, and their mythology, Vishnu is the second person in the triad or trimurti of Hindu deities, and is worshipped as the Supreme Being by about sixty millions of the people of India. He is a personification of the preserving power, and his worshippers are more numerous than all the other sects. He has on nine occasions assumed human and also other shapes (styled avatar), and has yet to appear in his last shape, that of a white horse. Of his avatars, the first four were as animals, and five have been in human shape. Vishnu is a personification of the sun, or, conversely, the sun is a type of him. This character, as well as that of time, he shares with Brahma and Siva. But Vishnu is sometimes the earth. He is also water, or the fluid and humid principle generally. Hence he is air; he is also space, and his colour is blue, its apparent tint. In pictures, Vishnu's ethereal character is indicated by mounting him, as his vahan, on a garuda composed partly of the eagle and partly of the man. Images and pictures of Vishnu either represent him in his own person, or in that of any of his avatara or incarnations, and such pictures may generally be distinguished from those of other deities by the chank shell and a wheel or disc, called a chakra, in his hands. When whirled by Vishnu, the chakra has a sharp edge, and irresistible fire flames from its periphery. Two other attributes appertain generally to Vishnu. Vishnu, regarded as time, corresponds with the Horus of Egypt. The legends of his sleeping, awaking, and turning on his side, evidently allude to the sun at the solstices; also to the phenomena of the overflow and receding of the Ganges, so similar to that of the Nile in Egypt. On the 11th day (sometimes on the 14th, which is the day of the full moon) of the bright half of the lunar month Kartica, Vishnu is fabled to arise from his slumber of four months. A festival is held in honour of this day, and at an auspicious moment, astrologically determined, Vishnu is awakened by this incantation or mantra: 'The clouds are dispersed, the full moon will appear in perfect brightness, and I come in hope of acquiring purity to offer thee fresh flowers of the season; awake from thy long slumber, awake! lord of worlds.' This god is usually represented of a black or blue colour, with four arms, in which he holds a club, to show that he punishes the wicked; the chank or wreathed shell, blown on days of rejoicing, and at periods of worship; the chakra or discus, the emblem of his universal domination; and the lotus or water-lily, the type of his creative power. He is sometimes described seated on a throne of the sacred lotus, with his favourite wife Lakshmi in his arms, or standing on a lotus pedestal between his two wives, Lakshmi and Satyavama; at others, reclining on a leaf of that flower, or on the serpent Ananta or eternity, floating on the surface of the primeval waters, or riding on garuda, his celestial vahan or vehicle, which is represented as a youth with the wings and beak of a bird.

His successive avatars are now regarded as—

1. Matsya or fish.	6. Parasu Rama.
2. Kurma or tortoise.	7. Rama Chandra.
3. Varaha or boar.	8. Krishna.
4. Narasinha or man lion.	9. Buddha.
5. Vamana or dwarf.	10. Kalki or white horse.

These avatars are generally received, but the designations have not always been similarly described. In the Mahabharata the ten are thus—

1. Hansa or swan.	6. Vamana or dwarf.
2. Kurma or tortoise.	7. Parasu Rama.
3. Matsya or fish.	8. Rama.
4. Varaha or boar.	9. Satvat.
5. Narasinha or man lion.	10. Kalki.

The Bhagavat Purana enumerates 22 avatars of Vishnu, amongst them Prithu, Dhanwantari, and Kapila. Other Hindu writings have 24 avatars.

One of the various incarnations of this deity is mentioned in an ancient legend relating to the destruction of the city of Mahabalipuram, or the Seven Pagodas, on the coast of Coromandel, by an earthquake and inundation during an early period of Hindu history. It is stated that 'Hirinacheren, a gigantic prince or demon, rolled up the earth

into a shapeless mass, and carried it down to the abyss, whither Vishnu followed him in the shape of a boar, killed him with his tusk, and replaced the earth in its original position.' A large portion of the magnificent ruins of that city and pagodas is now covered by the sea; other parts of them (the sculpture of which is still in many places very little injured by the lapse of ages or the effect of the elements) extend over a space of several miles. One of the cavern temples, now used as a place of worship, is said to contain a fine figure of Vishnu in the Varaha avatar.

In the Rama avatar, Vishnu appears in the person of a courageous and virtuous prince, the son of the puissant sovereign of Hindustan (capital, Ayodhya), to punish a monstrous giant, Ravana, who then reigned over Lanka, or the island of Ceylon. The Grecians had their Homer to render imperishable the fame acquired by their glorious combats in the Trojan war; the Latins had Virgil to sing the prowess of Æneas; and the Hindus have had their Valmiki to immortalize the martial deeds of Rama and his army of monkeys in subduing the giant Ravana and his hosts of many-headed monsters. The Ramayana, one of the finest epic poems (in spite of its many extravagances) extant, beautifully describes the incidents of Rama's life, and the exploits of the contending foes. Rama, whose fame is thus celebrated, is, in the pictorial representations of him, usually described as a green man, seated beneath an umbrella, the emblem of sovereignty, on a throne. A quiver of arrows hangs at his back; in one hand he holds his destructive bow, and in the other a flower of the sacred lotus. By his side is placed Sita, who is depicted as a goddess of transcendent beauty, of a deep yellow complexion.

The second of Vishnu's ten grand avatara or incarnations was in the form of a tortoise, and hence called the Kurma avatara, the principal incident in which was churning the ocean with the mountain Mandara, the huge serpent Sesha serving as a rope to whirl the mountain round withal, and Vishnu, in the shape of a tortoise, sustained the vast load. The result was fourteen precious articles, called gems or Chaoda ratni (more classically Chatur desa ratna), and one of the fourteen was poison; but

'To soften human ills, dread Siva drank
The poisonous flood that stained his azure neck.'

Whence the epithet Nilakantha or blue-throated is a name of Siva, and with the Saiva sect now not an uncommon name of men.

In the eighth avatara, Vishnu is said by his sectaries to have manifested himself in a degree of power and glory far exceeding any other of his forms, in which he assumed only an ansa or portion of his divinity, while Krishna was Vishnu himself in mortal mould. Other tribes of Hindus call Krishna an impious wretch, a merciless tyrant, an incarnate demon, now expiating his crimes in hell. In the Bhagavata it is mentioned that his votaries say that in this, as in his former descents on the earth, the object of Vishnu's appearance had been the destruction of giants, and the overthrow of oppressive and irreligious kings. The Bhagavata relates that Krishna's mortal parents were Vasu-deva (meaning the giver of wealth) and Devaki. It mentions a miraculous escape of the infant over the Yamuna conveyed by his father, and protected by Sesha or immortality. The guards placed by Kansa over his pregnant sister having failed in their vigilance, Kansa, enraged, ordered all newly-born infants to be slain; but Krishna escaped his various snares, one of which was sending a woman named Patnia with a poisoned nipple to nurse him, and he was fostered by an honest herdsman, named Ananda or Happy.

The Vaishnava sect regard Vishnu as the Supreme. It is related in the Skanda Purana, that when the whole earth was covered with water, and Vishnu lay asleep on the bosom of Devi, a lotus arose from his navel, and its ascending flower soon reached the surface of the flood; that Brahma sprang from the flower, and, looking around without seeing any creature on the boundless expanse, he imagined himself the first born.

But the Vaishnava sect of the present day, though nominally worshippers of Vishnu, are in fact votaries of deified heroes. The Goculast'ha (one branch of this sect) adore Krishna, while the Ramanuj worship Rama Chandra. Both have again branched into three sects, one of which, the exclusive worshippers of Krishna, are deemed the only true and orthodox Vaishnava; another joins his favourite Radha with the hero; a third, called Radha-Vallabhi, adores Radha only, considering her as the active power of Vishnu. The followers of these last-mentioned sects are said to present to their own wives the oblations intended for the goddess, and those among them who follow the left-handed path are said to require their wives to be naked when attending them at their devotions. Among the Ramanuj some worship Rama only; and others, both Rama and Sita; and they all, like the Goculast'ha, as well as the followers of the Bhagavata, delineate on their foreheads a double upright line with chalk or with sandal wood, and a red circlet with red sanders wood or with turmeric and lime; but the Ramanuj add an upright red line in the middle of the double white one.

Vaishnava Sects.

1. Ramanuja or Sri Sampradaya or Sri Vaishnava.
2. Ramanandi, Ramawat.
3. Kabir Panthi.
4. Khaki.
5. Maluk Dasi.
6. Dadhu Panthi.
7. Raya Dasi.
8. Senai.
9. Vallabhachari or Rudra Sampradayi.
10. Mira Bai.
11. Madhavachari or Brahma Sampradayi.
12. Nimawat or Sanakadi Sampradayi.
13. Vaishnava of Bengal.
14. Radha Vallabhi.
15. Sakhi Bhava.
16. Charan Dasi.
17. Harischandi.
18. Sadhua Panthi.
19. Madhavi.
20. Sanayasi, Vairagi, and Naga.

Saiva Sects.

1. Dandi and Dasnami.
2. Jogi.
3. Jungama.
4. Paramahansa.
5. Urdhaba'hu, Akas-Muk'hi, and Nak'hi.
6. Gudara.
7. Ruk'hara, Suk'hara, and Uk'hara.
8. Kara Lingi.
9. Sanyasi.

Sakta Sects.

1. Dakshini.
2. Vami.
3. Kancheliya.
4. Kararia.

Miscellaneous Sects.

1. Ganupatya.
2. Samapatya.
3. Nanik Shahi, of seven classes, viz.—
   a. Udasi.
   b. Ganjbakhshi.
   c. Ramrayi.
   d. Suthra Shahi.
   e. Govind Sinhi.
   f. Nirmala.
   g. Naga.
4. Jaina, of two principal orders—
   a. Digambara.
   b. Swetambara.
5. Baba Lali.
6. Pran Nathi.
7. Sadh.
8. Satnami.
9. Siva Narayini.
10. Sunyabadi.

Amongst other sectarians we have—

Aghori.	Bhakta.	Saurapata or
Avadhuta.	Brahmachari.	Saura.

The following are towns with celebrated Vaishnava temples :—

Tirupati (N. Arcot), Vencata Rama.
Conjeveram (Chingleput), Vurda Raja.
Triplicane (Madras), Parthasardy.
Seringham (Trichy), Runga Naika.
Seringapatam (Mysore), Runga Naika.
Sevasumudrum (Mysore), Runga Naika.
Malcotta (Mysore), Chellapilla Roya.
Therunarrayanapurum (Mysore), Yoga Narasimha.
Nursepurum (Mysore), Narasimha.
Near Guntur, Panka Narasimha.
Bilegory Rungan Hill (Mysore), Bilegori Runga.
Mondepollum (Coimbatore), Vencata Rama.
Sutheagal (Coimbatore), Guni Ramasawmy.
Striparamathur (Chingleput), Odayavur.
Tinanore (Chingleput), Baktha Vatchalasawmy.
Teruvellore (Chingleput), Viraragavu.
Chicacole (Ganjam), Chicacolusawmy.
Buthrachella (Ceded Districts), Rama.
Terupagudul (Chingleput).
Carur (Coimbatore), Thauthony Vencataramen.
Uduppy (S. Canara), Krishna.
Ulamalu Mungapurum (N. Arcot), Ulamalumunga.

Other localities famed for incarnations of Vishnu are—Ahabulum, Algherry, Anuntasainum, Bhudradry, Ghuteka Chellum, Janarthanum, Kovilady, Kristampet, Mylapur, Pundrapurum, Simhaudry, Srisailum, Strevullyputtur, Strivycuntum, Thenkasi, Tirmambur, Tirvuttur, Triputur, Virarymuly.

Obscenities disfigure many of the Vaishnava temples all over India, and at Khajurabo in Bundelkhand is a Saiva temple with gross obscenities.

Ashadi Ekadasi is the 11th of the light half of the month Ashad, and is dedicated to Vishnu. It falls about the 12th July, and refers to the summer solstice, and on this feast day commences the night of the god, during which he reposes for four months on the serpent Sesha.

The Battia are a Hindu sect who worship Vishnu and his incarnation as Balaji at Panderpur and Tripatty. They have a great reverence for their guru, whom they style maharaj, and place at his disposal tan, man, dhan, body, mind, and means; and recently in Bombay, scandalous immoralities, owing to their carelessness of their women, were shown. They are generally merchants.

Amongst the Vaishnava, Bhakta or Bhagat is now usually applied to a puritan or individual more devout than his neighbours. The Bhakta formerly were a sect who worshipped Vishnu as Vasu-deva, and the Bhakta Mala is a work in which is embodied the legendary history of all the most celebrated Bhakta or devotees of the Vaishnava order. It was originally written in a Hindi dialect, by Nabha Ji, about A.D. 1580, but was added to by Narayan Das, who probably wrote in the reign of Shah Jahan. This, termed the Mala, was added to in A.D. 1713 by Krishna Das, the additions being named the Tika. The sacrificial offerings to Vishnu are rice, flowers, curds, fruits. To Siva and Durga, the objects offered in sacrifice are goats, sheep, and buffaloes.

The tulsi plant is typical of a nymph beloved by Vishnu. The Chatanula, according to Wilson, are a class of Sudra who worship Vishnu exclusively, and whose occupation is the sale of flowers; this seems to be the sect known in the Peninsula as the Satani or Sataniwanlu.

The Ananta-chaturdasi is a Hindu festival in honour of Vishnu.

The Bairagi or Viragi, meaning devoid of passion, are Hindu ascetic devotees, worshippers of Vishnu. In the south of India, Vishnu is considered by the Vaishnava to be the supreme being or the masculine power of the Parabaravastu, and he is one of the mummurti or triad.

The Banya race largely worship Vishnu, who is adored in some places as the four-armed, and is placed upon an altar clad in robes of his favourite colour (pandu or yellow ochre), whence one of his titles, Pandurang. At the intervals of the minor destructions of the world, Vishnu is represented as having reposed himself upon the serpent Sesha, amidst the waters by which the earth is overspread. He also sleeps for four months, from the 11th of Asharha to the 11th of Kartik, or from about the middle of June to the middle of October, or from the time the periodical rains usually commence till their termination. Vykuntha is the seat of Vishnu, the heaven which he quitted to assume the incarnate form of Rama. There sits the preserver of the world, enthroned with his consort Lakshmi, attended by Hanuman, Garuda, and watched by Drüve, the north star, the keeper of his royal gate. Nothing has yet turned up to give a clue for ascertaining the age in which Vaishnavism first originated. The most authentic fact of its earliest existence on record is furnished by the inscription on the iron pillar at Dehli, stating raja Dhava, who put up that pillar in A.D. 319, to have been a worshipper of Vishnu. The next fact is supplied by Fa Hian, who saw the Vishnupod at Gaya in the beginning of the 5th century. Vishnu worship is said to have been instituted at Kanchi in the Carnatic by Luchmanacharya, but it must have been by a learned Brahman either of Rajputana or Gujerat, places famous for the life and acts of Krishna, that Vaishnavism was modified to introduce the worship of that incarnation. The great textbook of the Vishnuvites, Streemut Bhagavat, is supposed to be the work of Bopdeva, a grammarian who lived in the court of the raja of Deoghur in the middle of the 12th century.

In Vaishnava Hinduism there are five stages of faith. The first and lowest is simply contemplative, like that of the rishis Sanaka and Yogendro; the second is servile, like that of men generally; the third is friendly, like the feeling with which Sreedama and the Gopin regarded Krishna; the fourth is maternal, paternal, or filial, like that of Jushoda, Devaki, etc; the fifth and highest is amorous or loving, like that of Radha.

From some cause or other, the worship of Vishnu declined in Bengal, but it was modified and revived in the 15th century by a celebrated religious teacher named Chaitanya. This eminent personage succeeded in reforming many religious and social abuses, and founded a sect of all classes without any distinction of caste; and in so doing continued the great work of Jayadeva, which was commenced about a century previously. The Banya race of Bengal chiefly belong to the sect of Chaitanya, and acknowledge him an incarnation of Krishna, without, however, adopting any of those ascetic habits which distinguish many of the Vaishnava. The lay followers of Chaitanya are merely initiated in the mantra or invocation to the deity by their religious preceptors, who are

called gosains. These gosains are followers of Nityananda, the coadjutor of Chaitanya; and it was to this Nityananda that Chaitanya entrusted the task of spreading his religion after his retirement from his spiritual labours. Up to the beginning of the 19th century, the gosain were held in great veneration, but since then, in Bengal, they receive little respect excepting from Hindu females, being regarded amongst the more enlightened Hindu community as the main preservers of superstitious ideas and usages. The gosain are otherwise called guru, and as such are hereditary preceptors in a family. The utmost respect that is paid to the Bengali gosain by their followers consists in taking and kissing the dust of their feet; but the younger females are not permitted to appear before them, and no scandals have arisen in the community like those which, about the year 1867, obtained such unhappy notoriety in the Bombay Presidency.

Throughout Bengal, Nuddea is celebrated as the great seat of Hindu learning and orthodoxy, the most sacred place of Hindu retreat. The Chaitanya Bhagavat states: 'No place on earth is equal to Nuddea, because Chaitanya was there incarnated. No one can tell the wealth of Nuddea. If people read in Nuddea, they find the rās of learning, and the number of students is innumerable.' The brightest epoch in the history of Nuddea, however, dates from the era of Chaitanya. Regarded by his adversaries as a heresiarch, worshipped by his followers as an incarnation, he is now truly appreciated by the discerning generation of the 19th century as a reformer whose efforts produced a little good. The consort of Vishnu is Lakshmi, Padma, or Sri.—*Wilson's Hindu Sects; Wilson's Glossary; Travels of a Hindu; Coleman; Moor.*

VISHNU, a Hindu philosopher mentioned in the Padma Purana, born at Ekamra Kanana in Orissa, who lived at Kamagiri. His doctrines were substantially those of Vyasa. He wrote one of the Smriti and a book on Pushkara.

VISHNU-BALI, a sacrifice to Vishnu on the 7th month; a Hindu domestic ceremony for an enceinte woman.

VISHNU BHAKTA, a worshipper of Vishnu, more especially as Rama Chandra or as Krishna. This Vaishnava sect in the Mahratta Dekhan worship Vishnu under the names Panduranga and Vithoba.

VISHNUGUPTA DRAMILA, the Muni Chanakya who raised Chandragupta Maurya to the throne.

VISHNU-MUNDIRU is a flat-roofed building having one room, with a portico in front, erected either within or without the wall which encloses a Hindu house, or at a little distance from the owner's house.—*Ward's Hindoos*, ii. p. 3.

VISHNU PURANA, a religious book of the Hindus. It has less than 7000 stanzas in six books. It treats of five specified topics,—primary creation, secondary creation, Sarga, Pratisarga, genealogies of gods and patriarchs, reigns of the Menu, history. It was translated by Professor Wilson, and a second edition by Dr. F. Hall. The course of the elementary creation in all the Puranas is taken from the Sankhya philosophy. In the primitive dogmas of the Hindus, the distinctness of the deity and his works are enunciated. But the Vishnu Purana declares Vishnu to be Purusha or spirit, Pradhana or crude matter, Vyakta or visible form, and Kala or time. The Vishnu Purana is supposed by Professor Wilson to have been possibly written about A.D. 1045, in the Kali year 4146. The fourth book contains all that the Hindus possess of their ancient history. It is a tolerably comprehensive list of dynasties and individuals, but is a barren record of events. It can scarcely be doubted, however, but that much of it is a genuine chronicle of persons, if not of occurrences. The Veda, the Purana, and other works forming the body of Sanskrit literature, are all named; and so is the Mahabharata, to which therefore it is subsequent. Both Buddhists and Jains are adverted to. It was therefore written before the former had disappeared; but they existed in some parts of British India as late as the twelfth century at least, and it is probable that the Purana was compiled before that period. It is discredited by palpable absurdities in regard to the longevity of the princes of the earlier dynasties, and the particulars preserved of some of them are trivial and fabulous. Still there is an inartificial simplicity and consistency in the succession of persons, and it is not essential to its credibility or its usefulness that any exact chronological adjustment of its different reigns should be attempted. Deducting, however, from the larger number of princes a considerable proportion, there is nothing to shock probability in supposing that the Hindu dynasties and their ramifications were spread through an interval of about twelve centuries anterior to the war of the Mahabharata, and conjecturing that event to have occurred about fourteen centuries B.C., the commencement of the regal dynasties of India is thus carried to about 2600 years before that date. After the date of the great war, the Vishnu Purana, in common with those Puranas which contain similar lists, specifies kings and dynasties with greater precision, and offers political and chronological particulars, to which, on the score of probability, there is nothing to object.—*Professor Wilson*, pp. 64, 70, 71, *quoted in Thomas' Prinsep*, p. 235; *Dowson; Garrett.*

VISHNU-RATHA, the car of Vishnu. This is Garuda or Guruda, an eagle, now personified as a winged man.

VISHNU-SMRITI, also known as Vishnu-Sutra and Vaishnava Dharma-Sastra, a law book of the Hindus. It was translated by Julius Jolly, and printed as the seventh volume of the Sacred Books of the East.

VISHU SANKRANTI or Vishu Sankramanam, the sun's entrance into either of the equinoctial signs.

VISISHT'HA-DWAITA, a system of philosophy, founded by the Vaishnava reformer Ramanuja. See Sri Sampradaya.

VISS, a weight of the Peninsula of India of 3 lbs. 3 oz.

VISVA-DEVA. SANSK. A class of Hindu deities to whom sacrifices are daily offered; lit. all the gods.

VISVAKARMA, in Hindu mythology, one of the gods, son of Vasu Prabhasa, and his wife the lovely and virtuous Yogasiddha. He has several names, Deva, Karu, Sudhanwan, Takshaka, and Vardhika. He is the architect of the universe, the fabricator of arms to the gods, and presides over the arts, manufactures, etc. In paintings,

he is represented as a white man with three eyes, holding a club in his right hand. Some of the most grand and beautiful of the cave temples at Ellora, Nasik, etc., bear the name of this god. One at Ellora is hewn one hundred and thirty feet in depth out of the solid rock, presenting the appearance of a magnificent vaulted chapel supported by ranges of octangular columns, and adorned by sculptures of beautiful and perfect workmanship. In the sculptured representations of this deity, he is shown in a sitting posture, with his legs perpendicular, and holding with the fingers of one hand the forefinger of the other. Sir W. Jones considers Visvakarma to be the Vulcan of the Greeks and Romans, being, like Vulcan, the forger of arms for the gods, and inventor of the Agnyastra, or fire shaft, in the war between them and the Daitya or Titans. The Visvakarma cave at Ellora is a chaitya. Its age about A.D. 600.—*As. Res.* i. p. 264.

VISVAMITRA, a Kshatriya prince of the Lunar dynasty, who claimed the right to perform a great public sacrifice, and established his claim. He was opposed by Vasishta, who claimed that to be a province of the Brahmans only. Visvamitra was the son of Gadhi or Gathin (of the race of Kausika), king of Gadhipura, and contemporary of Umbareesha, king of Ayodhya or Oudh, the fortieth prince from Ikshwaku, consequently about two hundred years anterior to Rama, and probably about one thousand four hundred years before Christ. He is mentioned in the Rig Veda, Ramayana, and Mahabharata. He is author of one of the Smriti and of a book in praise of Jwala-Mukhi. He taught that the will and decrees of God are irresistible. There are many legends about him, but all of them relate to the success of his efforts to repress the ambitious strivings of the Brahmans, led by Vasishta. According to the Ramayana, he was the fourth from Prajapati, but the Bhagavat makes him the fifteenth from Brahma. They agree in calling him the son of Gadhi, who, according to the first, was the son of Kusanabha, and, according to the second, the son of Kusamba. Visvamitra was sovereign of Kanouj, and, according to the legend, engaged in war with the sage Vasishta for the possession of Surabhi, the all-bestowing cow. In this contest the cow produced all sorts of forces, particularly M'hlecha, or Barbarians, by whose aid Vasishta overcame his adversary. There can be little doubt that this legend is an allegorical account of a real transaction, and that by the cow we are to understand India, or the most valuable portion of it, possibly the valley of the Ganges, for the sovereignty of which either two princes or two tribes, the Brahmans and Kshatriyas, contended. One of the parties, calling to their aid the aborigines, the Persians, and not impossibly the Greeks, triumphed by their means. There are other obscure legends. —*Calc. Rev.*; *Ramayana*, i. sect. 41–53; *Mahabharata*, *Adi Parva*; *Bhagavat*, ix. 15; *Ward*, iv. p. 42.

VISVESVARA, a form of Siva worshipped at Benares.

VISWANADA, a Tamil author of the middle of the 19th century, who distinguished himself as a playwright, and whose death was a great blow both to the Brahmo cause and the theatre. His plays are exceedingly popular, and are in no sense copies of the Sanskrit productions. That which is esteemed the finest is called the Tahsildar Natakam. The word Natakam means a drama, and the whole title fitly introduces the piece, which is a satirical comedy, intended to rebuke and expose a tahsildar who obtains the favour of and promotion from the collector by aping European customs,—who wears boots, drinks beer and brandy-pegs, rides horses, swears loudly, professes the utmost contempt for native prejudices, but is withal a confirmed scoundrel. He takes bribes, oppresses the poor, persecutes his enemies, sets up a haram, gathers money by every means fair and foul, and then scatters it in coarse pleasures and brutal riot. Such is the man that Kasi Viswanada Mudelliar undertook to flagellate, and seldom has the lash been laid on more smartly. Of course in the end the villain hero comes to most irremediable grief, to the confounding of his imitators and the outrageous joy of the people. The play, wherever performed, gains all the aid of local feeling. Its hero is always identified with Tahsildar this, Deputy-Collector that, or Police-Inspector the other. Hence unfailing crowds always rush to its performance. The play styled Dumbachari Vilasam, or the Story of a Spendthrift, in Madras is almost as popular as the Tahsildar Natakam. The hero is truly identified with a person who rushed by native society a few years since with all the glory and sputter of a rocket, but who afterwards lived in well-deserved obscurity.

VISWANATHA. SANSK. Lord of all; a name of Siva.

VISWA-NATHA, author of the Sahitya-darpana, also of the Raghava-vilasa.

VITASTA, the Jhelum or Hydaspes or Behut.

VITEX, a genus of plants belonging to the natural order Vitaceæ, the vine tribe. The species known to occur in India are—V. agnuscastus, alata, altissima, arborea, haynga, heterophylla, incisa, leucoxylon, negundo, pedunculariis, pubescens, saligna, trifolia. One species, a native of Kaghan, and called Bankahu, has a wood used for making large dishes. Another, Kjeyoh, BURM., furnishes one of the woods of Burma, used for tool-handles, and much prized; a cubic foot weighs 45 lbs. The ancients considered the Vitex antiaphrodisiac; the berries, from their warm aromatic taste, must be possessed of stimulant properties. Vitex agnuscastus, a native of the south of Europe, is the longest known species; in the month of February, in the tropical region below Darjeeling, it grows in profusion by the road-side, and the air is scented with its white blossoms. It forms a shrub of about 12 feet in height. The flowers are arranged in spiked whorls. The fruit is globular, rather smaller than black pepper, with an acrid and aromatic taste, whence it is called Petit Poivre Sauvage in the south of France. The seeds are inodorous when entire, but when bruised their odour is acrid and disagreeable, the taste acrid and pepperish, very persistent. They are very rich in essential oil, and possess powerful stimulating properties. At Smyrna the powder strewed over sliced onion and applied to the stomach is deemed a certain remedy in colic. In India the fruits of V. triphylla and V. negundo have the same properties ascribed to them, and are called Filfil Burree (large pepper). — *Rohde, MSS.*; *Hooker, H. Jour.* p. 374; *O'Sh.* p. 485.

VITEX ALATA. *Roxb.* Mel-elow, MALEAL;

A small tree found in the Nagari Hills; leaves ternate, petioles winged. It occurs in the Bombay Presidency, but is rare. Both it and V. leucoxylon have a white compact wood, apparently good for turning, as well as for cabinet-work. Its leaves and bark are used in medicine.—*M. E. J. R.; Drs. Cleghorn and Gibson.*

VITEX ALTISSIMA. *Linn.*

Myrole, ... CAN.	Mililla-gass, . . SINGH.
Katu mellau mara, MAL.	Kat miella maram, TAM.
Meeyan mililla-gass, SING.	

This tall chaste tree, in Ceylon, is common in forests, up to an elevation of 3000 feet. In Coimbatore it is a large tree, of great beauty when in flower, and frequent on the slopes of the Western Ghats. The timber was reported to Dr. Wight as fit for cabinet purposes; but Dr. Gibson says he is not sure as to the species which Dr. Wight had in his eye when he remarked on this. In Ceylon, this tree produces one of the most valuable timbers in the island for building and other purposes; very hard, fine, close-grained, and heavy. —*Thw, En. Pl. Zeyl.* p. 144; *Drs: Wight, Cleghorn, and Gibson; M. E. J. R.; Mr. Mendis; Beddome.*

VITEX ARBOREA. *Roxb., Rheede.*

H'touk-sa, . . . BURM.	Busi, ... TEL.
Kattu mellalu, . MALEAL.	Nawel busi eragu, . ,,
Kat miella, . . . TAM.	Neval adugu manu, ,,

This chaste tree is a native of the mountainous parts of the Circars, of the forests of the Godavery, at Courtallum, growing in Sylhet and Chittagong; very common at Moulmein, and found at Tavoy, Penang, and Singapore, flowering in the hot season, and the seed ripens during the rains. In the Circars and Chittagong it grows to be a very large tree, and at Moulmein it furnishes a valuable small timber. Its wood is hard, of a yellowish-brown colour, and when old is chocolate coloured, very hard and durable, which renders it useful for various ordinary purposes.—*Roxb.; Voigt; Beddome; Dr. Mason; Cal. Cat. Ex.*, 1862; *Rohde, MSS.; M. E. J. Reps.*, 1855, 1857.

VITEX INCISA. *Smith.* Man-king, CHIN. A shrub of Peh-chi-li, Shen-si, and Cheh-kiang. Its berries are given in catarrh.—*Smith.*

VITEX LEUCOXYLON. *Roxb.*

Karril, . . . MALEAL.	Neva-ledi, ... TEL.

A large tree, a native of the hotter parts of Ceylon, of both Peninsulas, Assam, and the mountains of Chittagong, not uncommon by the edges of streams in the South Konkan, and the ghat jungles of the Bombay Presidency, very common in the plains of British Burma; wood grey, deserves attention for furniture, used for cart-wheels. A cubic foot weighs 42 lbs., and average girth measured at 6 feet from the ground is 12 feet. It sells at 8 annas per cubic foot. It flowers in April.—*Thwaites; Voigt; Gibson; Brandis; Cal. Cat. Ex. of* 1862; *Rohde, MSS.*

VITEX LITTORALIS is the Puriri or oak or teak or iron-wood timber tree of New Zealand, known as the Kauwere. It grows to the height of 25 to 30 feet, and 12 to 18 feet in circumference. It is hard and very durable timber, yellow when young, but dark-brown in full-grown trees.

VITEX NEGUNDO. *Linn.*
Vitex paniculata, *Lam.*

Fenjengisht, . . ARAB.	Bimra, . . . CHENAB.
Sanake, ... BEAS.	Shumbali, . . . DUKH.
Nergundi, . . . BENG.	5-leaved chaste tree, ENG.
Ban-kahu, . . HAZARA.	Sindhuka, . . . SANSK.
Sembhalu, . . . ,,	Sudu nikka, . . SINGH.
Nisinda, . . . HIND.	Shwari, ... SUTLEJ.
Tor banna, . . JHELUM.	Vella nuchi, . . TAM.
Inoram, Marwan, ,,	Veyala, ... TEL.
Ban nuchi, . . MALEAL.	Wayalaku, . . . ,,
Banna, ... PANJ.	Wyala, ... ,,
Marwande, . . PUSHTU.	Nalla vavali, . . ,,
Marwa, . . SALT RANGE.	

A shrub or small tree, common in Ceylon on the banks of rivers up to 3000 feet, in the Peninsula of India, Bengal, the Dehra Doon, and the Moluccas; common in the Siwalik, tract and up to 3500 feet in the outer hills, and occasional in the Salt Range and out in the plains. The branches are used for wattle-work in Chumba. The leaves are given for colic, and used in poultices; also, the warm leaves are a useful application in rheumatism or sprains; and the Muhammadans are in the habit of smoking the dried leaves in cases of headache and catarrh. The root and fruit likewise are officinal; a decoction of the aromatic leaves is used as a warm bath for women after delivery. In medicinal qualities it is similar to, but weaker than, V. agnuscastus. The decoction of the root is a pleasant bitter, and is given in cases of intermittent fever. Fruit considered vermifuge in Behar.—*Roxb.; Voigt; Thw.; Cleg.; Stewart; O'Sh.*

VITEX TRIFOLIA. *Linn.* Indian prenet.

Kyoung ban, . . BURM.	Kara nuchi, . . MALEAL.
Nirgunda, . . . DUKH.	Jela-nirghundi, . SANSK.
Pani ki shumbali, ,,	Sind'huka, . . ,,
Seduari, Nishinda, HIND.	Milile? . . . . SIND.
Lagondi, . . . MALAY.	Nir nuchi, . . . TAM.
Samalu sanbalu, . ,,	Vavili chettu, . . TEL.

The Indian prenet is a small tree found in Southern Asia, not uncommon near the sea in Ceylon, much cultivated by the Burmans; it bears a little but pretty blue flower. Both leaves and flowers are rather agreeably heavy scented. In the Dekhan it is a common shrub, generally to be met with growing in patches in moist places, appearing in April and May, but more or less throughout the year. Young shoots round and villous. Leaves slightly bitter, but of delightfully aromatic taste and smell, are deemed powerful external applications in rheumatism, sprains, etc. The powdered leaves are used in intermittent fevers. The fruit in powder is given usually in electuary or decoction, for amenorrhœa and several other diseases. The leaves are used to stuff pillows, to cure catarrh and headache. The flowers are prescribed in Behar with honey, in fevers attended with vomiting and much thirst. In the Panjab it is used in special diseases, and after parturition, also to produce appetite and increase the bile.—*Buchanan; Powell; Mendis; Thw.; Mason; Riddell; Sir William Jones; As. Res.* iv. p. 293; *Ainslie; O'Sh.*

VITHAL or Vithoba, a deified sage, who with his early expounders are largely worshipped in the western parts of the Dekhan and the South Mahratta country as local divinities. He is the popular deity in the temple at Panderpur, on the left bank of the Kistna river. He has been celebrated by Tuka Rama, a Mahratta poet.

VITIS, a genus of plants of the natural order Vitaceæ. Species growing in the East Indies are —V. adnata, angustifolia, auriculata, carnosa, cordata, elongata, glandulosa, glauca, Indica, lanata, lanceolaria, latifolia, muricata, Neilgherrensis, pallida, parviflora, pedata, pentagona,

quadrangularis, serrulata, setosa, vinifera. They are climbing plants, found in many parts of Asia, Europe, and America.

VITIS CARNOSA. *Wall., W. and A., W. Ic.*
Cissus carnosa, *Roxb.*

Kassar, ... HIND. | Mandula mari tigei, TEL.
Kani-apa tige, . . TEL. | Mekamettavi chettu, ,,

Common in hedges and forests in Bengal, and flowers in the rainy season. Remarkably acrid; roots used in native medicine.—*O'Sh.; Ell. Fl. And.*

VITIS INDICA. *Linn.* Vitis rugosa, *Wall.*
Amdhuka, BENG., HIND. | Shembra vulli, . MALEAL.

A wild, shrubby climbing plant in the plains of India, and not uncommon in hot jungles, even at a considerable distance from the foot of the mountains; common throughout the Dekhan and in the Tenasserim Provinces. This is seen creeping over every hedge and bush, and has sometimes been mistaken by Europeans for the true grape vine, but in the plains the fruit is acrid, like all the indigenous species, and not edible. In the Himalaya, however, it produces beautiful clusters of round purple berries and a large grape, which is very fair eating. The origin of the common grape being unknown, it becomes a curious question to decide whether the Himalayan Vitis Indica is the wild state of that plant,—a hypothesis strengthened by the fact of Bacchus, etc., having come from the east. Dr. J. L. Stewart has not distinguished between V. Indica, V. lanata, and V. vinifera; he says V. lanata, with velvety, white or red backed leaves, appears to run into the glabrous-leaved wild one. In the N.W. Himalaya they are generally found at from 3000 to 6000 feet, and appear to give both purple and green fruit; and Dr. Thomson says that specimens of V. vinifera are scarcely distinguishable from V. Indica, *L. — Stewart; Thomson's Tr.* p. 345; *Hooker, H. J.* ii. p. 187; *Riddell; Mason.*

VITIS LATIFOLIA. *Roxb., W. and A., Rh.*

Govila, ... BENG. | Shumambu valli, MALEAL.
Vallia-pira-petica, CAN. | Bedisa tivva, . . . TEL.

Grows in Bengal and in the hills of Southern India, and is used in medicine.—*Roxb.* i. 661.

VITIS QUADRANGULARIS. *Wall.*
Cissus quadrangularis, *Roxb.*

Harjora, Hasjora, BENG. | Pirandi kodi, . . TAM.
Jangelam parinda, MAL. | Nalleru, ... TEL.
Perunda, ... TAM. | Nalla ratiga, . . ,,

A trailing and creeping plant with four-angled and winged stems, cultivated about villages; used by the natives as greens, and in the preparation of chatni. Berries acrid.—*Jaffrey.*

VITIS RACEMOSA. Wild grape, the Angur, Haljar, HIND. Used in the Panjab by zamindars as bunds or ties for their fences.

VITIS SETOSA. *Wall.* Cissus setosus, *Roxb.*

Puli-naravi, . . . TAM. | Bara butsali, . . . TEL.

Grows in the Peninsula, and is used as a medicine; is in all its parts excessively acrid, and the leaves toasted and oiled are applied to indolent tumours to bring them to suppuration.—*Roxb.*

VITIS VINIFERA. *Linn.*

Kerm (vine), . . . ARAB. | Dips, Dibs, . . . EGYPT.
Draksha; BENG., SANSK. | Angur, ... HIND.
Dakhi, Dehla, . CHENAB. | Lanang, . . . KAGHAN.

The common vine or grape vine is largely cultivated all over the world, from near lat. 55° N. to the equator, but in south latitudes it only extends as far south as 40°. In middle Germany it ceases from about 1000 to 1500 feet above the level of the sea. On the south side of the Alps it reaches 2000 feet; in the Apennines and Sicily, 5000 feet; and on the Himalaya as high as 10,000 feet above the level of the sea. Although the maximum of summer heat is as great at Moscow as in Paris, yet the vine will not ripen its fruit in the former place; for although the greatest heat of the months of June and July are as high as that of Paris, the months of August and September are several degrees below. England, also, has a mean temperature as high as many parts of the world where the vine flourishes in the greatest perfection; but although England is warmer than these countries in the winter, it is not so warm in the months of September and October, at which time the vine is ripening its fruit. There can be little doubt of its being indigenous in the east, in the district between the Black and Caspian Seas. In the forests of Mingrelia and Imiretia it flourishes in all its magnificence, climbing to the tops of the highest trees, and bearing bunches of fruit of delicious flavour. In these districts no cultivation of the vine exists, and the inhabitants seldom harvest the abundance of fruit that is produced. In many spots in France, Germany, Portugal, and Italy, the vine is found wild, but the fruit is very generally of an inferior kind, and it may be doubted whether it is truly indigenous in any part of Europe.

From its innumerable varieties affected by different climates and soils, we have, besides grapes yielding the various wines of commerce, other sorts, which are dried, forming the raisins Valentia, muscatel, and sultana (without seeds, from Turkey), also currants, the dried fruit of a small-fruited variety of the grape vine (*var.* Corinthiaca), cultivated in the Ionian Islands, Greece, Liparis, etc.

In the Dekhan, the plants are reared from slips taken at the time of first cutting after the rains, and when ready to be removed are put about 7 or 8 feet apart. They are for the first 12 months trained on dry sticks; after that, a large straight branch of the pangrah, Erythrina Indica, with a fork left at the top to support the vine, is placed about 12 inches from it; if put at a greater distance it is apt to give a bend to the vine which is hurtful. The vine cannot be too straight, and the length of the prop should be about 5 feet. The fruit is cultivated in the greatest perfection in all parts of the Dekhan, and the finest flavoured are found in the gardens in the neighbourhood of Dowlatabad. Its agreeable, sweet-acid flavour, when ripe, has always rendered it a very desirable food when fresh. Grapes are dried for raisins, and this is generally effected by cutting half through the fruit-stalk whilst they are suspended on the tree. The different kinds of raisins in use in India, called monuka, kishmish, and bedana, are brought chiefly from Istalik. The grapes of Kashmir are not equal to those of Kābul, possibly from the little trouble taken in rearing them. In many parts of the Panjab, the vine thrives quite as well as in Europe; it seems to be indigenous in Hazara, and possibly also in the Salt Range. Its tendency is to grow too luxuriantly, so that it all goes to wood and leaves, and this might probably be counteracted by proper cultivation and by choosing a poor, rocky soil, and

selecting suitable varieties of vine. It is found in the Sutlej valley between Rampur and Sungnam, at an elevation of 7000 to 9000 feet; but the grape is an uncertain crop. In Kanawar, a spirit prepared from the juice is compared to grape-brandy by Hoffmeister. This spirit is called by the usual Arabic term arrack, and a wine also (sheo) is made there. The circumstance that the Hindu name is applied to this and the barley-brandy of Lahoul, would seem to imply that the art of distillation has been introduced into these countries from below. In Afghanistan, Bellew states that a grape wine is prepared, which is consumed by well-to-do Muhammadans, and a raisin wine for Hindus.—*Roxb.; Wight; Voigt; Powell; Stewart; Cleghorn; O'Sh.; Royle, Him. Bot.; Riddell, Gardening; Mason's Tenasserim.* See Raisins.

VITRIOL, vitriolic acid, sulphuric acid, Acidum sulphuricum. Vitriol was once largely manufactured on the banks of the Sone, in Shahabad, from sulphate of iron, the product of the Kymore range. It is now only a native manufacture on a small scale.

VIVERRIDÆ, a family of carnivorous animals, whose place in the order may be thus shown:—

Sub-Fam. Viverrinæ, Civets.

Viverra civettina, *Blyth.*

V. Zibetha, *Water.* | Malabar civet-cat.

Found in the forests of the Western Ghats, and is destructive to poultry.

Viverra Indica, *Geof.*, the glossy genette, the civet of Europeans, is common in the northern province of Ceylon.—*Tennent's Ceylon*, p. 32.

Viverra Malaccensis, *Gm.*

V. Malaccensis, *Gmelin.*	V. Bengalensis, *Gray.*
V. rasse, *Horsfield.*	V. pallida, *Gray.*
V. gunda, *B. Ham. MSS.*	Genetta Manillensis, *Eydoux.*
V. Indica, *Geoffroy.*	
Katas, ... Beng.	Kasturi, ... Mahr.
Gando-gokal, . . ,,	Jowadi manjur, . ,,
Gando-gaula, . . ,,	Sayer, ... Nepal.
Punajin bek, . . . Can.	Bug-nyul, . . . ,,
Musk-billi, ... Hind.	Punajin pilli, . . . Tel.

Found throughout India and the Archipelago. It lives in holes in the ground or under rocks. It can be quite domesticated. The Indian civet-cats secrete an odoriferous substance identical with civet, though not the civet of commerce. This species is not infrequently found in the Tenasserim villages, and its secretion enters into the Burmese materia medica.—*Blyth; Mason.*

Viverra tangalunga, *Gray*, inhabits the Malay Peninsula and the islands of the Archipelago as far east as the Philippines.

Viverra Zibetha, *Linn.*, Zibeth civet.

V. Zibetha, *Linn.*	V. melanurus, *Hodgson.*
V. Bengalensis, *Gray.*	V. orientalis, *Hodgson.*
V. undulata, *Gray.*	V. civettoides, *Hodgson.*
Gatt, . . Arab. of Dafur.	Kaukan, . . Ethiopia.
Katas, ... Beng.	Saphiong, . . Lepcha.
Mach-bhondar, . ,,	Mzouron, . . Negros.
Bagdos, ... ,,	Bhran, Nit biralu, Nepal.
Pudo-gaula, . . Bhot.	Kastor, . . N. Guinea.
Kung, ... ,,	Sawadu poni, . . . Tam.
Nzfusi, Nzime, . Congo.	

Inhabits Central and South-Eastern Asia. It is destructive to poultry and game. Civet is obtained from the sub-caudal gland of this animal, which is 2½ inches in diameter; and in some places the animal is kept in confinement, and the drug is collected periodically.—*Jerdon; Horsfield.*

Prionodon pardicolor, *Hodgson*, of S.E. Himalaya, Nepal, Sikkim.

Parodoxurus musanga, *Jerdon.*

P. typus, *F. Cuv., Ell.*	P. fasciatus, *Gray.*
P. Pallasii, *Gray.*	P. prehensilis, *Pallas.*
P. musangoides, *Gray.*	Viverra hermaphrodita, *Pallas.*
P. Crossii, *Gray.*	
P. dubius, *Gray.*	
Bhondar, ... Beng.	Jhar ka kutta, . . Hind.
Kera-bek, . . . Can.	Ud, ... Mahr.
Toddy cat, . . . Eng.	Mara pilli, . . Maleal.
Menuri, ... Hind.	Manu-pilli, . . . Tel.
Lakati, Katas, . ,,	

Ceylon, India, Malayana, Burma.

Parodoxurus strictus, *Hodg.*

Qu. ? P. musanga, *var.* | P. quinque-lineatus, *Gray.*

Parodoxurus leuco-mystax, *Gray*, Malayan Peninsula and islands.

Parodoxurus quadriscriptus, *Hodg.* Qu. ? P. musanga, *var.*

Parodoxurus derbyanus, Malayan Peninsula and islands.

Parodoxurus Tytleri, *Tytler.* Qu. ? P. musanga, *var.* Andamans.

Parodoxurus trivirgatus, *Temm.*, Malayan Peninsula and islands.

Parodoxurus Grayii, *Benn., Blyth.*

P. Nepalensis, *Hodgs.*	P. bondar, *Temm.*
P. auratus, *Blain.*	Hill tree-cat, . . . Eng.

Parodoxurus Zeylanicus, *Pallas*, Ceylon.

Parodoxurus bondar, *Gray.*

P. hirsutus, *Hodgson.*	P. Pennantii, *Gray, Hardw.*
Bondar, Baum, . . Beng.	Malwa, ... Nepal.
Terai tree-cat, . . Eng.	Machabba, . . . ,,
Chinghar, . . . Hind.	

Nepal Terai, Bengal, Behar.

Paguma laniger, *Gray* (Martes laniger, *Hodgson*), Tibet and snowy Himalaya.

Artictis binturing, *Jerdon.*

Ictides ater, *F. Cuv.*	Viverra binturong, *Raffles.*
Paradoxurus albifrons.	Black bear-cat, . . Eng.

Nepal, Assam.

Cynogale Bennettii, *Gray* (Potamphilus barbatus, *Kuhl.*), Malayan Peninsula.

Herpestes griseus, *Geoff., Blyth.*

H. pallidus, *Schinz.*	Mangusta mungoose, *Ell.*
Mungli, ... Can.	Newara, ... Hind.
Madras mungoose, . Eng.	Nyul, ... ,,
Koral, ... Gond.	Mangus, ... Mahr.
Newal, ... Hind.	Yentawa, . . . Tel.

Peninsula of India.

Herpestes Malaccensis, *F. Cuv., Blyth.*

H. nyula, *Hodgs.*	Calogale nyula, *Gray.*
Baji, Biji, . . . Beng.	Nyul, ... Hind.
Newal, ... Hind.	Newara, ... ,,

Bengal to Malayana.

Herpestes monticolus, *Ell.* (H. Jerdoni, *Gray.*), long-tailed mungoose, Konda yentawa, Tel., Eastern Ghats.

Herpestes fulvescens, *Kel.* (Onychogale Maccarthiæ, *Gray*), Ceylon.

Herpestes Smithii, *Gray, Blyth.*

H. rubiginosus, *Kelaart.*	Calictis Smithii, *Gray.*
H. Elliotti, *Blyth.*	Ruddy mungoose, . Eng.

Ceylon and S.E. of Peninsula.

Herpestes Nepalensis, *Gr., Blyth.*

H. auro-punctatus, *Hodg.* | H. pallipes, *Blyth.*

Afghanistan, Panjab, Lower Himalayas, Bengal, Assam, Burma, Malayana.

Herpestes Javanicus, Java and Malayana.

Herpestes thysahurus, *Wagner*, Kashmir.

Herpestes fuscus, *Waterh., Bl.*, Neilgherries.

Herpestes vitticollis, *Benn.*, *Ell.*, *Blyth* (Tœniogale vitticollis, *Gray*), W. Ghats, Neilgherries.
Herpestes brachiurus, Malayana.
Herpestes exilis, Eastern Archipelago.
Urva cancrivora, *Hodg.*, *Blyth.*

Gulo urva, *Hodg.* | Osmetictis fusca, *Gray.*
Viverra fusca, *Gray.* | Crab mungoose, . ENG.

S.E. Himalaya, Assam, Arakan.

VIZAGAPATAM, a district of 18,344 square miles, population 2,485,141, in the Madras Presidency, lying between lat. 17° 14′ 30″ and 18° 58′ N., and between long. 82° 19′ and 83° 59′ E. A portion of the district forms part of the Northern Circars. It is a beautiful, picturesque, and hilly country, but in the greater part most unhealthy. To the west of the Eastern Ghats is situated the greater portion of the extensive zamindari of Jeypore, which is for the most part very hilly and jungly. The north and north-west of the district, which is chiefly inhabited by Kandh and Saura, is also mountainous. In the extreme north, a remarkable mass of hills, called the Neilgherries, rises to a height of 4972 feet above the sea, and these hills are separated by valleys of not more than 1200 feet from the neighbouring ranges of ghats. The present district of Vizagapatam formed, in the early days of Hindu history, a portion of the ancient kingdom of Kalinga. It was subsequently conquered by the eastern branch of the Chalukya dynasty. Wild tribes, mostly of Dravidian race, chiefly inhabit the hill country of Jeypore and the uplands which stretch through the district into Ganjam. Several castes of Aryans from Orissa and the plains of the Northern Circars have settled in this tract, among whom are a great many Uriya Brahmans. The zamindars are of the Kshatriya caste, and their retainers are Paiks, who have largely settled as cultivators. The aboriginal tribes consist of Kandh, Gond, Gadaba, and Koi. Where they have come into contact with Hindus, the cultivating Kandhs call themselves Praja (or rayats). They are thrifty, hard-working agriculturists, undisturbed by the intestine broils which agitate the more turbulent Kandhs of the north. They entertain an unconquerable love for their native soil, and regard themselves, and are regarded by the zamindars, as the owners of it. Other Dravidians are found in the extreme north of the district as Gond, farther south as Batia, Kondha Dora, Kondha Kapu (Telugu names signifying lords of the hills and cultivators), Matiya, and Koi. Their dialects are similar. The tribes who inhabit the more mountainous parts of the Jeypore country are more manly and civilised than the others, and when treated with respect soon throw off their wildness, and become hard-working members of society. The Kandhs formerly offered human sacrifices, which the British suppressed. Saura inhabit the hills and slopes behind Palkonda and to the east of Gunapur. Vizagapatam (Visakha-pattanam, 'city of Visakha,' *i.e.* Kartikeya or Subhramanya, the Hindu Mars) is the chief town of the district, in lat. 17° 41′ 50″ N., long. 83° 20′ 10″ E.—*Imp. Gaz.*

VIZIADRUG or Viziageriah is three miles S. of Rajapur, in lat. 16° 33′ 32″ N., and long. 73° 19′ 15″ E. The fort walls are strong. It was held by Angria, and was bombarded and taken in 1775 by Admiral Watson and Clive.

VIZIANAGRAM, one of the most ancient and extensive estates or zamindaris in India, included in Vizagapatam district. It has plumbago, manganese, garnets, iron-ore. The town of Vizianagram, in lat. 18° 2′ N., and long. 83° 32′ E., is 15 miles from the sea.—*Imp. Gaz.*

VODDU or Woddu, CAN., used for catching fish, is like a large hurdle, and is frequently thrown across a stream as large as the Thames at Richmond. The Coorg race annually place woddu at the heads of the Canara rivers to catch the fish returning from spawning.

VOHORO, Wohoro, or Ohoro, properly Bohra, of Gujerat and the west of India, are traders, shopkeepers, and bankers. They are of two sections, Sulimani and Dawdi.—*Wils.*

VOIGT, C. J., author of Hortus Suburbanus Calcuttensis, published at Calcutta in 1845.

VOITURNA, the Styx of the Hindus; the river Byturni.

VOLCANOES. In the south-west of Asia, south of the Hellespont, the mountains surrounding the plains of Troy present many traces of older volcanic action, and there are a string of volcanic islands in the Ægean Archipelago. Farther south is the great crater of Santorini, formed in a prehistoric age, with islands which were produced by eruptions in 1573 and 1707.

Eastward of these, in Asia Minor, the lofty Hassan Dagh rises from an elevated table-land to 8000 feet above the sea. At its base are several cinder cones that have given vent to streams of black vesicular lava which have flowed into the plain.

From Erzerum to Kars, and thence to Tiflis and Erivan,—indeed, through almost the entire space south of the Caucasus separating the eastern coast of the Black Sea from the Caspian, as well as the country surrounding the lakes Van and Ourmia,—volcanic formations predominate. In these countries six principal 'volcanic amphitheatres' have been described by M. Du Bois de Mont Pereux, viz. 1. That of Akaltsiké, reaching from Poti on the Black Sea eastwards to the sources of the Kour river; 2. That surrounding the Lake Sevan; 3. That of Armenia, including the Great and Lesser Ararat; 4. That of Lake Van; 5. That of Lake Ourmia; 6. That of the 'volcanic valley' of Kapan. To the south of the flat valley of the Araxes, on the borders of Armenia, rise the almost insulated twin cones of the Great and Lesser Ararat. The Great Ararat, whose peak is 17,250 feet above the sea, and 14,320 above the plain of the Araxes, presents on this side, according to Abich, an enormous horse-shoe-shaped crater, called the Valley of St. James.

The Lesser Ararat is separated from the Greater only by a flat plain or Col, half a mile in width. It has the figure of a very regular pyramid or cone, truncated at the summit by a crater, which, however, appears not to have been eruptive in recent times. To the north-west of Ararat, towards Kars, Abich speaks of a vast volcanic system, called the Tantoureck, west of Bajazid; also of two great mountains (magnifiques cratères de soulèvement), called Sordagh and Aslanlydagh, and other 'volcanic ranges, Synak and Parlydagh, surrounding the high lake Balykgoell.' All of these are visible from the Little Ararat, as well as vast basaltic platforms beyond the Araxes and north of Erivan.

In A.D. 341, the mountains of Armenia are said to have split open and vomited clouds of flame and smoke. A tremendous earthquake in the year 1841 shook the two Ararats to their foundation, toppling down vast rocks from their heights, together with avalanches of ice and snow, into the valleys beneath. The shock was felt with great intensity through the neighbouring provinces as far as Shusa and Tabreez on one side, and Tiflis on the other.

Elburz, the loftiest peak of the Caucasus, believed to be upwards of 18,000 feet in height, has a crater on the summit; its lavas are chiefly trachytic.

Over the chain of the Caucasus, towards the Caspian on the east, and the Sea of Azof on the west, are scattered vast numbers of mud volcanoes, *i.e.* cones of a ductile, unctuous clay, formed by the continued evolution of a sulphureous and inflammable gas, spurting up waves and lumps of liquid mud. Some of them are 250 feet high.

The great east and west range of Tian Shan, connecting the Altai with the Kouen Lun, and through this with the elevated plateau of Persia, is said to be chiefly volcanic. Flames are also described as rising from Ho-te-keou mountain, near Turfan, 420 miles farther eastward. In the beginning of 1884, the Turkestan Gazette stated that as many as 90 distinct shocks of earthquake had been felt at Oosh since November 14, 1883. Other shocks had also recently occurred at Viernoe and Tashkend.

Syria.—The coast of Syria presents numerous indications of volcanic action. It is very subject to earthquakes, in one of which, in 1759, 20,000 persons are said to have been destroyed. The Lake of Tiberias is partly encased in basalt; and on one side a stream of recent-looking lava, a league in breadth, has run into it from the flank of a mountain at a height of nearly 1000 feet. Farther south, on the eastern border of the valley of Akaba, which continues the hollow of the Jordan to the Red Sea, are several volcanic cones.

Red Sea.—Ancient chronicles report eruptions near Medina in the years 1254 and 1276 (Humboldt, Kosmos, iv. 337). Von Hoff found porous lavas south of Mecca, in various places down to Damar, in lat. 15° N. Jabl Tier (Bird Island), in the Red Sea (lat. 16° N.), sends out vapour continually, and is composed of volcanic rock. In May 7th to 11th, 1861, volcanic eruptions occurred at Edd, on the African coast of the Red Sea, in lat. 13° 57′ N., and long. 41° 4′ E. Earthquake shocks on the 7th and 8th continued for an hour. At sunrise fine dust fell, at first white, afterwards red; the day was pitch dark, and the dust was knee-deep. On the 9th the fall of ashes abated, and fire was seen issuing from Jabl Dubbeh, a mountain about a day's journey inland.

Aden promontory, just outside the Straits of Bab-ul-Mandab, is entirely volcanic. The town of Aden occupies the bottom of a well-defined breached crater a mile and a half in diameter, encircled by precipitous walls from 1000 to 1800 feet high, and backed by still higher masses of volcanic rock. Pumice is regularly mined for export. There is, however, no record of this crater being active.

Socotra, opposite Capé Guardafui, has a volcanic peak, called Jabl Hajier, 5000 feet in height.

Makran and Cutch.—Proceeding eastwards, on the littoral of the Arabian Sea, in Hinglaj, or Makran, the ancient Gedrosia, are a series of mud volcanoes in continuous action. They are known to the Hindus as the Rama Chandra Kup, and are visited by pilgrims, who regard as miraculous the periodical elevation of the semi-liquid mass.

Cutch is farther eastwards. In June 1819 it had a severe shock of an earthquake, by which some hundreds of the inhabitants perished. At sunset, the shock was felt at Sindri; its little brick fort was overwhelmed by a great wave, which converted a hard and dry tract into an inland lake, extending for 16 miles on each side of Sindri, while 5 miles north of that place there arose a mound of earth, about 10 feet high, extending nearly east and west about 16 miles, and crossing the Pharran river, which was cut off from entering the sea. The natives called the mound Allah Band. A flood of the Narra of 1826 partially reopened it.

The *Peninsula of India*, in its central and western portion, between lat. 17° and 21° N., has been overflowed in prehistoric times by waves of basaltic lavas, which alternate with a freshwater deposit, usually calcareous. The basalt forms elevated plateaux of many miles in extent, and seems to have flowed horizontally, in repeated sheets, over the bottoms of shallow tertiary lakes; but from what particular vents does not now appear, as only one crater at the Lunar Lake has been traced. The basalt is often amygdaloidal, contains much augite, and is occasionally nodular in structure rather than columnar. It has altered many of the sandy beds on which it reposes, or among which its dykes have penetrated, into jasper and other metamorphic substances (Hislop and Hunter, Journ. Geol. Soc. xi. p. 370). Farther south, on the eastern side of the Peninsula, in the Ongole, Guntur, and Nellore districts, and towards Madras, slight shocks of earthquakes repeatedly occur, and noises are heard there and in the Vinukonda taluk.

Coast of India.—Along the littoral of the Bay of Bengal, about 10 feet below the surface are beds of tenacious black clay, embedded in lacustrine remains. In the year 1757, a volcanic island arose off Pondicherry, south of Madras, and, after remaining for several days above the water, throwing out smoke and flame, it disappeared. About the same time, Cheduba (lat. 18° 40′ N.) and the islands along the shores of the Arakan coast were suddenly raised about 10 feet, having twice before, at intervals, as is supposed, of half a century, sustained similar upheavals. In 1762, during a violent earthquake, a mountain had sunk and disappeared near Chittagong; another had sunk down until the summit alone remained visible, and 60 square miles of sea-shore were permanently submerged (Dr. Buist, Bombay Geog. Soc. Journ. for 1856, p. 8). The island of Ramree (lat. 19° N.) is said to have been in violent eruption in March 1839; and, on the 10th January 1869, districts a little farther northwards suffered greatly from an earthquake, of which Asoloo was the centre. Sand and hot water came up, forming cones in several places. Silchar, Wongong, and places as far up into the Gangetic delta as Monghir, suffered a good deal.

Barren Island, in the Bay of Bengal, east of the Andaman Isles, is a permanently active volcano, with a cone about 4000 ft. high, rising in the centre

of a circular cliff-range which entirely surrounds it except at one point, where the sea has broken in. The explosions of this volcano recur regularly at intervals of about ten minutes. North of this (lat. 13° 24′ N.), the island of Narcondam has shown volcanic activity. It is a cone 700 feet high, with streams of lava visible on its flanks.

In *Eastern Asia* a great volcanic band stretches from near the arctic circle at Behring's Straits to the antarctic circle at Victoria, and its focus may be regarded as lying between Borneo and New Guinea. From this centre there radiate a number of great lines, along which the volcanic forces are exhibited in the most powerful manner.

The first of these extends northwards through the Philippines, Japan, the Kuriles, and Kamtschatka, giving off a branch to the east which passes through the Aleutian Islands and the Peninsula of Alaska. This band is continued towards the S.E. in the New Britain and the Solomon Islands, Santa Cruz, New Hebrides, New Zealand, and South Victoria.

Also, east and west from the great central focus there proceed two principal branches. One of these extends easterly through the Navigators' Islands and Friendly Islands as far as Elizabeth Islands. Another passes westerly through Java, and then turns north-westward through Sumatra, the Nicobars, the Andamans, and along the coast of Burma and Arakan.

In this great band, besides the 150 or more volcanoes which are known to have been in a state of activity during the historical period, there are several hundred very perfect volcanic cones, many of which appear to have recently become extinct, or are merely dormant.

For long distances, these chains of volcanic action are almost continuous, the only considerable breaks being between New Zealand and New Hebrides on the one hand, and between New Zealand and South Victoria on the other.

The chains on the east of Asia form the most remarkable train of volcanic vents visible upon the surface of the globe. It extends through 60 degrees of latitude,—from the north of the peninsula of Kamtschatka, beyond the point where it meets the transverse chain of the Aleutians, threading the Kurile, Japanese, and Loo-Choo insular ranges, almost touching the coast of China in Formosa, then stretching due south through the Philippines, whence several loop-lines appear to branch off, through Borneo, Celebes, the Moluccas, and New Guinea, in sweeping and almost concentric curves. These again unite on the south in the great east and west chain of almost continuous volcanic heights, from Timor Laut, through Flores and Java, bending once more northwards in Sumatra and the Andamans. The interior of this grand curvature is occupied by the great peninsula of Cochin-China and island of Borneo, whose rounded coasts repeat it with parallel concentric outlines.

Pou-fai-gnai and Pou-fai-noi, the Great and the Little Fire Mountain, are two active volcanoes near Muong-Luoe, in the kingdom of Luang Parbanin, Northern Laos.

In the peninsula of Kamtschatka there are 12 active volcanoes; in the Aleutian Islands, 31; and 3 in the peninsula of Alaska. The chain of the Kuriles has at least 10; the Japanese Islands and the islands lying to the south of Japan, 25; and at the present time there are 50 active volcanoes in the great group of islands lying to the S.E. of the Asiatic continent.

There are four active volcanoes in New Guinea, one or more marine volcanoes; several vents in New Britain, the Solomon Islands, and the New Hebrides; three active volcanoes in New Zealand. In the direction of Victoria Land, within the antarctic circle, Sir John Ross observed two lofty fire-emitting volcanic mountains, appropriately named by him (after his ships) Mounts Erebus and Terror.

New Zealand has a considerable area covered by the products of very recent eruptions. In the northern isle, Mount Egmont (8960 feet high), a truncated cone, with a smaller ash-cone on its summit, is occasionally active; its mass consists of clinkstone, lavas, and scoriæ. So likewise are Tongariro (6200 feet), in the centre of the widest part of the island, and Ruapahu (9000 feet), rather more to the south. The lake of Taipu, at the foot of Tongariro, is surrounded by hills of pumice and ash; and thence, in a N.E. direction, a line of solfataras and hot springs extends to the coast of the Bay of Plenty, in the centre of which, White Island, a volcano of considerable activity, rises from the sea.

Bourbon, in its western half, consists of the skeleton of a great early volcano, with crateral cavities, nearly encircled by precipitous rocks of trachyte, clinkstone, and basalt. The principal summit, Gros Morne, rises 10,000 feet above the sea. At the eastern end of the island is a volcano, 7000 feet high, still active, with small lava cones on its summit.

The following are the more important of the active volcanoes in the regions noticed in the above outline:—

Ararat, Great, 17,250 feet, borders of Armenia.
Ararat, Lesser.
Elburz, in the Caucasus, 18,000 feet.
Tian Shan range has Peschan, an active volcano, also Ho-te-keou, near Turfan, 420 miles east of Pescham. In the Komp district, province of Kham, in 1820, a village was destroyed by the earth opening. At Kham, N.E. of Lhassa, in 1845, a great earthquake; about 3000 people were killed and a goomba destroyed by the earth opening.
Ægean Archipelago.—Santorini crater, with the Great and Little Kaimeni Islands, formed 1573 and 1707.
Asia Minor.—Hassan Dagh, elevation 8000 feet.
Red Sea, Jabl Tier.—Edd Island, lat. 13° 57′ N., in eruption 7th and 8th May 1861; Medina, volcano in eruption 1254 and 1276; Zebayer Islands, 6th to 14th August 1846, a violent eruption.
Aden, crater extinct.
Bourbon.—Pitou volcano.
Comoro Islands have an active volcano.
Nerbadda.—Dumoh pahar, 27th May 1846, an earthquake.
Kattyawar, off Porbandar, October 1849, a submarine volcano poured forth poisonous gas, manifest for 30 or 40 miles out at sea; myriads of fish poisoned by it were floating on the surface of the ocean.
Cutch.—Bhooj earthquake, 16th to 20th June 1819, and on latter date the Denodour volcano burst out.
Hinglaj, along the seaboard of Lus, W. of Kurachee, several mud volcanoes, called Chandra Kup, constantly active.
Cochin, off the coast, the island of Vaypi rose from out of the sea A.D. 1341.
Pondicherry, off the coast, in lat. 11° 55′ N. In July 1757, fires were seen to break out on the surface of the sea, 3 or 4 leagues from the shore, throwing up stones and pumice.
Arakan.—Cheduba Island, lat. 18° 50′ N., and long. 90° 40′ E.; its volcanoes emit hot water, mud, and

stones, with flames. Regwan Island, raised about 1757? or 1760. On 29th July 1843, a small island appeared, and in a month again sank.

Khyouk Phyoo, a small volcano constantly active. On the 6th January 1845, volumes of flames burst from the sea.

Chittagong.—April 18, 1672, 60 square miles of lowland were permanently submerged; the mountain Ceslung-toom disappeared, and another sank so that only its summits were visible.

Bay of Bengal, east coast from Akyab to Cape Negrais is rising.

Burma.—At Memboo village, nearly opposite Magh-We, on the Irawadi, and at Grobagan, are mud volcanoes 15 feet high.

Barren Island, in lat. 12° 16′, long. 93° 54′, 1800? feet high, constantly active.

Narcondam Island, in lat. 13° 22′ N.; its cone is 800 feet high.

Sumatra has four active volcanoes.

Priamang is 20 miles inland from Bencoolen.

Gunong Dempo, 12,000 feet high, constantly emits vapour.

Simo, one of the Batu group, on the W. coast of Sumatra.

Java, according to Dr. Junghuhn, has 45 volcanic cones, of which 28 are in activity, in continual or occasional eruption. See Java.

Gunong Guntur, in eruption in 1800, poured out torrents of white acid and sulphurous mud.

Mount Slamak peak, 11,330 feet.

Ungarung peak, 5000 feet.

Telaga Bodas, old crater.

Tengger Mountains, old volcano, 8700 (7500?) feet above the sea. It has four cones of elevation, all of them in eruption; Bromo in 1866.

Papandayang, 7034 feet high, in S. of Java, lat. 8° N., in eruption in 1772.

Galung-gong, a few miles N.E. of Papandayang, in eruption 8th July 1822.

Gunong Raon, 10,180 feet high.

Merapi and Kloet, in eruption 1864, and Merapi 15th April 1872; many perished. Ashes fell at Solo for three days. The cone of 9000 feet was reduced to 5000 feet.

Lombok, volcano 7500 feet high.

Bali, volcano in eruption 1803.

Sumbawa.—Timboro, eruption 5th April 1815; 12,000 people destroyed; sounds heard 1000 miles off, and Java obscured.

Sarawak.—Gunong Api.

Gilolo.—Volcano in 1673 threw up much pumice.

Celebes.—Peninsula of Mucado has six volcanoes.

Amboyna, wholly volcanic; fearful eruption in 1694, another in 1820, and now emits sulphurous vapours and hot mud.

Moluccas.—Sorea Island, in 1693, entirely desolated by an eruption.

Ternate, wholly a volcano, 5755 feet high, in eruption in 1608, 1635, 1653, 1673, 26th February 1838, 25th March 1839, 2d February 1840. In 1673 ashes fell at Amboyna. In 1840 nearly every house was destroyed.

Banda.—Gunong Api, S. of Ceram, 1800 feet high, is seldom at rest, was burning from 1587 to 1824.

Matchian, N. of Batchian, and 50 miles from Ternate, in eruption 1646, and rent open 29th December 1862, when ashes fell at Ternate.

Timor, in violent eruption 1638, and a lake formed and peak disappeared.

Pulu Batu, N. of Flores, in 1850 in eruption.

Flores has three active volcanoes. In 1836 in eruption.

New Guinea.—Tanna volcano, in 1871 in eruption.

Sanguir Island has Abo volcano at its northern part, in eruption in 1711, also March 1856.

Alaska Island.—Ilaman peak, Behring Strait, 11,600 ft.

Unalaska or Matusch Kui Island, 5474 feet.

Unimak, 8076 feet.

Tanaga Island.

Kamtschatka has a group of volcanoes—

Krestowik, in lat. 56° 4′ N.

Klutchewsk, 16,500 feet high, in violent eruption from 1726 to 1731, and again in 1767, 1795, and 1825.

Uschinskaja Sopka, lat. 56° N., is nearly connected with Klutchewsk.

Tolbatschi, lat. 55° 51′ N., is 8313 feet high; discharges smoke and ashes from frequently shifting vents.

Schiwelatsh, on the north of the group, in lat. 56° 40′ N., and 10,544 feet high, has two summits; was in great eruption in 1739, and between 1790 and 1810 and 1854.

Japanowa, lat. 53° 32′ N., and 9055 feet high, sends forth continuous smoke.

Koriatskaja, in lat. 53° 19′ N., and 11,210 feet high, has much obsidian.

Awatska, in lat. 53° 17′ N., and 8910 feet high, in violent eruption in 1837.

Kurile Isles, chain is 720 miles long.

Paramouchir contains an active volcano.

Alaid, on its east, 12,000 feet high, in violent eruption in 1770 and 1793.

Formosa Island has four volcanoes.

Tschy-kang or Red Mountain, often in eruption.

Japan.—Yedo or Jeddo Island has Asama Yama volcano, in lat. 36° 22′ N.; in 1783, disastrous eruption, and still active.

Jesso Island has 17 conical mountains; the Usugatali or Mortar Mountain and Kajo Nore are burning.

Fusi Yama, in lat. 35° 18′ N., and 12,443 feet high, uprose B.C. 286. It has been in eruption A.D. 799, 863, 937, 1032, and 1707, and since has been quiescent. It is visited by pilgrims.

Mitake Island, in the Bay of Kagosima; Ounga on the W. coast.

I'wo-sima is S. of Kiou Siaou, lat. 30° 43′ N.

Oho-sima, lat. 34° 42′ N., was seen in eruption in 1797. From Oho-sima a line of volcanic islands runs south to Fatsi Sjo, in lat. 33° 6′ N., and thence to Bonin Islands, in lat. 26° 30′ N.

Asama Yama, near Wada Toge, has two active craters near the town of Oiwake.

Koosima and Oosima are two small volcanic islands between long. 139° and 140° E., near Cape Sangar.

In Kamakatka are seven volcanoes.

In Risiri Island is Langle volcanic peak, 5100 feet high.

In Niphon there are nine craters, one of them 12,000 feet high. Jake-yama, in lat. 41° 20′ N., at the N.E. extremity of Niphon, and another of same name, in lat. 36° 33′ N., are active.

In Kiou Siaou, five active volcanoes. The greatest is Wun-sen-ta-ki, on which is perpetual snow; it is worshipped. In 1793 an eruption occurred which destroyed Sima-Bara, with nearly 53,000 inhabitants. It is in lat. 32° 4′ N., E.S.E. of Nagasaki, and 4110 feet high.

Aso Yama, in lat. 32° 45′ N., is E.S.E. of Nagasaki, and Kirisima is in lat. 31° 45′ N.

Philippines.—Tael, in Luzon, in 1716 a terrific eruption, more violent in 1754, 7th August, 3d November to 12th December; detonations heard 300 leagues distant.

Mayon Island, 3200 feet high, is constantly ejecting smoke and scoriæ, and was in eruption in 1767, with a stream of lava.

Luzon has eleven volcanoes, one 8200 feet high, in eruption 1800 and 1814. Banajao is 7020 feet high.

Mindanao Island, in eruption 1640; ashes fell in Borneo and throughout the Moluccas.

Aringuay, in the province of Iloco, on 4th January 1641 broke out terribly at the same time with the volcano of Iolo and the Sanguie in the south of Magindanao, and the noise was heard at Cochin-China.

Manilla.—In 1645, for two months a succession of fearful earthquakes; in Cagayan a mountain overturned, 3000 lives lost; overthrown by an earthquake 3d June 1863.

Sandwich Islands.—Hualalei, on the W. coast of Hawaii, is active. Mauna Loa, 13,370 feet high, is in frequent eruption. The eruptions in 1843, 1852, August 1855, and 30th December 1865, were very severe.

Hawaii has Mauna Roa, 4300 metres high, is active; in eruption in 1833, and 1843, and 1855.
New Hebrides.—Tauna Island, lat. 19° 32′ N., in eruption at 10 A.M. 10th January and 11th February 1878, accompanied with an earthquake and a tidal wave.
Ladrones have three or four active volcanoes.
Fiji Islands have several extinct craters.
Navigators' Islands are to the north of the Friendly group, and to the south of the Fiji. The peak of Tafua, 2138 feet high, is always burning. Two others, Assia, 2576 feet, and Upala, 3197 feet high, are surrounded by fields of lava.
Niua, or Good Hope Island, in lat. 16° 5′ S., and long. 176° W., is one of the Friendly Islands; about every second year fire and lava burst from several parts of its surface.
Galapagos.—Chatham Island, 1200 metres high, has an extinct volcano.
New Zealand.—Tangariro, 2000 metres high.
Victoria Land, discovered by Sir James Ross.—Erebus and Terror volcanoes, active.
—*Moresby; Bennett; Logan; Bikmore; Wallace; Mrs. S. Elders; E. K. Kane; Lt. Burnes; Dr. Buist; Scrope*, p. 468; *J. W. Judd, Volcanoes; De Carne*, p. 189.

VOLOGESES, a Parthian king, successor to Gotarzes. Josephus tells us that Vologeses, on his accession, made over the province of Media to his younger brother Pakores, and Armenia to Tiridates, another younger brother. The Vologeses of the Greeks is, however, supposed by Lassen to be the Abagasus or Abalgasius, one of the Greek successors to Alexander in Arian Abakhafasa, A.D. 70 or 80.

VONONES, B.C. 100, called Balahara, supposed to have been a Parthian satrap who asserted independence, and created a kingdom for himself out of the dominions of Azilises.

VOOCH, or Korah, a pass on the border of the Ushterani Hills, nearly opposite Dehra Futteh Khan, constituting the boundary line between the Pathan and Baluch tribes. The Baluch tribes extend along the lower half of the Dehrajat frontier.

VOPA-DEVA, a Hindu grammarian who lived at Devagiri about the 13th century A.D., author of the Mugdha-bodha.

VORKAY, an island of the Eastern Archipelago, of great importance for the pearl fishery. Eight miles eastward lie several small islands, between which and Vorkay the trepang banks are situated. At low water, families wade from Vorkay towards these isles, carrying baskets at their backs, and having in their hands a stick provided with an iron point with which to take up the trepang. When the water is deeper than this, they make use of canoes. For pearl fishing on the banks situated at a greater distance, the Alfoer race use a prahu in which they embark their entire families. These vessels have a great beam, and the stern runs up into a high curve, while two planks project forward from the bows. The family reside in three or four huts composed of atap or Nipa fruticans leaves, erected within the vessel, and a railing runs entirely round it, apparently to prevent the children from falling overboard. The prahu is propelled by a large sail made of rushes, which folds up like a fan (in a manner similar to the sails of a Chinese junk), set upon a tripod mast of bamboos, while it is steered with two rudders. Two other masts are also erected, which answer no purpose but that of displaying several small flags. The pearl fishery is thus carried on. The trader makes an agreement for so much a hundred oysters, paying in advance a certain quantity of arrack, cloth, etc. The oysters are mostly small and black, in from 24 to 30 feet of water. The blood often bursts from the nose and mouth of the diver, and numerous sharks are there. In engaging these people, it is necessary to pay off their debts, and, free from this encumbrance, they will readily proceed to any part of the Archipelago.—*Earl, Ind. Arch. Papuans.*

VOWS. Luke v. 14, 'Offer for thy cleansing, according as Moses commanded.' A Hindu, after recovering from sickness, presents the offerings he had vowed when in distress, as a goat, or sweetmeats, milk, or anything directed by the Shastras. In Bengal, rarely is a child sick, or a cow in parturition, but milk is vowed to the lares or penates. In Mysore, when a Hindu woman fulfils a vow to the idol of the Annumomia temple, she covers herself with margosa leaves, formerly it is said over her naked person, but now outside her clothes. The Vrata of the Hindus are unconditional vows to perform certain religious ceremonies. Mununu is a conditional vow, promising to present offerings on condition that the god bestow such or such a benefit. The Vrata is a vow or an obligation superadded to a religious or moral one.—*Ward's Hindoos*, ii. p. 75.

VOYSEY, H. W., Assistant-Surgeon H.M. 67th regiment. He was attached to the Trigonometrical Survey under Colonel Lambton. He wrote several valuable reports on the Geology of the Peninsula of India; on the Diamond Mines of Southern India (As. Res. xv. p. 120); on the Mosaic of Agra (ibid. p. 429); the Geology of Nagpur (ibid. xviii. p. 123); and on the Shells of the Gawilghar Range (ibid. p. 187).

VRIHASPATI, the planet Jupiter. Vrihaspati chacra, the cycle of 60 years, which gives a specific name to all the solar and luni-solar year. Vrihaspati mana, the year of Jupiter, during which he describes one sign of his orbit. The Telugu astronomers make no difference between this and the common solar year. Vrihaspativara, Thursday; Sukravara, Friday; and Sanivara, Saturday. In Hindu mythology, Vrihaspati is the guru or priest of the Devas, whom he once deprived of his blessing, in consequence of which they suffered greatly. The word is from Vrihat, great, and Pati, lord. See Graha.

VRIHAT-KATHA, the original Sanskrit book which is known to Europeans through the Arabic translation into the Alif Laila, or One Thousand and One Nights. The Sanskrit name means Great Story. It is a large collection of tales, from which also the Kathasarit-sagara was drawn.—*Dowson.*

VRIHAT SANHITA, an astronomical work by Varaha Mitra, who lived about the beginning of the 6th century of the Christian era.

VRIJ, the country of the Suraseni of the Greeks. In the tract of country lying between the Gandak and Mahanadi rivers, which is 300 miles in length by 100 miles in breadth, there are several ancient cities, some of which may possibly have been the capitals of the eight different clans of the Vriji, Vaisali, Kesariya, Janakpur, Navandgar, Simrun, Darbanga, Puraniya, and Motihari. In the time of Buddha, also, the Vriji were divided into eight clans, as the Lichhavi, the Vaidehi, the Tirabhukti, and others whose names are unknown.

Nothing presents so great a contrast, as the poor, slovenly appearance of the Vrij-bashi men, and the delicate features and the brilliantly fair complexion of the Vrij-bashini. The Vrij-bashi are a more pastoral people than their richer brotherhood of Muttra. There are about 5000 Vrij-bashi, out of which 200 families follow the profession of Panda. The Vrij-bashi are Dobay; their brethren of Muttra are Chowbay. The principal business of a Panda is to keep a look-out for pilgrims. In the midst of the town of Vrij is the handsome tomb of raja Ranjit Singh, who defended Bhurtpur so bravely against Lord Lake's army. Inside the dome of the tomb, the siege of Bhurtpur is represented. Lord Lake is dismounted, and standing before his white horse giving orders to his soldiers. On the opposite side of the dome, Ranjit Singh, in a plain white dress, is standing erect before his idol, at his devotions, with his ministers behind him. On the other two sides he is at his favourite field sports.—*Tr. Hind.* ii. p. 95; *Cunningham, India*, p. 448.

VRINDA-VANA, Sansk., from Vrinda, thick, and Vana, a forest, a village on the right bank of the Jumna, near Mathura, commonly called Bindraban. It is said to have been the site of a forest in which Krishna, as Gopala or the cowherd, passed his youth, associating with Gopin cowherds and shepherdesses grazing cattle. It is the original country of the Yadu. It is a holy Hindu town, and in a boat a most picturesque view may be obtained of it, presenting a panorama of great beauty. The circumstance which imparts most to the sacred character of Bindraban, is its having been the seat of the early revels of Krishna, the Apollo of the Hindus, Mathura or Muttra being his birthplace. Many a Hindu Anacreon courts the muses with lays dedicated to this youth, prominent in Hindu mythology, and minstrels and maids join in soft strains to his praise. Bindraban is noted for the manufacture of pretty toys made of a composition that may be mistaken for a mineral. Indeed, the vendors pass them off as such, and to enhance their value declare that they are brought from Jeypore, where articles of this description and marble toys especially receive a fine finish. The Vallabhacharya sect of the Vaishnava Hindus have many hundreds of their temples at Mathura and Bindraban. At Benares and Bindraban, the annual dances constituting the Ras Yatra, in commemoration of Krishna and the sixteen Gopi, are performed with much display.—*French, Tour of India*, p. 214.

VRISHA, Sansk., or Nandi, is the sacred bull of Mahadeva or Siva. It is his vahan, and by some described as the emblem of justice. In the Institutes of Menu, c. 8, v. 16, the divine form of justice is represented as Vrisha, or a bull; and the gods consider him who violates justice as a Vrishala, or one who slays a bull.

VRISHASPATI, son of Ungira, a Hindu philosopher who is said to have written several law books. The Skanda Purana describes him of a yellow complexion, and well dressed. His wife's name was Tara. This seems to have been the Vrishaspati who was the founder of a philosophical school of the Hindus. He asserted that the whole of the Hindu system was a contrivance of the priesthood to secure a means of livelihood for themselves. —*As. Res.* xvi. p. 5; *Ward*, iv. p. 24.

VRISHOTSARGA. Sansk. Letting a bull free at certain Hindu ceremonies, such as a marriage, a funeral, etc. The bull is considered sacred, and wanders about unmolested and unappropriated.

VRITRA, otherwise called Vritasura, also Ahi, in Hindu mythology, the personification of the rain-cloud, with whom Indra, the lord of thunder, battles. He is one of the deities of the Vedas. Vritra in the Rig Veda is described as a serpent-shaped demon, who stole the rain-producing clouds of heaven. It was destroyed by Indra. The Greek Apollo pierced with his lance the demon python; it is the sphinx of Œdipus, the dragon in the story of Perseus, the Zohak in the mythology of Persia, and the Ortheros of the Greeks, who guards the gates of Hades, attended by Cerberus, the Vedic Sarvara. He is the demon of drought and ungenial weather, with whom Indra, god of the firmament, is constantly at war, constantly overpowering, and compelling him to release the rain.—*Dowson; Garrett; Thomas' Prinsep's Antiquities.*

VUL or Iva, the Chaldee god of the atmosphere, the rain-giver.

VULPES, the fox.

Taaleb, ... Arab.	Nomri, ... Hind.
Shual, ... Heb.	Robur . . of Kandahar.
Lomri, ... Hind.	Kokri, ... Mahr.

Vulpes Bengalensis, *Jerdon, Shaw, Bly.*

Canis rufescens, *Gray.*	C. chrysurus, *Gray.*
C. kokri, *Sykes.*	C. xanthurus, *Gray.*
C. corsac, *Auct.*	
Konk, Kemp-nari, Can.	Khek-sial, . . . Hind.
Chandak-nari, . . ,,	Konka nakka, . . Tel.
Lumri, Lokri, . . Hind.	Gunta nakka, . . . ,,
Kokri, Khekar, . ,,	Poti-nara, ... ,,

This fox occurs throughout India and the adjacent countries, but varies both in size and colour in different localities, generally of a greyish-brown with a fulvous cast, passing in some cases to Isabella. It is always variegated above with the intermixture of whitish hairs. It is a very pretty animal, but much smaller than the European fox, with a short head, very sharp muzzle, oblique eyes, nut-brown irides, very slender legs, and very bushy tail trailing on the ground. Its principal food is rats, land crabs, grasshoppers, beetles, and fruit; the mango and custard apple are largely eaten. It always burrows in open plains, runs with great speed, doubling like a hare; but instead of stretching out at first like the hare, and trusting to its turns as a last resource, the fox turns more at first, and if it can fatigue the dogs it then goes straight away.

Vulpes ferrilatus, *Hodgs.* (Cynalopex ferrilatus, *Blyth*), a pretty, small fox of Tibet.

Vulpes flavescens, *Gray*, Silver fox.

Vulpes montanus, *Hodg.* | Bobur . of Kandahar.

This species is numerous in the valleys around Kandahar, hiding in burrows and holes in the rocks. It is about two feet long from the nose to the insertion of the tail, and the tail is about seventeen inches; height at shoulder about fifteen inches. Its tail is yellowish, back rather darker, inclining to brown, face and outer side of fore-legs and base of the tail pale-fulvous, spot on the side of the face just before the eyes, the chin (breast), the front of the fore-legs, a round spot on the upper part of the hind foot, and the tips of the hairs of the tail blackish, end of tail white, and ears externally bladic. The skins are soft, and are made into the neemchah and postin.

Vulpes fuliginosus, *Hodg.*, Thec-ke, TIB., is of Sikkim and Tibet.

Vulpes Griffithii, *Blyth* (V. flavescens, *Blyth*), is of Afghanistan.

Vulpes leucopus, *Blyth*, the desert fox of N.W. India, Cutch, Panjab.

Vulpes montanus, *Pearson*, Hill fox.

Canis vulpes montanus, *Pears.*	Vulpes montanus, *Gray.*
C. Himalaicus, *Ogilby.*	V. Nepalensis, *Gray.*

The hill fox of the Himalaya ranges up to the snow limit; and in winter, when the snow is on the ground, they are very numerous about Simla, coming close to the houses in search of offal. Its fur is exceedingly rich, dense, and fine, the longer sort measuring fully two inches upon the back, and the inner everywhere of considerable length and woolly character. General colour pale-fulvous, head mixed with white, tail bushy and white tipped. V. montanus was not seen by Dr. Adams beyond the wooded regions of Kashmir, and is evidently replaced by the silver fox, V. flavescens, which is not, however, partial to the barren regions of Ladakh, but is also to be met with on the tops of the Southern Panjab. V. montanus is generally distributed over the lower and middle regions of the Himalaya, up even to the limits of frost. Although often seen during the day, its depredations are chiefly at night, when it prowls about houses after poultry; and in the jungles, when it preys on kalij pheasants and other birds. This handsome species is readily recognised by the rufous on the back and pale-fulvous on the legs.—*Adams; Jerdon; Horsburgh.*

Vulpes pusillus, *Blyth* (V. flavescens, *Blyth*), Panjab fox, Salt Range.

VULTURE. Naturalists arrange the vultures variously. Jerdon classifies them as Vulturinæ or true vultures, Neophroninæ or scavenger vultures, Gypaetinæ or Lammergeyers, Sarcoramphinæ, American vultures, and the Gypohieracinæ or Angola vultures. The Indian birds are:—

Sub-Fam. Vulturinæ, True Vultures.
Vultur monachus, great brown vulture.
Olygyps calvus, black vulture.
Gyps Bengalensis, white-backed vulture.
G. fulvus, large tawny vulture.
G. Indicus, long-billed brown vulture.
Sub-Fam. Neophroninæ, Scavengers.
Neophron percnopterus, *Linn.*
Sub-Fam. Gypaetinæ, Bearded Vultures.
Gypaetus barbatus, bearded vulture.

The Egyptian vulture, Neophron percnopterus, also called Pharaoh's chicken, is a native of E. Europe, Asia, and Africa. In the temperate regions of the Himalaya it follows man wherever he congregates, and on the plains of India its gaunt, forbidding figure is seen stalking among all animal refuse. It is the smallest of the tribe found in the east, its total length seldom exceeding 26 inches. The vulture and crane, which soar high in the heavens, are sometimes called garuda and geed. Vultur monachus has been met with at Ambala. One shot there in 1866 weighed 17 lbs., and was 8 feet 2 inches in wing measurement.

VYAN MATA, the kula-devi or tutelary goddess of the house of Esupgol of Bunder-deva, whose daughter married Bappa.

VYASA in Sanskrit means distributor; in this Vyasa is kindred to the Greek Homeros, ἀμ and ἀρ. It is a literary title common to many old authors, but is especially applied to the Vyasa who arranged the Vedas, and who is also styled Saswatas, the immortal. His ordinary name is Krishna Dwaipayana. The name is also given to the compiler of the Mahabharata, to the founder of the Vedanta philosophy, and to the arranger of the Puranas; and the Puranas mention 28 Vyasas. The names given in the Kurma, Vayu, and Vishnu Puranas of the Vyasa are as under:—

Swayambhuva (Brahma).	Trivrishan.	Vena or Rajasravas.
Prajapati or Manu.	Bharadwaja.	Saumasushmyana or Trinabindu.
Usanas.	Antariksha.	Riksha or Valmiki.
Brihaspati.	Vaprivan.	Sakti.
Savitri.	Trayyaruna.	Jatukarna.
Marityu or Yama.	Dhananjaya.	Krishna Dwaipayana.
Indra.	Kritanjaya.	
Vashishta.	Rinajaya.	
Saraswata.	Bharadwaja.	
Tridhaman.	Gautama.	
	Uttama or Haryatman.	

the last of whom, Krishna Dwaipayana, was the most celebrated. He is said to have compiled the Vedas, written the Mahabharata, composed some of the Puranas and compiled the rest; but to have done all this was quite beyond any individual's power. Krishna Dwaipayana was the son of Parasara by Satyavati, a fisherman's daughter. Parasara met Satyavati when quite a girl, when crossing the river Yamuna (Jumna) in a boat. Their son Vyasa was called Krishna from his swarthy complexion, Dwaipayana because born on an island, and Kanina because of his illegitimacy. His mother afterwards married king Santanu, and had two sons; the elder was killed in battle, and Vichitra-Virya, the younger, died childless. Krishna Dwaipayana became the spiritual father or preceptor of his nieces, the daughters of Vichitra Virya, the son and successor of Santana. He preferred a life of religious retirement, but, in accordance with law, and at his mother's request, he took the two childless widows of her son Vichitra-Virya, and by them he had two sons, Dhritarashtra and Pandu, between whose descendants the great war of the Mahabharata was fought. Arrian gives the story thus: 'He (Hercules) had a daughter when he was advanced in years, and, being unable to find a husband worthy of her, he married her himself, that he might supply the throne of India with monarchs. Her name was Pandea, and he caused the whole province in which she was born to receive its name from her.'

One Vyasa was the propounder of the Vedanta philosophy or psychology. This Vedanta of Vyasa considered all existing beings and things to be an evolution of the deity in and throughout all beings and things. Sankaracharya went further, and declared that the soul of man is a part of the deity, not different, but confined in the body as a temporary prison, and on the death of the body flowing back to the deity.—*Rajasthan*, i. p. 30; *Rev. W. Taylor.*

VYAS RISHI, a sacred pool at the Rotang pass, the source of the Beas river, 13,000 feet above the sea. Endrasa is at the site of the confluence of the Beas and Sutlej rivers.

VYGAH, a river in Madura, lat. 10° 17′ N., long. 71° 37′ E., runs S.E. into the Bay of Bengal, after a length of 130 miles. The large anicuts upon it are Coonoor, diverting a stream of same name, Parea, Anai, and Chittanaik.

VYHRITIS. SANSK. These are the mysterious words Bhur, Bhuva, Swaha,

W

W, the twenty-third letter of the English alphabet, takes its shape from a repetition of the letters u or v. Few of the modern languages of Europe have the letter w. In the English language it is a consonant when at the beginning of words and syllables, as wail, forward; but is a vowel when at the end of words, as in new, row. Many races have a difficulty in pronouncing the consonantal w, and others interchange it with the letter v. In all the dialects and tongues of the East Indies there is a perpetual tendency to interchange the sounds of v and w, or to substitute the latter entirely. The misuse of these two sounds is, in India, like that of London. In Tamil this often occurs, so that varam becomes waram; and in the Persian wao, used in Hindustani words derived from the Arabic, it has the sound of v and w, as vakil, wakil; vazir, wazir. In Mahrati, for the same letter, are the two sounds of wau and vau, the latter especially occurring when before i or e, or when combined with ri or r. In Malealam it has usually the sound of v, but in composition that of w, as in swarga. In Gujerati, the uneducated people pronounce the sound as w, the educated as v. The letter w is unknown to the Devanagari alphabet, though the educated youth of Bengal make strenuous efforts to introduce it in their present faulty system of alliteration in writing their own names.

WA. BURM.

Barish, ... HIND. | Wass, ... SINGH.
Varsh or Warsh, SANSK. |

The Burmese Buddhist Lent. It is from July full moon (Wa-tso) to October full moon (Thadwg-ynot). The strict people only eat once daily, at daylight. Feasts do occur, but are discountenanced, and dramatic performances are energetically denounced. During these three months, the wandering Buddhist mendicants were enjoined to remain in a fixed habitation. The monks are expected during this season to be doubly particular in abstraction from secular affairs, in abstinence and meditation. It is the great season for preaching to the laity.—*Yule*, p. 120.

WADA-GALLAI or Vada-Galli. TAM. A sect amongst the Tamil Sudra, commonly known as the right-hand caste, to distinguish them from the Ten-gallai, or the left-hand caste. The literal meaning of these words are northern sect and southern sect, but the points of difference are very obscure.

WADANG or Bayur, a light and tolerably durable wood of Java, employed for masts and spars of small vessels; but the surface must be covered with resinous substances to prevent it splitting.

WADARA, Waddar, or Waddiwar, the Wadara wanloo of the Teling people, are migratory, dwell in little huts of reed or fine grass, and move to any place where they can find employment. They are spread across the Peninsula of India from the valley of the Nerbadda to the south, all speaking Telugu. They are road-makers, tank-diggers, and labourers. The men and women vary greatly in size, though some of the men are stout and athletic. They all drink heavily. Wadara have two sections, one of them earth-diggers, who eat rats, the other quarriers and stone-cutters. The great increase in railroads and roads since 1860 ought to have made them wealthy, but they seem to live from hand to mouth.

WADE, JONATHAN, D.D., born in the State of New York, December 1798, died 1872, aged nearly 74. He laboured with Dr. Mason, Mr. Hough, and Dr. Adoniram Judson in teaching the Karen. He reduced the Karen language to writing, and was engaged with a Karen dictionary when he died.

WADHWAN, a Native State in Kattyawar, with an area of 238 square miles; population (1872), 45,431. The soil is black and light in about equal proportions. The ruler has power to try for capital offences, his own subjects only.—*Imp. Gaz.*

WADI. ARAB. The Ouadi of the French, the channel of a stream or river, or any valley or ravine through which water flows, whether constantly or in the winter or cold seasons. Wadi-Araba, the valley connecting the Gulf of Akaba with Palestine, is in length 105 miles; its summit level is 495 feet, and Dead Sea extremity, 1146 feet below the Mediterranean. Wadi-al-Ghor, now called Wadi-Araba, is to the S. of the Dead Sea as far as Akaba. Wadi-al-Malh, ARAB., the valley of salt, a salt lake about 18 miles S.E. of Aleppo, from which all North Syria is supplied with salt. The valley is 5 miles long, and 2 or 3 miles broad, and has a shallow lake of saline water. On this being evaporated by the sun's rays, the salt crystallizes on the exposed parts. Wadi Mojeb, the Arnon of Scripture, formerly dividing the Amorites from the Moabites. The ruins of Arayya, the ancient Arver, are on the edge of a precipice overlooking Wadi Mojeb. Wadi Musa is the site of Petra, the Edom of the prophecies, known to the Greeks as Ἀρκη while under the Nabataei. The Nebataei left Karak for this site, but when the line of commerce turned towards Egypt and towards Palmyra, Wadi Musa was deserted. It is now held by an Arab tribe of secluded habits. Wadi Tor is in the peninsula of Mount Sinai. During certain states of the wind, its sands, when put in motion, give out sounds like a bell. A similar mountain occurs near Kābul, described by Burnes in Bl. As. Trans., 1838, as Reg Rawan, or Moving Sand. Mounts Sinai, Horeb, Serbal, and Shomar have summits which rise to the height of about 8000 feet above the level of the neighbouring wadi or valleys. The view from the top of Sinai is that of a chaos of mountains.—*Newbold in As. Trans.* vii. p. 78; *Petterman in Geo. Trans.*, 1848, xviii. p. 89; *Wilson's Lands.* See Jabal-Nakoos.

WAG. MAHR. A tiger. Wag-Eswari, or tiger-goddess. Waghia, also Wagoba, is the tiger deity worshipped by the Bhil and Naikude Gond races, and, under the name of Bag Deo, by the Kurku. Waghia is worshipped by the Bhil in the form of a rude stone, at the edge of a forest or jungle, and sometimes in the form of a tiger. A recent writer says he overheard two village Bhil, Gopaji and Devaji by name, reviling their idol at the edge of the jungle in round terms. 'You fellow!' cried Gopaji, 'I gave you pulse and broth, and a chicken, yet you killed my buffalo!' 'Broth and a chicken!' screamed Devaji; 'I gave you three chickens and a goat, yet you carried off my child! What more do you want, you rascal?' The forest

races of the Sundur valley style the tiger their brother, and allege that their brother never hurts them. See Murli.

WAGHER, a race who occupy Dwarika. They and the Badhail were long the terror of the neighbouring seas. They were in rebellion in Kattyawar, until, on the 8th May 1868, Mulu Manik and four of his associates were killed.

WAGHORN, a lieutenant of the Royal Navy who advocated the Red Sea line for communication with India. Born 1801, died 8th January 1850. His widow was granted a small pension from the Royal funds. Count de Lesseps says that he owes to Waghorn the first conceptions of the Suez Canal, and has erected his bust on Waghorn quay at the south entrance. In 1825, Lieut. Johnson, R.N., steamed, via the Cape, in the *Enterprise* to Calcutta. Commander Wilson, of the Indian Navy, about 1830, steamed in the *Hugh Lindsay* in 21 days from Bombay to Suez.

WAGIRI, a dark-coloured wandering race in the Southern Mahratta country about Dhulagaon. They are fowlers and hunters, snaring birds and animals. They speak Gujerati amongst themselves. They worship Durga, do not eat the cow or its kind, nor the village pig, which they call Hag-Dukar. Some of them bury, some burn their dead. Hindus regard their flesh-devouring propensities with horror, and Muhammadans, however poor, loathe the men who track the wild boar to his reedy bed, and voraciously devour his carcase. The Wagiri has a bright, restless eye, and a wild and independent bearing; the expression of his features is strongly marked, evidencing the existence of more powerful passions in the individual than is common to the general character of the Hindu races. In character the Wagiri is daring and revengeful, ready to commit any act of violence for reward.—*Postan's Western India*, i. p. 203.

WAG-NAK. MALAY. The Bag-nak or tiger-claw weapon of the Mahrattas, worn on the fingers. It was with one of these that Raja Sivaji clutched Afzal Khan, the Moghul general, at a conference, and slew him.

WAGUR, the most eastern part of Cutch, inhabited by the Wagila Rajputs.

WAH! Amongst Muhammadans and Sikhs, an exclamation, used like the English Bravo! Well done! Hear, Hear! Hurrah! The usual war-cry of the Sikhs is 'Wah! wah! Guru ji ka fattah!' 'Hurrah for the victory of the guru!'—*History of the Sikhs*, p. 143..

WAHABEE. Muhammad ibn Abd-ul-Wahab, a native of the province of Nejd, belonged to the pastoral tribe of Temin. He was born at El-Ayneh in 1691, and from him sprang a sect which assumed the name of Wahabee. The doctrines which they adopted were severe and puritanical. They acknowledged one God, and believed that the Koran was an inspired writing. They also acknowledged Mahomed to be the prophet of God, but deprecated any peculiar homage being paid to him, as they considered him a mortal like themselves, though gifted with a divine mission. These doctrines spread with amazing rapidity through the various tribes of Nejd, and the reformers soon obtained a preponderating influence in the north-east part of Arabia; while by his powerful servant, Sheikh Mekrani of Nerjan, Abd-ul-Wahab carried his victorious arms into Yemen. On his death he was peaceably succeeded in his temporal and spiritual power by his son Abd-ul-Azeez, during whose reign the doctrines of the new sect were received through the greater part of the Peninsula. Mecca and Medina were added to their conquests in 1803 and 1804, the treasuries were plundered, and all the holy tombs, which were an abomination to these reformers, were destroyed. The power of the Wahabees continued to increase until 1813, when Muhammad Ali Pasha took up arms against them, and restored the holy cities of Medina and Mecca to the nominal protection of the Porte, but virtually made himself master of the Hejaz, and during the years 1814-15 conducted operations with varied success. On his return to Cairo, he sent his son Ibrahim Pasha, and the campaign which followed, characterized by a series of the most barbarous cruelties, resulted in the conquest of Deria, and the capture of Abdulla-ibn-Saood, the Wahabee chief. Ibrahim returned to Cairo, embarking from Jedda for Cosseir on the 16th November 1819; but under another leader progress was made in bringing the rulers in Yemen, and particularly the Iman of Senaa, under the yoke of Muhammad Ali.

Muhammad ibn Abd-ul-Wahab was not an innovator but a reformer, whose aim was the restoration of Islam to its primitive purity and simplicity, by insisting that its fundamental dogma, 'There is no deity but God,' absolutely forbade all veneration to man, prophet, or apostle, living or dead, however highly distinguished by the divine favour. There can be no doubt that beyond this utter exclusion of human merit, the formula, as originally proclaimed by Mahomed, implied the doctrine of the absolute sovereignty of God in a sense which reduced all created beings to a mass of unconditional passiveness. Palgrave gives a splendid dissertation on the full import of this symbol of Islam. The great Wahabee appears to have grasped this theory, but it is highly probable that his efforts to explain it only added to its abstruseness, thereby giving some colour to the charge brought against his writings by the orthodox, that they consisted chiefly of 'sophisms and speculations.' It is equally reasonable to suppose that a very limited number of his disciples were capable of appreciating the more recondite views which his power of abstraction enabled him individually to entertain of the nature and attributes of the Supreme Being. Less difficult of general comprehension, however, was that part of his system which denounced all honours paid to saints and tombs as heretical innovations, detracting from the worship due solely to the Creator, and therefore to be regarded and dealt with as idolatrous. To say nothing of pagans and Christians, whom all Muhammadans hold to be polytheists, the doctrine thus revived placed Sunni and Shiah, Ibadhiyah and Rafidhi, alike in the same category, and, moreover, sanctioned their being dealt with as such, despite their negation of any deity save one, by a strict adherence to the orthodox formula. Hence it was that 'they legalized the despoiling of the Muhammadans, taking their wives in marriage before they are legally divorced from their husbands, and without observing the Iddh, and also the enslavement of their children.' All these outrages, from the Wahabee standpoint, were solemn duties imposed upon them by their obligations to God and

Islam, which they could not forego without risking their own salvation. Wahabeeism, in fact, apart from certain speculative notions respecting the Supreme Being,—in the main perfectly in accordance with the theology of the Koran,—may be defined as a politico-religious confederacy, which legalizes the indiscriminate plunder and thraldom of all peoples beyond its own pale.

Towards the latter part of the 18th century the sect became very numerous, powerful, and fanatical. In 1803 they laid siege to Mecca and Medina, and took them, slaughtering all who would not embrace their doctrines. They held these holy cities until the year 1809, when the legions of Egypt and Turkey were poured in against them. After many sanguinary engagements, the Wahabees were defeated, but not exterminated. It was against the political power of this sect that the Indo-British army and navy fought the battles of Ras-ul-Khyma and Beni-bu-Ali in 1819 and 1821. This sect has got adherents throughout all India, and some of its members seem early to have organized a conspiracy against the British Government.

In 1865 Faisal-ibn-Saood died, an old man, and blind. He was a saintly personage, and had been a powerful ruler. During his long reign he had restored the Wahabee power, and had become master of nearly two-thirds of the Peninsula. With his death there occurred one of those wars of succession which have always been the misfortune of Arabia. Their reforming views spread into British India in the early part of the 19th century, and agitated all the Muhammadans, as well as the Government, and many Europeans have regarded the presence of the sect as a cause of danger. In this they have merely adopted the opinions of the non-reformers, and Wahabee has come to be applied to any devout Muhammadan, even good, devout men, leading pure and holy lives, earnestly seeking for the truth, cultivating literature assiduously; but they are compelled by the multitude of ordinary people to retire into the peaceful shade, as the purity of their lives begets for them the objectionable name of Wahabee. The sect is simply an extreme form of Musalman puritanism. Its holy war is directed more against the supposed moral and ceremonial excrescences of modern Islam itself, than against the outside world of infidels. The supreme tribunals of Islam have unanimously and solemnly declared that India, under its present tolerant and equal government, is certainly not Dar-ul-harb ('the country of the enemy') upon whose rulers war should be waged by the faithful; and consequently no Indian Wahabee, who has not utterly broken with the orthodox portion of his church, can be disloyal on merely religious grounds. It is doubtless the case that the tendency of the Wahabee preaching is to encourage sedition, or at least a feeling of disloyalty; the history of the world teaches us that iconoclastic fanaticism is always apt to spread from religion into politics. But the Indian Wahabee who is disloyal to the British Indian Government would probably be equally disloyal if his sovereign were the Sultan of Turkey, the Khedive of Egypt, or the Grand Sheriff of Mecca. There are a good many Farazi in Eastern Bengal, who are to all intents and purposes Wahabees, and their ignorance has on occasion been roused into sedition, and even into open disturbance, by the combined action of fanaticism and poverty. It is true, however, that there has existed an active propaganda of fanatic Wahabee Mullahs at great Musalman centres. Still, these fanatics are distinctly regarded as such by the vast bulk of the Musalman community throughout India, who are generally peaceable and industrious citizens, and look on the fanatics with dislike tempered only by indifference. The Musalman community themselves would be the last to say that it does not behove the Government carefully to look after this fanatic organization.

In India the sect are undoubtedly the most intelligent of the Muhammadan races and sects, but the Wahabee are still numerous in Northern and Eastern Arabia.

Mr. William Tayler, in 1857, was the Commissioner of Patna at the very outset of the revolt, and he placed the leading mulvies (among whom was the notorious Ahmad-Allah) under precautionary surveillance, thereby paralyzing the entire body. Dewan Mowla Baksh, the deputy magistrate, devoted himself in loyal co-operation with him, and seven years afterwards received the Star of India. Wilayat Ali Khan, the most influential citizen of Patna, cast in his lot from the very first with the British authorities, and did inestimable service, for which he received neither commendation nor reward. Kazi-Ramzan Ali and many others behaved well. In the middle of the century, acting from Patna as their headquarters, the Wahabees engaged for many years in treasonable practices, sending men and arms and treasure beyond the frontiers for the purpose of raising and waging a jahad or religious war against the British. Notwithstanding the events of the mutiny, the Wahabee mulvies or preachers in Patna redoubled their exertions to collect recruits and money for a jahad. Emissaries were sent to all parts of the country to preach and induce men to join in the undertaking. Thousands of quiet villagers from Lower and Eastern Bengal flocked to Patna, where they were entertained for a few days at Sadikpur, and thence sent forward in bands of eight or ten through Ambala to the Mulka Sittana Hills. Then followed the Frontier War in 1863, under Brigadier Chamberlain, which cost the British Indian Government much trouble, no small amount of treasure, and many valuable lives, there having fallen in that short campaign 847 European and native officers and men. Even whilst the war was being waged, the Wahabee mulvies at Patna were sending, in large quantities, gold mohurs and hoondies for the support of the rebels; and although the rebellion was crushed, temporary failure but stimulated them to renewed exertions, openly preaching sedition in every village of the most populous districts, unsettling the minds of the Muhammadan population, and obtaining an influence for evil as extraordinary as it was certain. Generally they repudiate the name of Wahabee. Most of the beef-butchers of Hyderabad, Madras, and Bangalore are of this sect. Contrasting the practice of Islam in these days with the pure deism inculcated by the Koran, Sir John Malcolm justly remarks:—'The followers of the prophet of Arabia have relaxed from the principles of their religion, and have granted a species of adoration not only to him and his immediate descendants, but to a number of learned or pious men who have been canonized as saints. The feelings of gratitude and

veneration which the conduct of individuals first created, have grown by excessive indulgence, and by the ardour of passions excited by contrary opinions, into sacred reverence and devotion. Their very garments have become relics of inestimable value; and in the course of time the same properties have been assigned to them as are supposed to have belonged to their possessors.' From this common progress of superstition hardly one of the numerous sects into which the Muhammadan religion is divided, can be deemed exempt. —*Hist. of Persia*, ii. 377; *Niebuhr's Tr.* ii. 131; *Jahan Numa*, p. 523; *Wellsted's Tr.* i. 5; *Burton's Mecca*, iii. 272; *Playfair's Aden; Badger, Imams of Oman*, p. 63; *Palgrave's Arabia*, i. 365.

WAHAB SHAHI, or Kirmani Wool, the wool of a sheep found in Kirman, a tract of country in the south of Persia by the Persian Gulf. It is used for the manufacture of a spurious kind of shawl cloth, and for adulterating the wool used for Kashmir shawls.

WAHI. ARAB. Inspiration given to the prophets. Ilham, ARAB., inspiration given to the Wali or saints.

WAIGIOU, written also Waigyu, an island between New Guinea and Gilolo, in the Eastern Archipelago, and not far from Gilolo. The island is occupied by a Papuan race, with nose flat, the lips thick and projecting, the complexion a dark olive, the eyes deep-seated, and on an average the facial angle 77°, but as high as 81°. In Gebbe and Waigyu, and in some parts of the coast of New Guinea, the complexion is lighter, and the peculiar texture of the Negro hair is absent. The inhabitants of Waigyu islands are described by M. Du Perry as having more regular features. The language spoken at Waigyu is entirely Papuan, being that which is used on all the coasts of Mysol, Salwatty, the N.W. of Guinea, and the islands in the Great Geelvink Bay, Waigyu, Gebbe, Poppa, Obi, Batchian, between New Guinea and the Moluccas, as well as the S. and E. peninsulas of Gilolo. The Waigyu islanders barter trepang for cotton and woollen stuffs brought in the Chinese junks.—*Wallace*, ii. p. 216.

WAINGANGA, a river which rises in the Seoni district, a few miles to the east of the Nagpur and Jubbulpur road, near the Kurai Ghat. For a short distance it flows in a north-westerly direction, then turning to the north, it skirts the west of the Seoni district, and not far to the west of Chhapara, where it is crossed by a fine bridge with twelve arches of 50 feet span, it turns again and flows towards the east down to its junction with the Thanwar. At this point it changes its course to the south, and, after passing through a mountain gorge, enters the open country known as the valley of the Wainganga. For about 60 miles it flows nearly due south, forming the boundary between the Seoni and Balaghat district; it is then joined by the Bagh, and flows in a south-westerly direction through the Bhandara district, in lat. 19° 36′ 10″ N., and long. 79° 50′ E. At the junction of the rivers Wainganga and Wardha to form the Pranhita, commences that mass of rocks which is known as the Third Barrier of the Godavery. The Wainganga is navigable during the rains for about 100 miles above the junction with the Kanhan. Its greatest breadth is about 300 yards.

WAIRAGARH, the eastern pargana of the Brahmapuri tahsil in the Chanda district. It is bounded on the north by the Bhandara and Raipur districts, on the east by the Raipur district and Bastar, on the south by the Ambgaon pargana and zamindari, and on the west by the Wainganga. Wairagarh is very unhealthy during the autumn and early winter months, and its trade has consequently been almost wholly diverted to the neighbouring town of Armori, but the zamindars of the north and north-east still look upon it as their capital, and many of the surrounding landholders have residences here. Good sandstone and granite are obtained near the town, and mines of diamonds and rubies were formerly worked in the vicinity.

WAISH or Wesh. PUKHTU. A voluntary redistribution of lands amongst the tribes of the N.W. frontier of British India.

WAIST-BELT, are often gold embroidered, with pearls, emeralds, rubies; usually they are of white cloth, or of shawls. The waistbelt is a part of the dress, alike of Muhammadans and Hindus, when on duty or appearing before a superior. It is the kamrbāndhna or girding up of the loins of the Bible.

WAK, the supreme being of the Galla race of Shoa. Ateti, the female power of Wak. See Semitic Races.

WAKALU. KARN., TEL. A plural of Wakl or Waql, a farmer or agricultural race. The Wakaliga of Mysore have four sections,—Morasu, Hali Gangadikar or Gangahara, Nonabba, and Kongaru. Among the Canarese they are Hindu cultivators, whom the Abbe Dubois considered to be identical with the Tamil Vellalar. They are so merely as farmers. They eat flesh freely, and are not strict Hindus. They are indifferent soldiers, but serve locally. The women of several families of one of their clans or sects, that of the Morasu Wakaliga, follow the custom of having the fingers of the right hand amputated. There are about two thousand families in Mysore who believe in the duty of acting this practice of mutilation, which is forbidden by law; but so lately as the beginning of the year 1874, a woman had the operation performed secretly at Davanaholi, in the Bangalore district. Every woman of the sect, previous to piercing the ears of her eldest daughter, preparatory to her being betrothed in marriage, had to undergo the mutilation by the village blacksmith. The fingers being placed on a block, the blacksmith places a chisel over the joints, and chops them off at a single blow. The tradition connected with this rite is to the effect that Vrika, a rakshasha or demon, by a course of austere devotion, obtained from Mahadeva the power of consuming to ashes any person on whose head he might place his right hand. He then attempted to use this power to destroy Mahadeva, who fled and concealed himself in a grove, pursued by the demon. A farmer in a neighbouring field loudly denied having seen Mahadeva, but pointed with his finger to the grove. At this instant, to save Mahadeva, Vishnu appeared in the form of a beautiful Brahman girl, with whom Vrika became enamoured, but she withstood his advances until he should perform the Sandhya ceremony of applying the right hand to the breast, the crown of the head, and other parts of the body, and thus he reduced

himself to ashes. Mahadeva, issuing from the grove, resolved to deprive the farmer of the finger with which he had pointed to the grove, but the farmer's wife prevailed on Mahadeva to accept two of her fingers instead; and ever since then her female posterity, as a memorial of the transaction, sacrifice two fingers at Mahadeva's temple. The Wakalu cultivators in India number 665,215 souls.

WAKAMBA, a tribe about 70,000 in number on the Eastern Sohaili coast, formerly nomades, but now with some skill as farmers and traders, and have flocks, herds, and domestic ornaments. They wear a leather thong round their loins, and allow one end to fall behind like a tail. They have smooth, dark skins and slender forms. Their features are not those of the Negro, towards which race they feel a great contempt.

WAKHAN, a hill state north of Badakhshan; its chief lays claim to Grecian origin. Wood mentions a torrent in Wakhan, called Zar-zamin, gold ground. He says all the tributaries of the Oxus are fertile in gold.—*Wood's Oxus*, p. 382; *Yule's Cathay*, i. p. 236.

WALA. ARAB., HIND. In composition, a person who does any act, as Rakh-wala, Gao-wala, Ghora-wala, a guard, a cowkeeper, a horse-keeper. In the Firozpur district, the addition of Wala is a common term in naming villages, such as Sultan Khan Wala, Buta-wala, Akbar-wala; and probably the name of Ferozeshah may have been Ferozeshah-wala, and from the length of the word the latter part may have been dropped or shahar (a city) substituted.—*History of the Sikhs*, p. 54.

WALA-JAH. PERS. The title granted by the Mogul emperors of Dehli to Muhammad Ali, nawab of the Carnatic, and the family are styled Wala-jahi.

WALAJAHBAD, in lat. 12° 58′ N., and long. 79° 39′ E., 40 miles south of Madras, and 30 miles inland from the coast. The Palar river passes by to the south, about 500 yards distant. It was formerly a military cantonment.

WALAN, the name of a large but rare and much-valued tree in Amboyna, which was first described and figured by Rumphius in his Herbarium Amboinense, and called by him Ichthyoctonos montana. The inhabitants of Amboyna use the powdered bark of the roots for catching fish. Throwing the powder upon the water and mixing it till it foams, they cast a net, and in the course of an hour the net is generally found full of half-dead fish. The fish will recover from the effect of the poison if thrown into fresh water, and are quite wholesome as food.—*Eng. Cyc.*

WALAYAT. HIND., PERS. An inhabited country, a foreign country, as Europe, Persia, and Turkey. See Balayat; Valayat.

WAL'D. ARAB. He was born; son. Walid, father, therefore Maulud, born, birth, a mauludi. In the neighbourhood of Bombay, the Arab custom of adding the father's name is very generally followed, alike by Muhammadans and Hindus. An Arab, for instance, would be styled Ahmad bin Yakub, but in Bombay Ahmad wal'd Yakub. Ibn or bin and wal'd are both of them Arabic words, meaning Ahmad son of Yakub.

WALER, a term used by the British in India to designate N. S. Wales horses. The supplies from British India itself and the neighbouring inland countries have been insufficient to meet the demands and wants of India, and since A.D. 1840 small batches have been received from the Cape of Good Hope. These are horses of good figure and good temper, suitable for riding horses and for draught, but, like the Arab horse, high priced. Australia, however, has taken a hold on the Madras and Calcutta markets.

WALI. ARAB., PERS. A ruler, a prophet; the title of the Turkish Viceroy in Turkish Arabia. It was the title of the chiefs of the Hawiza tribe. There are six sorts of governors in Persia, viz. Wali, Beglar Beg, Kol Beg, Wazir, Sultan, Darogha. There were formerly four Wali or tributary princes in Persia, viz. the prince of Georgia, Sinna, Luristan, and Hawiza; but the Wali of Sinna is the only one remaining. The prince of Hawiza was called Moula or holy, and was a Syud or supposed descendant of Mahomed. Kalb Ali Khan, the murderer of Messrs. Grant and Fotheringham, was descended from the Wali of Luristan, who was of the Feili tribe.—*Rich's Kurdistan*, i. p. 211.

WALI, the literary name of a celebrated poet, who wrote in Urdu or Hindustani in the middle of the 17th century. He has been followed by many others down to the present time; their compositions are in general mere imitations of the Persians. The best author in this branch of poetry is Sauda, who lived late in the 18th century.—*Elph.* p. 432.

WALID, the 6th of the Ummiad khalifs of Baghdad, ascended the khalifat in A.D. 708. He conquered Sind, and carried his arms to the Ganges. Three years thereafter, in A.D. 718, his general, Muhammad bin Kassim, overran Gujerat, and spread devastation in his progress. He advanced on Chitore, but he was met and completely defeated by Bappa, a descendant of Goho, who had founded Edur.—*Elliot's Hist. of India.*

WALI KUKUN, a wood of Java, equal to the kusambi in weight, and exceeds it in hardness. It is employed for anchors, naves of wheels, machinery.

WALKER, LIEUT.-COLONEL ALEXANDER, Resident in Cutch, made great efforts to suppress infanticide amongst the Jhareja Rajputs.

WALKERA SERRATA. *Willd.* The Gomphia angustifolia of Vahl., a native of Malabar and Ceylon, has serrate, crenate leaves. The roots and leaves are very bitter, and are used in decoction by the inhabitants of Malabar as a tonic and anthelmintic.

WALKESHWAR, near Bombay, has a tank called Ban Ganga, fabled to have been produced by Krishna firing an arrow at the spot.

WALKING FISHES of India are species of Ophiocephalidæ. The hissar, or walking fish of S. America, is a species of Callichthys.

WALKING-STICK, a staff or cane carried in the hand for ornament or support. There are numerous kinds, as Malacca cane, Penang lawyers, Wanghee, supple-jacks, and other fancy varieties. The bamboo furnishes useful walking-sticks, as also the various palm trees, the Licuala, cocoanut tree, sago palm, betel palm, palmyra palm, also the kumbha wood of the Gmelina arborea, and the Chittunkoodoo wood of the N. Circars (perhaps Chitankaloo or Wrightia tinctoria). The Chinese greatly object to any one carrying a walking-stick, and their absence is supplied by lengthening the

stem of an umbrella. Cabbage walking-sticks are the stems of a variety of the garden cabbage (Brassica oleracea, *L.*), grown in the Channel Islands; the growth in height is promoted by constantly stripping off the leaves.

WALKING STICK INSECT, species of Phasma.

WALLA, the modern name of the ancient city of Vallabhi.

WALLABHIPUR. In A.D. 770, Wallabhipur, the present Walleh, which had the most brilliant court in India, fell before an irruption from the north, supposed by Mountstuart Elphinstone to be Persians under Nushirwan the Great, by Colonel Tod to be Scythians, and by another authority to be Indo-Bactrians. The name of Gurjjara in the time of Hiwen Thsang was confined to Western Rajputana, and it was still a distinct country from Saurashtra in A.D. 812, when Karka, raja of Lateswara, recorded a grant of land. Between this date and A.D. 1310, there is a gap of five centuries, during which period we have no mention of Gurjjara in any contemporary records. General Cunningham has a strong suspicion, however, that the movement of the Gujar race towards the Peninsula must have been connected with the permanent conquest of Delili, Kanouj, and Ajmir by the Muhammadans, which ejected the Chauhan and Rahtor tribes from Northern Rajputana and the Upper Ganges, and thrust them towards the south. The Rahtor occupied Pali to the east of Balmer in the Samvat year 1283, or A.D. 1226. This settlement of the Rahtor must have driven the great body of the Gujar from their ancient seats, and forced them to the south towards Anhalwara Pattan and Eder. This was actually the case of the Gohil, who, being expelled from Marwar by the Rahtor, settled in the eastern side of the Peninsula, which was named after them Gohilwara. In the time of Akbar, the Gujar had certainly not penetrated into the Peninsula, as Abul Fazl does not name them in his notice of the different tribes which then occupied the Circar of Surat; and even at the present day there is no large community of the Gujar in the Peninsula.

WALLACE, ALFRED RUSSEL, born at Usk, Monmouthshire, 1822, an eminent naturalist, who devoted many years of his life exploring and describing the regions which he had visited. He travelled in South America from 1848 to 1852, and subsequently dwelt for eight years amongst the islands of the Eastern Archipelago. His researches were embodied in his valuable works, Travels on the Amazon and Rio Negro, Palm Trees of the Amazon, The Malay Archipelago, Tropical Nature, Contributions to the Theory of Natural Selection, 1871. He also contributed largely to the scientific journals, 1869 to 1872; on Australasia, with Ethnological Appendix by A. H. Keane, 1878; on Island Life, 1880; and on Islands, as illustrating Geographical Distribution, 1876. Mr. Wallace (ii. p. 250) believes that the numerous intermediate forms which occur among the countless islands of the Pacific are not merely the result of an intermixture of their races, but are to some extent truly intermediate or transitional, and that the brown and the black, the Papuan, the natives of Gilolo and Ceram, the Fijian, the native inhabitants of the Sandwich Islands, and those of New Zealand, are all varying forms of one great Oceanic or Polynesian race. Professor Huxley, however, is of opinion that the Papuans are more nearly allied to the Negroes of Africa than to any other race. Mr. Wallace has given to Europe a very full knowledge of the birds of that extensive region.

WALLAGO ATTU and Saccobranchus fossilis are mud frequenters; an esteemed edible fish of the Bay of Bengal.

WALLAMPOORY, a chank opening to the right, called in Calcutta the right-handed chank, is so highly prized as sometimes to sell for 400 or 500 or even 1000 rupees.

WALLANCHOON, a pass in Nepal, in lat. 27° 52′ N., and long. 87° 14′ E. The crest of the pass is 16,775 feet above the sea. The path leading up the pass for 8 miles is a narrow, stony, and steep gorge. The top is a low saddle, between two ridges of rock.

WALLEROO, a Dhangar tribe in the northern division of the Madras Presidency. They are also styled Yerra-walleroo.

WALLICH, NATHANIEL, a medical officer of the Bengal army, an eminent botanist. He collected plants in the Calcutta Carden, in Nepal, Singapore, Penang, Oudh, Rohilkhand, the valley of Deyra, Martaban, Ava, etc., and had collections made in Sylhet by Francis de Silva, in Kamaon by Robert Blinkworth, in Srinaghur by Kamroop, in Tavoy and the Tenasserim coast by William Gomez. He had in addition specimens collected by Heyne in the Peninsula generally, by Noton in the Neilgherries, also by Moorcroft in the more elevated mountains bounding India on the north, in the Himalayan range by Dr. Royle, in Sirmur by Mr. S. Webb and Dr. Govan, in Sylhet and Chittagong by Bruce, in Pundua by Smith, and in Penang by Porter. His Plantæ Asiaticæ Rariores, 3 volumes folio, contains 295 coloured lithographic plates, with monographs by Professor Nees Von Esenbeck on Indian Laurinea and Acanthaceæ, by Mr. Bentham on the Labiatæ, Professor Meisner on the genus Polygonum, and Von Martius on Restiaceæ. He was long in charge of the Government Gardens at Calcutta, having succeeded Dr. Roxburgh. He wrote on Indian Woods, in Bl. As. Trans., 1833, ii. 77; and besides editing a portion of the Flora Indica of Dr. Roxburgh, he commenced, in India, an illustrated work on Nepal Plants, Tentamen Floræ Nepalensis, which was the first specimen of lithography ever produced in India. Drs. Hooker and Thomson estimated his great collection at between 6500 and 7000 species.—*Wight's Prod.* i. p. 18.

WALLICHIA OBLONGIFOLIA, the Ooh of the Lepcha, a palm which grows in Sikkim. It affords an admirable fodder for horses, who prefer it to any other green food to be had in those mountains.—*Hooker*, i. p. 143.

WALL OF CHINA was built to check the inroads of the warlike pastoral tribes. The generals of the emperor Che-hwang-te having subdued the people in the south, nothing more remained to be done than to subdue these Tartars, or at least to put a stop to their inroads. Some of the northern states had eventually built a wall, to keep these unbidden guests out of their territories. Che-hwang-te therefore resolved to erect the Great Wall, which commences at Lin-teeaou, in the western part of Shen-si, in the mountains of Leaou-tung, and

terminates in the sea, a distance of more than 1500 miles. It runs over hills and rivers, through valleys and plains, and is perhaps the most stupendous work ever produced by human labour. He lined it with fortresses, erected towers and battlements, and built it so broad that six horsemen might ride abreast upon it. To lay the foundation in the sea, several vessels, loaded with ballast, were sunk, and upon this the wall was erected. Every third man in the empire was required to work on it, under the direction of Mung-teen, B.C. 240.

WALNUT.

Akrot, Jowz, Khusif, AR.	Stagpa, . . . LADAKH.
Than-than, . . CHENAB.	Okher, ... NEPAL.
Khor, Ka, Darga, ,,	Char-mughz, . . PERS.
Hu-t'au, Kiang-t'au, CHIN.	Girdighan, . . . ,,
Noix, ... FR.	*Jouz-i-rumi*, . . . ,,
Dun, ... KANGRA.	Ughz, Waghz, . TR.-IND.

The walnut tree, Juglans regia, grows wild in the N.W. Himalaya at heights from 8000 to 10,000 and 11,000 feet; but it does not ripen its fruit above 9000. It has long been cultivated in Persia and Turkestan, and has been taken westward to England and eastward to China. Honigberger states that a twig of the walnut tree, Juglans regia, is kept in a room as a means of dispelling flies. The Persian walnut kernels are eaten, or are made into pickles or ketchup. The Kashmirians use the walnut as a dye for black and green colours; the former, from the ripe fruit, is a 'fast' or permanent dye, and the latter is furnished from the walnuts which fall into the ground while they are still green. The latter colour is not permanent. From the kernel an oil is extracted, which is used not only for burning in lamps, but also for culinary purposes. It is said also to be made the medium for extracting the perfume of the jasmine, the yellow rose, and the narcissus. One-fourth of flower is added to three-fourths of oil, and the whole is well corked up in a jar or bottle. It is then exposed to the sun for five or six weeks, by which time the oil is found to be sufficiently impregnated. Walnut oil forms an extensive and profitable article of export into Tibet and Yarkand. Walnut wood was the chief cabinet-wood of Europe before the introduction of mahogany. Black walnut wood (Juglans nigra, *L.*) is much used in the United States for cabinet-work; also butternut wood (Juglans cinerea, *L.*) of the United States. —*Stewart.*

WALSURA GARDNERI. *Thw.* A small tree growing in the central provinces of Ceylon, at an elevation of 2000 to 4000 feet.—*Thw.*

WALSURA PISCIDIA. *Roxb.*

Joe-boe, ... BURM.	Wallurasi, ... TEL.
Walsura, . . . TAM.	

This tree grows in the Circars, is very plentiful in the Pegu, Tounghoo, and Tharawaddy forests. Its timber is large, heavy, and strong, white-coloured, and adapted for every purpose of house-building. In India the bark is thrown into ponds to stupefy fish, which, coming to the surface, are easily taken, and are not considered injurious to be eaten.—*Roxb.; Royle, Ill.; Voigt; M'Cl.*

WALSURA ROBUSTA, a tree of Sylhet; the bark is not employed as a fish poison.—*O'Sh.; Roxb.* ii. p. 386.

WALSURA TERNATA. *Roxb.*

Kaka walsura, . . TAM.	Chinna valasa, . . TEL.
Chinna wallurasi, . TEL.	Vada valasa, . . . ,,

A small tree growing on the sides of hills. It flowers during the hot season. Walsura villosa, *W. and A.*, is a tree of Moulmein.—*Roxb.*

WALUR LAKE, in Kashmir, is the largest sheet of water in the valley, formed by an expansion of the river Jhelum (Jhilam). The centre lies in lat. 34° 20′ N., and long. 74° 37′ E. Length from east to west, 21 miles; breadth from north to south, 9 miles. Celebrated for its picturesque beauty. Contains a small island, with extensive ruins of an ancient Buddhist temple. Subject to violent squalls.—*Imp. Gaz.*

WAMAN-DUADASI, from Waman, a dwarf, and Duadasi, the 12th day of the month Paksh, about the 10th September. It is a Hindu ceremonial in commemoration of the fifth incarnation of Vishnu, who assumed the form of a dwarf to prevent Bali by his austerities acquiring dominion over three worlds. The dwarf put his foot on Bali's head and crushed him to Patali.

WA-MEE, a Chinese bird kept for fighting. They are good songsters.

WA-MO. BURM. Bamboo fungus, an anthelmintic.

WANA. HIND. Divinities of the air, in opposition to Asa, pl. Asen, which, according to Bunsen, means existent, living ones.

WANA-GANA-KALOO, Curraganica, and Punchunganigaloo are dealers or shopkeepers of Telingana, and called in common parlance by the Hindi word Teli or oilman. They are petty traders and shopmen in the Ceded Districts.

WANDEROO., SINGH., is the name in Ceylon for the Presbytis ursinus, the P. thersites, P. cephalopterus, and other species, and it has also been applied, though erroneously, to the Silenus veter, *Linn.*, of the Malabar coast. The low country Wanderoo, P. cephalopterus, is replaced in the hills by the larger species, P. ursinus, which inhabits the mountain zone of Kandy. P. thersites is chiefly distinguished from the others by wanting the head tuft. Some are as large as an English spaniel dog, are of a darkish-grey colour, and black faces with great white beards round from ear to ear, which make them show just like old men. This sort does but little mischief, keeping in the woods, eating only leaves and buds of trees, but when they are caught they will eat anything. They are called Langoor on the continent of India and in Further India, where the species of Presbytis are P. albocinereus, entellus, Johnii, jubatus, obscurus, Phayrei, pileatus, priamus, and schistaceus. In Ceylon there are five monkeys, four of which belong to one group, the Wanderoo, and the other is the little graceful grimacing Rilawa, which is the universal pet and favourite of both natives and Europeans. The Tamil conjurors teach it to dance, and in their wanderings carry it from village to village, clad in a grotesque dress, to exhibit its lively performances. It does not object to smoke tobacco. The Wanderoo is too grave and melancholy to be trained to these drolleries.—*Tennent, Ceylon*, p 10.

WANDIWASH or Vandivasu, the chief town of a taluk of the same name in North Arcot district, Madras, lat. 12° 30′ 20″ N., long. 79° 38′ 40″ E., 20 miles north of Gingi. It was stormed in October 1752, by the sepoy soldiers under Major Lawrence. In 1757 the French garrison twice repulsed the British. A more energetic attack, under Monson, in 1759, was also unsuccessful.

Immediately after this, the French soldiers mutinied, and although they were speedily pacified, before the end of the year the fort surrendered to Coote. In 1760, Lally appeared before the fort; in a day or two he was joined by Bussy and 300 Mahratta auxiliaries. Before the siege had far progressed, Coote came up, and in the pitched battle which ensued the French were utterly routed, and Bussy was taken prisoner. This victory was in itself and in its consequence the most important won over the French in India. In 1780, Lieutenant Flint by a bold stratagem saved the fort from falling into the hands of Hyder Ali, and with very inadequate means held it for nearly three years against every device of the enemy. Twice he was relieved by Sir Eyre Coote, and twice at least he repelled most vigorous assaults.—*Imp. Gaz.*

WANI, a Lingaet or Jangam sect, numerous in the Canarese-speaking country, and extending in the direction of Poona and Bombay. They arrange themselves into the four sections, Rasot, Diksot, Melwant, and Tailwant, who eat together but do not intermarry. The Tailwant drink only tank water, which is first strained and carefully covered with a cloth to prevent injury to animal life. The Rasot have no guru, which the other three have. The Wani are shopkeepers and agriculturists. They marry girls when five to eight years old. The couple are placed sitting on a mat or bullock saddle, to which they are lifted on the crossed hands of four men, who put betel leaf in their mouths and complete the ceremony. Widows are remarried. They inter their dead in a sitting posture, and on the third day sprinkle rice and milk on the grave. Wania, also Vania, are pronunciations of the Banya name; the Banya of Bengal.

WANIKA, the general name given to the African tribes near the Suhaili coast. They fear an imaginary being called Muansa, which they suppose to be a wild beast in the woods, and an imaginary spiritual shade called Koma.

WANJARA or Banjara, a race of grain and cotton carriers, spread thoughout India. The name is supposed to be Vanachara, that is, wanderers in the forests.

WANKANER, a Native State in Kattyawar. Area, 376 square miles; population (1872), 28,750. A black marble is found within its limits. The nearest port is Joria.—*Imp. Gaz.* ix.

WANNIAH, a race in the Batticalao district of Ceylon, who have traditions about their queens, and show the remains of a bridge built for their use.—*Lee's Rebeyro*, p. 80.

WAQAF. ARAB. Land or other property appropriated for religious or charitable purposes.

WAQIDI, a biographer of Mahomed, born at Medina, A.D. 747, A.H. 130, and died in Baghdad, A.D. 822, A.H. 207. He expended 2000 dinar in buying books, and left behind him 600 chests full. His secretary was Ibn Sa'd, and he had two slaves as amanuenses.

WAR in the Dravidian tongues is the dialectal variation of Varu, SANSK., an individual.

WAR. MAHR. Also written Wari, Bari, Badi, Bati, Vati, derived through the Hindi from the Sanskrit, means an enclosure, a garden, a house or dwelling, takes in the Mahrati the form of Warkuree, signifying a parterre, a yard around a house.

WAR. SYRIAC. The general term for a stony district. War-ed-djamous, the war or district of the buffaloes.—*Robinson's Tr.* ii. p. 127.

WARA, Wada, Vada, Vado, Varo of the Mahrati and Gujerati, meaning a ward or quarter of a town, occupied by people of the same avocation, is also from the Sanskrit. It is met with in every-day conversation, as Bahmanwara, the Dherwara, the Brahman and Pariah quarter; a common termination to towns and portions of towns, as Anhilwara, Dherwara, Bahmanwara.

WARA, a town in the Konkan near Bombay, from which was obtained a sculptured slab. The character used in its inscription is that of the Saurashtra coins and long-tailed Deva-Nagari. No gods are mentioned, but there is a trisula on the slab. The inscription is a fragment, and cannot be fully translated; but Mr. Prinsep says it may be as old as the Gujerat coins with Greek heads upon them. The trisula, without the mention of Hindu gods, would seem to indicate that it is not necessarily an exclusive emblem of Siva. —*Prinsep's Antiq.* v. p. 340.

WARANGAL, ancient town, 86 miles N.E. of Hyderabad city, lat. 17° 58′ N., long. 79° 40′ E. Warangal was the ancient capital of the Hindu kingdom of Telingana, founded by the Narapati Andhras. The kings of Andra, whose capital was Warangal, are said to have been connected with the Andra race of Magadha, but it must have been by country only, for Andra is not the name of a family, but of all the inland part of Telingana. The records of the inhabitants mention Vikrama and Salivahana among the earliest monarchs; after these they place the Chola rajas, who were succeeded, they think, about A.D. 515, by a race called Yavana, who were nine in number, and reigned as they say for 458 years, till A.D. 953. About this time the Ganapati rajas began, but the first authentic mention of them was in the end of the 11th century, under Kakati, from whom the whole dynasty is sometimes named. He was an officer or feudatory of the Chalukya kings of Kalyan, and gained victories over the Chola kings. The Ganapati rajas attained to greatest power about the end of the 13th century, when local traditions represent them as possessed of the whole of the Peninsula south of the Godavery; but Professor Wilson limits their rule to between lat. 15° and 18° N. In 1332, their capital was taken by Kafur, the general of Ala-ud-Din, and their importance, if not their independence, destroyed by a Muhammadan army from Dehli, and two of its officers settled at Vijayanagar. At one time subsequent to this they seem to have been tributary to Orissa. They merged at last in the Muhammadan kingdom of Golconda.

Warangal is said also to have borne the name of Arnabunda. A sculptured slab obtained there had an inscription in Telugu and Uriya, with Sanskrit slokas. Its date was Saka 1054, or A.D. 1132, being the year Chetrabhanu of the Vrihaspati Chakra, or sixty years' cycle of Jupiter. The inscription contains a long account of Rudra Deva's genealogy and of his battles. There are not any praises of Brahmans, or even mention of them. It is now famed for its manufacture of carpets. In the town of Hunnumconda are the ruins of a famous temple. The structure is composed of a hard black rock, elaborately sculptured. Four large columns, highly carved, support a roof of

solid slabs; although the legend runs that a thousand pillars once supported the fabric, but a few now remain standing. Inside the pavilion is a gigantic bull (couchant), sculptured out of black trap, highly polished, which is an admirable specimen of workmanship of its kind. The temple is entered upon wide steps of solid black trap-rock. The landing is in a porch supported by two advance columns, with elegantly-sculptured bases, having massive parapets between them. The capitals and entablatures are likewise exquisitely carved, with eaves hanging over them about five feet over their bearings. The building claims attention for its great antiquity, built, it is said, a thousand years ago by Raja Burthop Roothroo, to whom also is attributed the gigantic works scattered over the Warangal district, such as the great wall and fort of Warangal, and the embankment and masonry adjuncts of the Pakhall lake, etc. In the road from Hyderabad to within forty miles of Warangal, barren rocks, which intensify the heat of the sun, and arid plains, are the prevailing features, and water is both scarce and bad. At Bonagherry, 26 miles from Hyderabad, is a hill fortress or drug, planted on the summit of a precipitous rock, rising abruptly from the plain to a very great height; the road extends only to Hunnumconda, a distance of 90 miles from Hyderabad.—*Elphin.* p. 221; *Cunningham, An. Geog. of India*, p. 527; *Fergusson.*

WARBLER, a name applied to several genera and species of birds. The pretty blue-throated warbler Cyanecula suecica, of the N.W. Himalaya, frequents the mustard fields and low scrub, frisking about like the robin redbreast. On bleak situations in the Himalaya, Mr. Adams met with the black-breasted warbler Calliope pectoralis. It is a solitary bird, and affects the stunted juniper bushes at high altitudes; it is about the size of the redstart, which in habits it much resembles. —*Adams, Naturalist.*

WARD. Sir Henry Ward, a civil servant, Governor of Ceylon, and who died of cholera while Governor of Madras in 1860. In Ceylon he gave encouragement to settlers, removed the many difficulties which beset them; he constructed great trunk roads throughout the length and breadth of the island, and opened up the districts by admirable branch communications. Rivers and streams were provided with temporary bridges until the finances increased, when they were replaced with permanent structures; and ere he left the colony he had the satisfaction of opening the suspension bridge at Gampola and the new bridges at Katugastututy, magnificent structures, which will remain lasting monuments of his rule, and will bear his name to posterity. Sir Edward Barnes may be said to have founded the colony, and Sir Henry Ward to have formed it.

William Ward, the missionary colleague of Carey in the Serampur Mission. He was born at Derby in 1769, and learned the trade of a carpenter. He arrived at Serampur on the 13th October 1799. He was fearless, fond of work, somewhat democratic, slightly opinionated, with a capacity for organization, and with that marvellous control over Asiatics which belongs to that temperament. The book he wrote, a View of the History, Literature, and Religion of the Hindus, with all its exaggerations and affected prudery, is still valuable as illustrating the popular habits, manners, and religious belief of the masses, and as giving the manners and customs of the E. I. Company's servants at the beginning of the 19th century. It went through three editions.

WARDHA, a river which rises in the Satpura Hills between Nagpur and Betul. It is a river of importance in the Central Dekhan. It flows south-east, separating the Nagpur, Wardha, and Chanda districts of the Central Provinces from the Berars and the Nizam's dominions. Its first great affluent is the Pain Ganga, which it receives on the Nizam's or right bank, about 190 miles from its source; 64 miles lower down (a little above Chanda) it joins the Wainganga, and the united stream, thenceforward known as the Pranhita, flows on in the same direction to join the Godavery at Seroncha. It is at the junction of the Wardha with the Wainganga that the great obstacle to the Godavery navigation scheme, known as the 'Third Barrier,' occurs. The bed of the Wardha is throughout rocky and deep; in the monsoon it becomes a furious torrent, and carries a considerable body of water. The railway bridge which crosses it at Pulgaon is of iron, and consists of fourteen sixty-foot girders, resting on masonry piers. In the hot months, however, the stream is everywhere fordable. Timber rafts can be floated down this river. The valley of the Wardha is a rich tract of country lying between the river and a range of hills which, receding as the Wardha district is entered, leave a considerable open space, which widens gradually to the south. In general the country is well wooded, and in the eastern portion of the Hinganghat subdivision the jungle predominates over the cleared and cultivated tracts. The plain of Hinganghat and the plain and hill of Girar are spots of great geological interest. At the former place a fresh-water stratum may be traced, and silicified wood picked up in abundance at the latter; the hillside exposes the fresh-water stratum in all its varieties, while the plain is strewn with curious zeolitic concretions resembling betel-nuts or nutmegs, which have issued from the soft subjacent rock. The geologic formation is interesting. The trotting bullock of this part of the Central Provinces is famous. The breeding of horned cattle generally is carried on on a large scale in the northern and hilly part of the district, which affords excellent pasture in the cold season, but in summer most of the herds are taken to the jungles of Mandla and Chanda. The breed of buffaloes, too, is very fine.—*Madras Conservator's Reports*, p. 4; *Central Provinces Gazetteer.*

WARDHA, chief town of Wardha district, Central Provinces, lat. 20° 45′ N., long. 78° 40′ E. The district is in the Central Provinces, lying between lat. 20° 18′ and 21° 21′ N., and between long. 78° 4′ 30″ and 79° 15′ E. It forms a triangle with its apex towards the north-west. The base rests on Chanda district, while on the western side the river Wardha separates it from Berar. Population (1872), 354,720 souls. The great sheet of trap which covers the Berars, and spreads as far as the coast of the Arabian Sea, has flowed over the whole of the district. The black soil varies in depth from 10 feet to a few inches, the average thickness being about 2 feet.

WARING. Edward John Waring, M.D., F.R.C.P. Lond., F.L.S., Commander of the Indian Empire (1881), a medical officer of the

Madras army, 1849-59, author of two editions of a Manual of Practical Therapeutics (1854), also Bazar Medicines, three editions; editor of the Pharmacopœia of India (1868); author of the Bibliotheca Therapeutica, 2 vols. (1878-89), The Tropical Resident at Home (1866), Cottage Hospitals (1867), The Hospital Prayer Book (1872), and Statistics of an Enquiry into the Pathology and Statistics of Abscess in the Liver; Medical Notes on the Burmese, The Vital Statistics of the Madras Army, Statistical Notes on Tropical Diseases.

E. Scott Waring, author of Tour to Shiraz by the Route of Kazroon and Firozabad, with Remarks on their Manners, Customs, etc.; also History of the Mahrattas, 1810.

WARINGIN TREE, ANGLO-MALAY, is the Ficus Benjamina, very closely resembling the banyan tree of the continent of India, spreading in like manner over a large space of ground, the lateral branches sending down shoots, which take root, and become a supplementary trunk. The wilder Papuans delight in residing among the branches of the waringin trees, whose dense foliage and horizontally-spreading branches render them well adapted for the purpose. This tree is of peculiar interest in connection with the earlier history of the native races of the Far East, as it is regarded with a superstitious veneration by all the aboriginal tribes of the Archipelago, as well as by those of the northern coasts of Australia, and by the lower classes, at least, of the Chinese.—*Mr. Earl*, p. 116.

WARK. HIND. A leaf of a book, a leaf of a tree. Wark-i-nukra, silver leaf. Wark-i-tila, gold leaf, etc.

WARKA-bin-NAUFEL, cousin of Mahomed's wife Ayesha. He was skilled in Jewish learning, and is said to have translated the Scriptures from Hebrew into Arabic.—*Elphin.* p. 256.

WARKALLAI, between Cochin and Trevandrum, a spur of the W. Ghats, consisting of a ridge of laterite hills about six miles wide, with a summit level of 180 feet, ending abruptly in a line of cliffs washed by the sea. A tunnel through it has been planned.

WARREN, CAPTAIN JOHN, an officer who served in several parts of the Madras Presidency and in Mysore. He wrote an Account of the Petrifactions near the Village of Trevikera in the Carnatic, in vol. ii. of Asiatic Researches; also Account of Experiments made at the Madras Observatory for determining the length of the simple Pendulum beating seconds of time at that place. He edited the Kala Sankalita.

WAS, which occurs in Allungwas, in the Mahrati, a forsaken village; but in the Gujerati, a ward or quarter of a village occupied by the Koli race.

WASHERMAN'S EARTH, an impure carbonate of soda, on the surface of the ground in many parts of India. The soda is obtained by dissolving in water and evaporating, and the soda is sold under the name of sobbu. A washerman's well is deemed in the east the most impure of all receptacles. These wells are dug at the sides of streams, and give a supply of pure water filtering through the sand.—*Tod's Rajasthan*, p. 223.

WASHING OF FEET. In John xiii. 10, "He that is washed, needeth not save to wash his feet." The Hindus walk home from bathing barefoot, and on entering the house wash their feet again.

WASP. The mason wasp is a name given to several genera and species of hymenopterous insects of the family Sphegidæ. One of these, Pelopæus Spinolæ of St. Fargeau, distinguished by its metallic lustre, introduces its eggs into the body of the pupa of some other insect, which it thrusts into keyholes and other apertures of Indian houses, and encloses the whole with moistened earth. The young parasite, after undergoing its transformations, gnaws its way into light, and emerges a four-winged fly. The Ampulex compressa, which drags about cockroaches into which it has implanted its eggs, belongs to the same family.—*Sir J. E. Tennent's Ceylon*, p. 257.

WASSO, in Buddhism, the season of sacred rest. It is still celebrated at Bhilsa by the illumination of the shrine of Lohangi Pir, at his ziarat, on the full moon of Asarh.

WASTE LANDS are abundant in British India, but, owing to the prevalence of the village rights, the family rights, and those of copartnery, it is not easy for a stranger to purchase portions. Lord Stanley, in his despatch of 22d December 1858, ordered such to be sold in fee-simple, and this was agreed upon in resolution of 17th October 1861. On the plains, wherever they are fertile, especially in the provinces drained or watered by large rivers, the population is as high as 600 and 700 to the square mile. But in the hills the population is too scanty to meet the present labour demand, comparatively trifling as it is. The figures refer to acres.

I. HILL WASTES.

Madras. — Coimbatore (Neilgherries), 1,385,845; Salem (Shevaroys), 409,046; Madura (Pulneys), 651,921.

North-West Provinces.—Kamaon, a limited extent suited for tea; Dehra Doon, 204,526; Mahadeo Hills, Gondwana, thousands of square miles; Jubbulpur, 25,180 square miles.

Bengal. — Cossya Hills, Chittagong, Mymensing, Garo Hills, Sylhet, Bhagulpur, Chutia Nagpur, North Cachar, very large area; Kamrup (Assam), 179,560; Nowgong (Assam), 1,205,600; Sibsagur (Assam), 1,471,728; Akyab, 3,152,000; Cachar, 200,000; Darjeeling, 250,000.

British Burma.—Tenasserim, 17,920,000; Martaban, 5,760,000; Pegu, about 40,000 square miles.

Panjab.—Simla, 22,995; Kangra, 16,136; Dehra Ghazi Khan, 24,349; Sealkote, 67,083; Jhelum, 3279; Dehra Ismail Khan, 474,880; Kohat, 16,479; Hoshiarpur, 15,000.

Mysore.—Astragram, 816,619; Bangalore, 547,139; Chittuldroog, 1,365,000; Nuggur, 188,597.

II. WASTES IN THE PLAINS.

Madras.—Ganjam, 12,461; Vizagapatam, 3100; Rajamundry, 172,259; Masulipatam, 2419; Guntur, 479,774; Nellore, 417,221; Cuddapah, 2,536,747; Bellary, 3,458,820; Kurnool, 379,434; Chingleput, 499,075; North Arcot, 426,128; South Arcot, 949,215; Tanjore, 145,316; Trichinopoly, 620,847; Tinnevelly, 785,933.

Bombay.—Sholapur, 414,433; Ratnagherry, 5902; Dharwar, 178,847; Poona, 141,192; Belgaum, 218,542; Satara, 331,315; Ahmadabad, 218,415; Kaira, 73,846; Baroach, 8000; Surat, 95,410; Tanna, 8552; Kandesh, 1,635,666.

North-West Provinces.—Saharunpur, 12,858; Bijnore, 124,368; Shahjahanpur, 56,000; Singrowlee, 34,452; Gorakhpur, 189,508.

Bengal.—Baraset, 5289; Sunderbans, 809,642; Bulluah, 2500; Ramree, 1,200,000; Sandoway, 8000; Bardwan, 680; Hoogly, 139; Midnapur, 3247; Dinajpur, 25,861; Murshidabad, 1189; Bogra, a large tract.

Panjab.—Ambala, 13,917; Jalandhar, 1136; Lahore, 225,057; Gujranwala, 174,357; Ferozpur, 399,414; Amritsar, 16,505; Gujerat, 64,196; Shahpur, 574,309;

Multan, 1,510,388; Jhung, 1,737,571; Gugaira, 1,636,242; Muzaffargurh, 17,134; Leiah, 1,750,000; Hissar, 1902; Jhujjur, 11,925; Sirsa, 467; Rhotuck, 2375.

Oudh.—Sitapur, 8500; Durriabad, 5731; Hurdui, 29,327; Baraitch, 98,300; Gunda, 98,340; Mahomdi, 188,045.

Hyderabad and Nagpur.—West Berar, 544,475; East Berar, 565,741; Nagpur, 8; Raepur, 493,384; Chanda, 32,707; Chindwarah, 2000.

The islands of the Mergui Archipelago, and much of the Malay Peninsula, are unpeopled.

WAT, SIND., is made of wheat boiled in milk, and seasoned with salt or sugar, and is the nashtah or morning meal of the peasantry in Sind, eaten as soon as they rise.—*Masson's Journeys*, i. p. 375.

WATCH. The Hindus and Muhammadans in India divide the day into four watches, and the night into the same number, the day being considered to extend from sunrise to sunset. The watches are again divided into ghurees, which are 24 minutes each in length, and which are usually called an Indian hour. As in the summer the days are longer than the nights, each day watch will then be longer than any watch of the night, though, from the necessity of each watch comprising an exact number of ghuree, there will generally be the difference of one ghuree between two watches of the same day. There is much variation in this respect; and although, in the latitude of India, the difference is not so great as it would be in a country more towards the north, it is still so inconvenient that the natives of India rarely understand their own method of dividing the day, and readily adopt the English mode.

WATER.

Maa,	ARAB.	Ayar, Ayar-tawar,	MALAY.
Hu,	ASSYRIAN.	Ab,	PERS.
Ya,	BURM.	Ku,	SCYTHIAN.
Yuh-yih,	CHIN.	Tanni,	TAM.
Shwui, Liu-shui,	,,	Neru,	TEL.
Eu,	GR.	Chu,	TIB.
Pani,	HIND.		

Water, with the Hindus, is used as a synonym for climate. Ab-o-howa, or water and air, is applied similarly by the Muhammadans. Civilisation, society, government, law, appear to have originated in countries which have certain watering-places or great rivers or perpetual springs, and wells have led men to congregate at particular watering spots. Fountains sacred to the sun and other deities were common to the Persians, Scythians, and Hindus, and both the last offered steeds to him in sacrifice. The Hindu races at the beginning of their religious rites made a preliminary offering of water, called Ankurapana. Few Hindu sects will take water to drink from each other. In Western Gujerat it is customary for Brahmans to use brass or copper vessels belonging to persons of other castes, after they have scrubbed them well with dust and water, and washed them. A leathern bucket need only be washed, because, having come originally from the house of the tanner, who is a person of very low caste, it is supposed that no further defilement can happen to it. Some strict Brahmans, however, will neither drink water which has been drawn in a leathern bucket, nor even use it for ablutions. In parts of Western Gujerat there is frequently but one well in a village, in which case the out-castes draw water on one side of it and retire, and when they are gone Brahmans and other castes come and draw water from the other side. It is usually the case that there are many wells in a village, and that one is specially set apart for out-castes. A well is defiled if a dog or other animal have fallen into it, and, for its purification, water must be drawn from it five times, and Ganges water or cow's urine poured into it. If a Brahman or Wania woman, returning home with water from a well, meet a funeral, she will sometimes throw away the water at once as defiled, sometimes veil herself and move aside, averting her face, and if the corpse be not carried within a few paces of where she stands, the water is preserved from defilement. The dead body of an animal defiles also, and if one happen to lie on the way to the well, no water is procurable until it has been removed, and the ground has been purified. Some women will throw away the water if a crow alight on the vessel and put his beak into it, but as the case is rather a common one, other women take no notice of it. The symbols of the three Hindu deities are respectively time, water, and fire. Besides the well-known worship of the holy Ganges, the tribes worship other rivers under the name of Gangamma, and in crossing them it is usual to drop a coin into the water as an offering and the price of a safe passage. In the Dekhan and in Ceylon trees and bushes near springs may often be seen covered with votive offerings. The Khond race also worship rivers and fountains. The people of Sumatra are said to pay a kind of adoration to the sea, and to make an offering of cakes and sweetmeats on their beholding it for the first time, deprecating its power of doing them harm. The offerings on the Ganges to Khaja Khizr are of this character.

In the Panjab four kinds of water are found in the Rewari wells, all of which are used in irrigation, but the produce of each varies. The first is Shirin or Mitha, *i.e.* sweet water, the irrigation from which, in common seasons, does not produce such remarkably fine crops as the other kinds; but this is infinitely more than compensated by the fact that, in drought years, the produce is certain and abundant.

Second, Matwalla or hard water, the land irrigated by which produces very fine crops, except in drought years, when they are rather inferior, though still good and certain.

Third, Malmalla or brackish water, with which good crops but inferior vegetables are produced in common years; in drought, however, both are inferior.

Fourth, Khari, Shor, or very brackish water. This irrigation is said to bear finer and more abundant produce than the others.

Wanklyn and Chapman state that all drinking waters may reasonably be required to be of such a degree of purity as not to yield more than 0·08 millegram of albumenoid ammonia per litre of water, equal to 0·08 parts per million. If not in this state naturally, all water that is to be used for drinking ought to be filtered until it becomes so.

The people of India, and Hindus in particular, have been highly careless of the wells and tanks from which their drinking and cooking waters have been obtained; but in 1883 they printed in 13 languages a lecture which Surgeon-General Furnell gave in Madras. That officer said that excellent laws and regulations had been laid down by ancient lawgivers. He pointed out that

in the Yajur Veda, the part called Arana contains the following commandments:—'Do not spit out with retching in the water. Do not pass urine or discharge excreta in the water. Do not drop blood in the water. Do not throw any hair, or nails, or bones, or ashes, nor dip dirty clothes into water. For to do so is to abuse a precious gift of the gods and disgrace them.'

Then, passing on to the Smriti, or the rules laid down by the lawgivers regarding the use and abuse of water, he showed that the Yagnya Valkya prohibits the drinking of eight kinds of water:—(1) water kept boiled by a stranger, (2) foaming water, (3) heavy dirty water, (4) water giving off offensive smells, (5) water rising in bubbles, (6) hot water, (7) muddy water, (8) salt water.

The sage Shatatapa prohibits bathing in a tank or pond defiled by the following persons by washing or bathing:—Those suffering from sore eyes or itch on the head or ear; those subject to epileptic attacks, or ulceration in the head running off through the nostril, or to consumption; or those affected by leprosy, or small-pox, or diarrhœa, cholera, or other contagious diseases.

In the second book of Ramayana, the Prince Bharata calls down upon himself a curse if he were guilty of something charged against him, by saying,—

> 'His sin, who deadly poison throws
> To spoil the water as it flows,
> Lay on the wretch its burden dread
> Who gave consent when Rama fled.'

In Uddhava Gita of the 11th book of the Bhagavata Purana or Krishna's legend, the divine Krishna advised to drink no other water but that filtered or strained through a clean cloth.

Again, the Yagnya Valkya prohibits the use of water that remains after washing one's feet or hands and other parts of the human body, or the remnant of what another person drinks, or the water near the dhobi's place for clothes, or where chandala or butchers, chucklers, and other outcastes wash themselves, or where women after child-birth or people under pollution bathe.

All these authorities are taken from the chapter headed Charukanda, or the use of water, in the book of the Hindu law by Vaidyandha, held in high esteem by the Hindu community of S. India.

Dr. Parkes, the greatest authority in hygiene, sums up the department of his manual which treats of water, with the following practical conclusions:—An epidemic of diarrhœa in a community is almost always owing either to impure air, impure water, or bad food; and if it extends over many families, almost certainly to water. Diarrhœa or dysentery constantly affecting a community, or returning periodically at certain times of the year, a very sudden and localized outbreak of either typhoid fever, malarious fever, or cholera, are almost certainly from bad water; and Dr. Macnamara says cholera could be warded off.

The Arabian littoral has a scanty supply of potable water, and at several places, sweeter water, obtained from springs under the sea, is used in preference. Of this a notable instance occurs at Katif town, 25 miles from Bahrein, where, in the open sea, in from 3 to 4 fathoms, are several of such springs.

There are at Bahrein also, in what is called the Inner Harbour, and elsewhere, several submarine springs, which are generally 10 to 12 feet from the sea-surface. But the island population is not dependent on them for its supply, as it has a perennial spring sufficient to keep the whole surface of the island under cultivation. Their fresh water is got by diving. The diver, sitting in his boat, winds a great goat-skin bag around his left arm, the hand grasping its mouth; then he takes in his hand, or stands on, a heavy stone, to which is attached a strong line, and, thus equipped, he plunges in and quickly reaches the bottom. Instantly opening the bag over the strong jet of fresh water, he springs up, at the same time closing the bag. The stone is then hauled up, and the diver, after taking breath, plunges in again. The source of these copious submarine springs is thought to be in the hills of Arabia some 50 or 60 miles distant. To facilitate the filling the water bag, a stone with an aperture in its centre is usually fitted over the mouth of the spring.—*Surgeon-General Furnell; Lubbock's Origin of Civil.* p. 200; *Forbes' Rasamala or Hindu Annals,* ii. pp. 239, 240; *Ward.*

WATER-CRESS, Nasturtium officinale.

Shui-kin-tsai, . . CHIN. | Shwui-kin-tsai, . CHIN.

Leaves—Loot putha. Seeds—Hurufs.

The water-cress is a native of Great Britain. It thrives best in running streams, and is to be had all the year round. It is grown from seed in beds near a water-course, and the supply may be kept up for any length of time. A small black caterpillar is very destructive to it. The only remedy is flooding the plants for a short time.—*Jaffrey.* See Nasturtium.

WATERFALLS. The principal cataracts or waterfalls in India are those near Simorri in Rohilkhand; at Gokak, on the Gutpurba; Yena, in Mahabaleshwar, 600 feet; Cauvery, 300 feet; cataracts of Subunreka, Chutia Nagpur, and Hurrori Ghat, the falls 15, 20, and 400 feet respectively. Waterfalls occur in the course of the rivers Mahanadi, Behur, and Tonse in Gondwana. That on the Mahanadi, 9 miles from Kaiouti, is a fall of 270 feet; the fall on Behur river, near Chechai, is 363 feet; and that on the Tonse, near Tahlurk Ghat, is 210 feet.

The Garsipa falls are on the river Sherwatty, about 15 miles up the W. Ghats from the town of Garsipa. From top of fall to surface of basin is 888 feet, and the depth of basin is 300 feet, and from 300 to 600 feet across during the rains. The country in the neighbourhood is extremely beautiful.

In the Lushai is a waterfall on the Kahu Doong (or Kowa Doong) stream about 1200 feet below Lall Shooma's village, from which it is reached by an easy bridle-path. Above the fall the Kahu Doong is a most beautiful stream, flowing placidly between high banks close to the water's edge, with the luxuriant vegetation peculiar to these parts. From the quiet stream above, the water is suddenly launched over a scarp of some 50 feet into a clear pool on a broad ledge of rock, which has been gradually worn away by the action of water, to receive it. From this pool the stream then plunges over a second ledge, and falls as a sheet of spray and foam into the bottom of an immense amphitheatre of cliffs, surmounted on all sides by high forest-covered mountains; the edge of the scarp, the great fissures which

rend it from top to bottom, the clefts between the strata, and indeed every available nook and cranny, being fringed with festoons of creepers, ferns, and orchids of every variety. The height of this second fall is 350 feet sheer drop without break, and the view from the sharp edge of the precipice, looking down into the great black rock-strewn basin below, is one of the most striking that can be imagined; and during the wet season, when there is a large flow of water, must be one of the finest waterfalls in India.—*Dr. Buist's Catalogue; Jameson's Ed. Jour.*, 1822.

WATER-HEN, Parra Sinensis. Plumes of inferior kinds are made from its feathers. It is met with in the north of India, running over the leaves of the lotus. The best plumes are, however, made from the feathers of the heron of the Panjab. See Wild-fowl.

WATER-LILY, the common name for the species of the family Nymphæaceæ. One of the most beautiful and the largest of the tribe is the Victoria regia.—*Roxb.* See Nelumbium; Nymphæa.

WATER-MELON, Cucurbita citrullus. Citrullus cucurbita, *Schræd.* Si-kwa, Han-kwa, CHIN. The red-fleshed water-melon is largely eaten in China. Liquid night-soil is largely used in the cultivation of melons.

WATERSPOUTS are frequent in the Indian Ocean, the Bay of Bengal, and the Arabian Sea. They generally form a double cone. The upper portion with its apex downwards consists of a dense cloud, while the lower cone, the apex of which is pointed to the heavens, consists of water, which is thus sometimes raised to a height of several hundred feet. Waterspouts seldom last longer than half an hour. Their course and movements are irregular. They are more frequent near the coasts than in the high seas; the wind often prevents the formation of waterspouts. In their stead the windspout shoots up like an arrow, and the sea seems to try in vain to keep it back. The sea, lashed into fury, marks with foam the path along which the conflict rages, and roars with the noise of its waterspouts, and woe to the rash mariner who ventures therein! The height of the spouts is usually somewhat less than 200 yards, and their diameter not more than 20 feet, yet they are often taller and thicker. When the opportunity of correctly measuring them has been favourable, however, as it generally is when they pass between islands of the Eastern Archipelago, so that the distance of their bases could be accurately determined, they have never been found higher than 700 yards, nor thicker than 50 yards. In October, in the Archipelago of Rio, they travel from north-west to south-east. They seldom last longer than five minutes, generally they are dissipated in less time. As they are going away, the bulbous tube, which is as palpable as that of a thermometer, becomes broader at the base, and little clouds, like steam from the pipe of a locomotive, are continually thrown off from the circumference of the spout, and gradually the water is released, and the clouds whence the spout came again close its mouth. There never occur many waterspouts in the Archipelago of Bioun Lingen except during the changing of the monsoon, when almost daily one or more occur. The airspouts near the equator always appear to be more dangerous than the waterspouts. Mr. Jansen says he has seen waterspouts go up out of the water upon the shore, where they overthrew strong isolated frame houses.

WATER WAGTAIL of several kinds occur in India. The grey wagtail is the Motacilla boarula. The lark-toed wagtail, Budytes citreola, occurs in the irrigated fields. The spotted hill wagtail, Enicurus maculatus, is one of the most handsome denizens of the mountain streams. In S. India, the pretty little, clean-looking, sprightly water wagtail is usually the first and most welcome harbinger of the coming cold weather, and remaining in India abundantly whilst the cold season lasts. The pied wagtails of India, Motacilla Luzoniensis and M. Dekhanensis, are specifically different from those of Europe, M. alba and M. Yarrellii, however similar in appearance and habits; but the grey wagtail of Britain, Calobates sulphurea, is identically the same in India and Java, and a specimen has been seen in a collection from Australia. This delicate little bird, so clean and bright in its appearance, is of very general diffusion over Southern Asia during the cold season, being indeed much commoner than in Britain. An individual of the Motacilla boarula is occasionally to be seen. The great pied wagtail, the Motacilla Maderaspatana, is rare. The yellow wagtail lark is the Budytes viridis; the feathers on its head are blue-grey in spring and summer. — *Cal. Rev.; Blyth; Adams.* See Birds.

WATSON. Gheriah was the chief town and strongest port of Angria in 1756. It was attacked and taken by a British squadron of five British ships under Admiral Watson, and on land by an army under Clive. A Mahratta army held aloof.

WATTAL or Watul, in Kashmir, a tribe which supplies dancing girls and prostitutes. The women are among the handsomest of the valley, and are very beautiful. They have all the manners and appearance of gypsies. They live in tents, or rather small huts of thatch, and have no restriction as to food.—*Campbell*, p. 121.

WATTAM. TAM. In Tanjore, a district comprising three or more villages under one headman.

WATTAN. ARAB. A native country. In Western India, a patrimonial inheritance. Watandar, the holder of a hereditary right, a property or office.

WATTLE TREES of Australia are species of Acacia. A. decurrens, black wattle. A. pycnantha, *Benth.*, golden or green wattle.

WAUGH. Major-General Sir Andrew Scott Waugh, F.R.S., of the Royal Engineers, died at the age of 68. He entered the Bengal Engineers in 1827, and assisted in the making of the great Trigonometrical Survey of India in 1832. Three years later he became Astronomical Assistant in his department, and took a leading part under Sir George Everest in the measurement of the great Indian arc for determining the figure and dimensions of the earth. In 1843 he was appointed Surveyor-General of India and Superintendent of the Trigonometrical Survey, and he received the gold medal of the Royal Geographical Society in 1857-58.

WA-WEI, a vegetable poison, used by natives of the Somali coast and others in the interior of Africa for poisoning their arrows. It is an inspissated decoction of the root of a tree which is supposed to be one of the Loganiaceæ or Apo-

cynaceæ. It is used both in hunting and in war, and is said not to be poisonous if swallowed.—*Madras Museum; Captain Playfair.*

WAX.

Shuma, ...	ARAB.	Cera, ...	IT., SP.
H'pa roung, . . .	BURM.	Lelin, ...	MALAY.
Peh-lah (white), .	CHIN.	Wosh, Wosk, . .	RUS.
Hwang-lah (yellow),	,,	Siktha, ...	SANSK.
Cire, ...	FR.	Miettie, ...	SINGH.
Wachs, ...	GER.	Mellugu, ...	TAM.
Mom, . .	HIND., PERS.	Minum, ...	TEL.

Wax is obtained from different sources, the chief of which is the beehive, where it is made by the bees for the formation of their cells. The insects proceed in a similar manner, and with such celerity, that in a new hive a comb 20 inches long by 7 or 8 inches broad will be constructed in 24 hours, and in 5 or 6 days the hive will be half filled. The wax thus produced is more or less yellow in colour, and has an odour resembling that of honey. The beautiful geometrical form in which it is arranged in the honeycomb is well known. The amount of wax produced in England is very large, but a considerable quantity is likewise imported from abroad. When the wax has served its purpose in the domestic economy of the hive, it is collected for manufacturing purposes by first allowing the honey to drain off or to be pressed out, and then, by repeated boilings and strainings, obtain the product. For obtaining a marketable wax from the combs by a single operation, without either straining or pressing, in an earthen vessel, much narrower at bottom than at top, is placed water and aquafortis, in the proportion of one ounce of the latter to every quart of the former. When these are well blended, as many good wax-combs are put in as will reach, when melted, to within a finger's length of the top of the pan. The pan is then set on a clear fire, and stirred while the wax is melting, and until it has boiled long enough to liquefy the whole completely. It is then removed from the fire, and allowed to cool gradually. The wax then forms into a cake at the top, and the impurities are underneath. These arrange themselves in two layers, the lowest of which consists almost entirely of dross, but the next contains a certain amount of wax. When the cake of wax is turned out of the pan, both these drossy layers are removed, leaving the cake pure; but the upper drossy layer is boiled over again with more combs, and with any scrapings which it may have been necessary to make from the upper surface of the wax in order to leave it quite free from extraneous matters. Old combs that have wax in them, or other descriptions of refuse that have been pressed, but yet retain a considerable portion of wax, are pressed down in a close tub or vessel in a house for five weeks. This causes the impurities to ferment and rot, without affecting the wax, which may then be treated as above described, and will yield a fine yellow wax, little inferior to that of the best combs. Where very great purity is required, the best empty virgin combs are put into the same kind of vessel employed in the preceding process, but with only a quarter of a pint of water, to keep the wax from burning. The pan is then set over a clear fire, and stirred until it boils. At this time a clear yellow froth begins to rise up, which froth is to be skimmed off into a pan placed close at hand. The fire must be so managed that this froth shall continue to rise without boiling over, and a succession of skimmings are thus obtained, which form a very pure description of wax. When no more froth will rise, the residue is turned out into a vessel of cold water, and can be boiled up again with other combs. This method is only available with a fine comb. By the above processes, beeswax is freed from impurities, but is not deprived of its natural yellow colour. For the greater number of uses to which the substance is appropriated, it is, however, necessary that the wax should be rendered perfectly white. This is effected by exposing it in thin ribands on a bleaching ground, where it is subjected to the action of light, air, and moisture, and loses both colour and odour. In India, wax is obtained from the west coast of Africa, Barbary, Malabar, Zanzibar; and in small quantities from the West Indies, United States, Germany, France, etc.—*Waterston; Faulkner; M'C.; Tomlinson; Smith, Chinese M. M.; Poole, Statistics of Commerce; Bagster on the Management of Bees.*

WAX INSECT, Chung-peh-lah and Shu-lah, CHIN., the Coccus pela, *Westwood*, is of a whitish hue when small, but becomes of a dark-brown colour at the close of the season. They are found on certain oleaceous plants, Ligustrum Japonicum, L. lucidum, and L. obtusifolium, and it is the secretion of these insects that the Chinese call peh-lah or white wax. When this insect is fully developed, the trees seem as if covered with flakes of snow. The wax is an article of great value in Chinese commerce, and a portion is exported. From the time of the Mongolian dynasty, in Chinese works white wax is always to be understood as referring to the waxy secretion deposited upon the small branches of several oleaceous trees. The male insect is described in Hanbury's Notes as having large wings and an elongated anal point. The female insect appears to develope its body in such a way as to envelope the twigs of the tree. The Pen Ts'au describes them as about the size of a wood-louse. In the beginning of June they are found upon the small tender branches of the trees, around which they deposit the snow-like wax. In the latter end of August or thereabouts, the wax is carefully scraped off the trees, is melted in boiling water, strained whilst hot, and poured into cold water, when it immediately congeals into a white, opaque, crystalline mass, very much resembling the best spermaceti. If the collection be delayed, the raw wax, called Lah-cha, is inferior. In the autumn, the dark chestnut-coloured insect begins to make a nidus, something like that of the mantis. It is at first no larger than a grain of millet, the whole covering the tree something like fruit. As the spring comes on, these reddish round receptacles become as large as a fowl's head. Each one of these insects lays several hundred eggs. At the beginning of May these collections of eggs are gathered, and wrapped in the leaves of a reed called yoh, the same as the rice dumplings of the dragon-boat festival are wrapped in. They are put upon the proper trees, and by the early or middle part of June they are hatched, and have emerged from the leaves to enter upon their wax-making on the young branches of the trees. The insects have their enemies in the shape of the ants, who climb up the trees and eat their fat friends, unless lime be sprinkled frequently over the trunks of all the

wax trees. These trees are planted upon the banks between fields, or in clumps. Lu-chau-fu in Ngan-hoei, Kia-hing-fu in Che-kiang, Hing-hwa-fu in Foh-kien, Lip'ing-fu and Hing-i-fu in Kwei-chau, Chang-teh-fu, Kwang-chau-ting, Tsing-chau, Yung-shun-fu, Hang-chau-fu, Kwei-yang-chau, and other places in Ho-nan, with several districts in Yunnan and Sze-chuen, are known to supply this wax in large quantities. It is sold in large, flat, round cakes, sometimes carried without any packing; the trade is very extensive in Hankow. The insects and the trees are said to have been originally inhabitants of different parts of the country, until attention was directed to the culture of this wax. It is used in making candles, when mixed with vegetable tallow, also in very small quantities to harden the outer coat of Chinese candles, and is the basis of the black composition used in rubbing off visiting cards, or other simple impressions from small blocks. It is likewise used in making ointments for sores, cuts, and porrigo; a kind of bolus is brought from Canton, called Peh-lah-hwan, and is much prized as a vulnerary and pectoral dose. White wax is used in internal injuries, after accidents, in much the same way as spermaceti was in European pharmacy up to the beginning of the present century.

The insect is raised in Sze-chuen on the Nu-ching trees, L. Japonicum and L. obtusifolium, and also on the Shwai-lah-shu or L. ibota, or species of ulmus. Another tree on which the insect harbours is the Shwui-tung-ts'ing, supposed to be a species of Hibiscus; and a tree called Tien-chu, also called Cau-lih and Pent-sau, a native of Kiang-nang, supposed to be a species of Ornus or Fraxinus. The holly tree, Shwui-kiuh-shu, and the Yuen-chi-hwa tree, are also named as affording shelter to the wax insect.—*Fortune, Residence*, p. 140; *Smith, Mat. Med.; Hanbury.*

WAX TREES. Species of Myrica yield myrtle wax, especially M. cerifera of Louisiana, the berries of which are encrusted with wax. By boiling these in water, a quantity of hard, brittle wax of a pale-green colour is obtained, of the specific gravity of 1·015, the fusing point being 110°. A somewhat similar wax is obtained from M. cordifolia, a shrub of the Cape of Good Hope. The stems and leaves of palm trees also secrete palm wax, which is the hard, brittle, greenish-yellow wax obtained from Rio de Janeiro. It is soluble in boiling alcohol and ether; it fuses at about 163°.

In N. America, M. Pennsylvanica also furnishes a vegetable wax. A vegetable wax is obtained by scraping the trunk of the wax palm of the Andes (Ceroxylon Andicola, *H. B.*). One tree is said to afford about 25 lbs. It is used with tallow in making candles.

A wax is found upon a hard and ligneous variety of the sugar-cane, and is known as sugar-cane wax and cerosine. This is soluble in boiling alcohol, but sparingly so in boiling ether. By boiling the bark of the cork tree, Quercus suber, in alcohol, and distilling off the alcohol, a quantity of yellow crystals are obtained, which form cork-tree wax, which may be purified by repeated solution and crystallization. Nitric acid converts this substance into a peculiar acid, called cerinic acid.

The vegetable white wax of China, called Peh-lah, resembles spermaceti. About £400,000 worth is gathered annually. Baron Richthofen estimates the value of the annual crop, on the average, at about £650,000. In 1879, upwards of £81,000 worth was exported from the one port of Hankow alone. Towards the beginning of winter, small tumours appear on the Ligustrum lucidum trees, which it inhabits, and these increase to the size of a walnut. They are supposed to be the nests of the female insect; they are filled with eggs, which hatch in the spring, and the young insects disperse themselves on the leaves and pierce the bark. The wax they produce begins to appear about June, and is gathered at the beginning of September. It is found from the frontiers of Tibet to the Pacific Ocean, and reared with more or less success, but is chiefly cultivated in Shan-tung province.

In the Kin-chang district, the Ligustrum lucidum thrives in abundance. It was accidentally discovered that, by transporting the insects from their native districts to Keating-fu, in the north of the province, their capability of discharging wax was largely augmented, which was availed of by the Sze-chuen traders. The period between morning and evening is chosen for conveyance, because many hours of sunlight would precipitate the hatching. This should take place only after the females have been attached to the trees. Arrived at their destination, six or more of the mothers are tied, wrapped in a palm leaf, to a ligustrum. A few days later the young flies are swarming on the twigs, where they fulfil their mission by the month of August. Then they perish in the caldrons, where the results of their brief existence are collected. It is said that this peculiar industry requires the exercise of great care, forethought, and experience.

In China, a vegetable wax is obtained from the Stillingia sebifera. Dr. Rawes says the seeds are picked at the commencement of the cold weather, in November and December, when all the leaves have fallen from the trees. The seeds are put into a wooden cylinder, open at the top, but with a perforated bottom. This is placed over an iron vessel containing hot water, and when the seeds have steamed 10 or 15 minutes, they are thrown into a large stone mortar, and are gently beaten by two men with stone mallets, for the purpose of detaching the tallow from the other parts of the seed. They are then thrown upon a sieve, heated over the fire, and sifted; by which process the tallow is separated, or nearly so, although they generally undergo the process of steaming, etc., a second time, that nothing may be lost. The other part of the seed is ground and pressed for oil. The tallow now resembles coarse linseed meal, and derives its brown colour from the thin covering over the seed (between it and the tallow), which is separated by the pounding and sifting. In this state it is put between circles of twisted straw, five or six of which are laid upon each other, and thus forming a hollow cylinder for its reception. When this straw cylinder has been filled, it is placed in a press of longitudinal beams of considerable thickness, placed about 1½ or 2 feet asunder, with a thick plank at the bottom, forming a kind of trough, and the whole is bound together with iron. The tallow is pressed out by means of wedges driven in very lightly with stone mallets, and passes through a hole in the bottom

of the press into a tub, which is sunk there to receive it. It is now freed from all impurities, and is a semi-fluid of a beautiful white colour, but soon gets solid, and in cold weather is very brittle. The inside of the tubs which collect the tallow are sprinkled or dusted over with a fine red earth, well dried, which prevents the tallow from adhering to their sides. It is thus easily removed in a solid state from the tubs, and in this condition the cakes are exposed for sale in the market. As the candles made from this vegetable tallow have a tendency to get soft and to melt in hot weather, they are commonly dipped in wax of various colours, as red, green, and yellow. Those which are intended for religious purposes are generally very large, and finely ornamented with golden characters. The cake or refuse which remains after the tallow has been pressed out of it, is used for fuel or to manure the land, and so is the refuse from the other part of the seeds from which oil is extracted. Stillingia sebifera grows luxuriantly in the Dehra Doon and Lower Himalaya, and in the Kohistan of the Pânjab. There is an interesting paper on it by Dr. Macgowan in vol. vii. p. 164 of the Journal of Horticultural Society of India. It flowers in June and during the rains. In addition to the tallow obtained from its seeds and used in making candles, a black dye is obtained from its leaves.

Dr. James Anderson, who lived early in the 19th century, is said to have written about a white wax occurring near Madras, but nothing of the kind is now known.

In Sumatra, a winged ant is said to produce a grey wax, which was exhibited at the French Exposition of 1855.—*Dr. J. L. Phipson; Voigt; Roxb. Ind.* iii. p. 693; *Dr. Rawes; Eng. Cyc.; Williams' Middle Kingd.* pp. 107–282; *Fortune's Wanderings*, p. 67; *Smith; Hanbury*, p. 64. See Dryandra cordifolia; Oils.

WAX, VEGETABLE. This term has recently been applied to solidified oils. Mr. Edward Loarer discovered a mode of fabricating a substance which he named vegetable wax, from its resemblance to that animal product, and he obtained a patent for it under Act vi. of 1856 of the Government of India. He manufactured about 200 tons, which brought various prices, but the latest selling price at Havre was about £43 per ton of 1000 kilogrammes, or 2200 English lbs.

Candles can be prepared of this material; and the power of bleaching it is possessed in Europe. The vegetable wax is made from the common lamp oil (castor-oil) of the country, the plant producing which is grown throughout the length and breadth of the Indian empire, springing luxuriantly even on bare, rocky soils; affording, therefore, exhaustless supplies of the raw material for the wax.

By one of Mr. Loarer's processes about 100 lbs. of oil were congealed in 8 hours; only one ingredient (sulphuric acid) was used, and that only in very small quantity, 16 ounces sufficing for obtaining 100 lbs. of vegetable wax. This process is admirably adapted to the country, and may be adopted by the ryots without any difficulty.

Another process, in which both nitric and sulphuric acids are used, is the best adapted for manufacture on a large scale; by this process, 400 lbs. of oil were congealed in a wooden trough in four days; and Mr. Loarer suggested an arrangement and described an apparatus which would make this process of preparing vegetable wax on any scale very simple. The manufacture of vegetable wax can be generally introduced into India, thus enabling the grower of castor and other similar oil-seeds to carry oil to market in a solid and consequently more portable state. At present the carriage of fluid oils is not only difficult but costly.

This vegetable wax has the advantage of being easily stored, and transported from the interior on the rudest conveyance and in the simplest and cheapest form; it can be loaded upon carts, on bullocks, or in any way best adapted to the habits of the people, and sufficiently protected from injury and from weather by the ordinary leaves and mats of the country, requiring neither casks, dubbers, nor boxes to convey it. It can further be solidified into any portions or shapes; and on board ship can be stowed in any convenient corner, requiring no protection against leakage or bilge water, and by its nature it can be packed so close that no danger from shifting of cargo or injury to the article from rubbing need be apprehended.

Illipoo oil produces with great facility a perfectly white substance of the consistency of good tallow. Illipoo oil is with great advantage mixed with castor oil for the manufacture of vegetable wax, and as illipoo oil has always fetched a very low price in the Madras Presidency, the discovery of this property renders it very valuable.

Margosa oil, the oil of species of Azadirachta and Melia, produces a vegetable wax as hard as any made from the best lamp oil, and of a light saffron colour. Margosa oil has always been sold in the Madras Presidency at a very low price, but its supply has never reached what it could attain should this oil become saleable. Margosa as well as illipoo oil, mixed with an equal quantity of cold-drawn castor oil, produces a hard vegetable wax of an agreeable roseate colour.

WAY-THAN-DARA, a Burmese story of one of the former existences of Gautama, in which he exemplified the great virtue of almsgiving. It is one of the most affecting and beautifully written compositions in Burmese. The prince Way-thandara gives away all his possessions, and at length even his children.

WAZEEFA. Arab. A stipend; land allotted for the support of Muhammadan shrines.

WAZIRI, a brave, active, warlike, but aggressive and predatory race in the mountains on each side of Bannu and Dour. They occupy all the hill tract from Kuram and the Miranzai to the Gomal and Goleri pass, south of Tank. They hold both sides of this pass, which is the great route by which the trade of Afghanistan and Central Asia passes into India. Between the Miranzai and Bannu valleys, the hills of the Waziri project into British territory and approach the Bahadur Khel salt mines, from which they are separated by the Latammar pass. Its numerous tribes are estimated to muster 20,000 to 30,000 men. They had made repeated inroads on the Bannu valley, and in the cold weather of 1859–60 an expedition scoured their valleys to coerce them into submission. They are still, however, more or less independent. The Waziri are divided into three great divisions, or Usman Khel, Ahmadzai, and

Mahsud. Their country extends from the south of the Kohat district down to Tank, opposite Dehra Ismail Khan; towards the north they are bounded by the Afridi country, and towards the south by the tribe of Badranian; Bannu frontier is the habitat of the Ahmadzai. These are divided into six sections, which again are subdivided into numerous smaller clans. One of these sections is called Sperkye; it has two divisions, the smaller of which goes by the name of Muhammad Khel, and numbers about 250 fighting men; they live in the hills on both sides of the river Kuram, and since A.D. 1850 a number of them settled in British territory. They till their lands in the cold season, and during the summer months the greater portion of them retire to the hills, leaving a few to look after their fields. The other sections of the Ahmadzai are located in British territory on the t'hul between Bannu and Latammar; they generally go by the name of T'hul Waziri. The Waziri country, in its southern part, has the lofty mountain Kussai Ghar, of which the Takht-i-Sulaiman is the highest peak. The Waziri, although notorious robbers, in common with other lawless tribes, regard the descendants of Mahomed with awe and a feeling of respectful reverence, and esteem themselves fortunate to receive their benediction, and other little aids their superstitions teach them to think essential. They are haughty and bloodthirsty towards strangers, prone to plunder, and careless about blood-shedding; are plain spoken; and though inclined to be boastful and rough in council, are true to their friends. They have never owned any allegiance to Kabul.—*Masson's Journey*, i. p. 101; *Vigne, A Personal Narrative*, p. 83; *Our Panjab Frontier; MacGregor.*

WAZU. ARAB., HIND., PERS. The Muhammadan legal washings of the face, hands, and feet. The Muhammadan purification before prayers.

WEASELS are arranged by naturalists under the genus Mustela, of the family Mustelidæ, and there are known in India M. kathiah, *Hodg.*, the yellow-bellied weasel of the Himalaya and Nepal; M. strigidorsa, *Hodg.*, the striped weasel of Sikkim; M. Horsfieldii, *Gray*, of Bhutan; M. temon, *Hodg.*, of Tibet; M. canigula, M. nudipes, *F. Cuv.*, of the Malay Peninsula and Java; M. sarmatica, *Pallas*, of N. and Central Asia and Afghanistan. Mustela subhemachalana, *Hodg.*, the Himalayan weasel, occurs throughout the Himalaya from Kashmir to Darjeeling. Its total length, including tail, is 19 inches; colour, a uniform light-brown, darker on the back; nose, mouth, and throat white; tail lax and tapering. This handsome little creature is not uncommon in the valley of Kashmir. M. erminra, the stoat or ermine, is stated to occur in Nepal and in the lower and middle regions of the W. Himalaya. M. Sibirica, *Pallas*, occurs in China.—*Adams; Jerdon.*

WEAVER BIRDS of India are of the genus Ploceus. P. baza hangs its pendulous dwelling from a projecting bough, twisting it with grass, often lemon grass, into a form somewhat resembling a bottle with a prolonged neck, the entrance being so situated as to baffle the approaches of its enemies, the tree snakes and other reptiles. Its large purse-shaped nest would fall an easy prey to its enemies, did not the little architect, with surprising intelligence, place it in situations not easily accessible; hence several may be seen suspended from the tips of branches overhanging deep wells, or on the topmost boughs of acacia and thorny trees. The weaver bird builds in societies, and is docile and familiar in its habits. The nests are used for stuffing elephants' pads.

WEAVING is an art that has existed in India in all its perfection from the earliest period of which there is any record. In the Institutes of Menu, compiled perhaps 1400 years before the Christian era, weaving is spoken of as a familiar handicraft. That the product was woven cloth of cotton or silk or wool, is shown by Menu (Institutes, ch. viii. ver. 30), who says: 'Let a weaver who has received ten palas of cotton thread, give them back increased to eleven by the rice water and the like used in weaving. He who does otherwise shall pay a fine of twelve panas.' It appears, therefore, that 'size' was used in the process as it is at present. And in ch. v. it is further directed that 'silk and woollen stuffs are to be washed or purified with saline earths, and cloths by washing or sprinkling.' We have thus evidence of the existence of silk, woollen, and cotton cloths; and in ch. x., among articles which Brahmans are prohibited to sell, 'all woven cloth dyed red, cloth made of Sana or Kshuma bark (whatever that may have been), and of wool, even not red,' are enumerated. No trace of linen cloth made from flax is to be found in Menu or any of the earlier works of the Hindus; and it is probable that flax had never been made from the linseed plant for the manufacture of yarn for weaving.

The great epic poem the Ramayana, possibly as old as 1200 to 1400 years B.C., affords very distinct evidence of the existence of silk cloths. It is mentioned that when the brides of Rama and his brothers returned home, their mothers-in-law, 'sumptuously clad in silk, hastened to the temples of the gods to offer incense,' etc.

Actual knowledge of the fabrics produced by the most ancient looms is gained from the specimens yielded by the mummy pits of Egypt. For burial purposes linen alone was there employed, on account both of its cleanliness and its lasting qualities. Linen formed the special dress of the priests, it being the symbol of purity, and not liable, like woollen garments, to be infested with insects or parasites. There are samples in the British Museum very fine in texture, the finest being found woven with threads of about 100 hanks to the pound, with 140 threads to the inch in the warp, and 64 in the woof. The Egyptian priests were also partial to cotton dresses, which were supplied to them by the Government, as the Rosetta stone distinctly mentions. Cotton and wool were worn by the upper classes of society; wool alone by the poorest. The garments of the priests and higher ranks among the Hebrews were of fine linen; the references to silk in the English version of the Bible being an undoubted mistranslation. There is no evidence of silk having been known to the Hebrews or Assyrians.

In the representations of the Egyptian loom at Thebes and elsewhere, the loom is vertical, and the weaver is seen throwing the weft through the warp by means of a rod, at the end of which there is a hook, probably for drawing back the shuttle with the weft. The Indian loom is very like this in principle, only horizontal; doubtless the same which has been in use from time immemorial, and

which probably passed through Persia or some other channel at an early period into Europe. Mediæval drawings, such as that copied by Montfaucon from the MS. Virgil of the Vatican, commonly assigned to the 4th century, show a modification of this pristine model. The Chinese silk loom, however, presents a striking contrast to these simple machines in point of inventiveness and complexity, coming near the best specimens of the modern hand-loom. Aristotle gives the earliest historical notice of silk, which in all probability spread from China westwards, and came into extensive use concurrently with the growth of wealth and luxury in Greece and Rome.

The fabrics woven in India now are probably not much altered in character from what they were in the time of Menu; and the looms, simple and apparently rude in construction, are, under their wonderful power of manipulation and unwearying patience, capable of producing some of the finest, most elegant, and most costly fabrics in the world. The frame of the loom in Bengal is almost on the ground, and the weavers, sitting with their feet hanging down in a hole cut in the earth, carry on their work. A loom usually forms part of a Burman's household furniture, and it is worked by the women. The cloths are rough but strong, and some of the silk goods are of considerable value. Waistcoats for men, petticoats for women, and coverlets are usually woven.

The weavers of India are alike of the Hindu and Muhammadan religions, and in the rural parts of the country nearly all the aboriginal races and many of the Sudra Hindus occupy the slack season of their field work in weaving coarse cottons and woollen fabrics. An investigation by the Madras Board of Revenue in 1870 showed an increasing extent of weaving; and in the year 1881, workers in cotton, flax, silk, and wool, in India numbered 3,114,082 souls. The people of moderate means are now largely using the piece-goods of Europe and America, but the finest and coarsest products are still produced from the Indian looms. Yarns and twists are largely imported, and employed in the manufacture of the textile fabrics which meet the particular wants of the natives.

Divisions of the weaver caste in Telingana are Pursala wanloo, Sumsala wanloo, Puttanasala wanloo, and Sala wanloo.

Zunlozi, weavers of the wonderfully beautiful patterns of gold and silver tissues, plain and figured, with and without admixture of silk or cotton, in flowers and patterns; gold and silver tissue lace of all breadths and patterns, used for trimming scarfs and for bridal dresses; larger scarfs of muslin and tissue combined, as those of Benares; and that wonderful cloth of gold called kimkhab, which is without parallel in the ornamental manufactures of the world. People of all ranks indulge in raiment gorgeous according to their means. The poorest marriage trousseau has some tissue or trimming, and the wealthier people make great use of brocade and tissue scarfs, shawls, and turbands. The chief localities of manufacture are Benares, Burhanpur, Aurangabad, Murshidabad, Dehli, Arcot, and Mysore. The workmen are usually Muhammadans.

At Bangalore, the descendants of the old court weavers still manufacture a peculiar kind of cloth, printed in red and black with mythological designs. In the Bombay Presidency, Ahmadabad, Surat, and Baroach are the chief centres of the manufacture of printed sarees, for which Gujerat is celebrated; while Poona, Yeola, Nasik, and Dharwar produce the fabrics dyed in the thread, which are much worn by the Mahratta races.

Spinning of yarn for weaving is practised by all classes of women in India; even the highest at one time used to amuse themselves with the spinning-wheel. Among the agricultural classes the occupation is constant, or fills up time not required for other household occupations. At the latter part of the 19th century, the imports of yarn into British India had increased enormously, and the weavers had also largely increased. The spindle in use is not much thicker than a stout needle. It is from 10 to 14 inches in length, and attached to it, near its lower point, is a ball of unbaked clay to give it weight in turning. The spinner holds it in an inclined position, with its points resting on a piece of shell, and turns it between the thumb and forefinger of one hand, while she at the same time draws out the single filaments of cotton from the roll of cotton in the other hand, and twists them into yarn upon the spindle. Dryness of the air prevents the filaments of cotton from being sufficiently attenuated or elongated, and is therefore unfavourable to the spinning of fine yarn. A certain degree of moisture, combined with a temperature of 82°, is the condition of the atmosphere best suited to the carrying on of this operation. The Dacca spinners usually work from soon after dawn to 9 or 10 o'clock, and from 3 or 4 o'clock in the afternoon till half an hour before sunset. The finest yarn is spun early in the morning, before the rising sun dissipates the dew on the grass; or, when this is wanting and the air is unusually dry, it is not unfrequently made over a shallow vessel of water, the evaporation from which imparts the necessary degree of moisture to the filaments of cotton, and enables the spinner to form them into thread. As a proof of the fineness of the yarn thus delicately spun, Mr. Tayler mentioned that one skein which was carefully weighed, proved to be at the rate of 250 miles in length to the pound of cotton.

Dr. Watson has given the result of microscopic examinations of French, English, and Dacca muslins in an elaborate table; and he reports that the diameter of the Dacca yarn is less than that of the finest European; that the number of filaments in each thread is considerably smaller in the Dacca than in the European yarns; that the diameter of the ultimate filaments or fibres of which the Dacca yarn consists is larger than the European; and that the superior fineness of the Dacca yarn depends solely on the fact that it contains a smaller number of filaments. These causes—combined with the ascertained result that the number of twists in each inch of length in the Dacca yarn amounts to 110·1 and 80·7, while in the British it was only 68·8 and 56·6—not only account for the superior fineness, but also for the durability of the Dacca over the European fabric. At Nandair on the Godavery, at Muktul, Dhanwarum, and Amarchinta in the Nizam's dominions, and at Arnee near Madras, muslin which rivals that of Dacca is made in considerable quantities. In these localities the process of spinning by the spindle is the same as that of Dacca; but as the climate is drier, the spinners, who are both men and women, work in partially

darkened rooms, the floors of which are watered to produce the necessary amount of moisture. The hand-spinning of fine thread used for Brussels lace, according to Mr. Palliser's account of it, is spun by women in darkened rooms.

The manufacture of muslins of such qualities as are produced at Dacca, and indeed in Europe, must necessarily be always of a very limited character, and their use confined to very rich purchasers. For the masses of the people, the British manufacturer sends to India the plain and striped duria, mulmul, aghabani, and other figured fabrics, which have established themselves there, and which, both from their good quality and moderate prices, are acceptable to the numerous classes who make use of them. Some of the chintzes of Masulipatam and of the south of India are as beautiful in design as they are chaste and elegant in colour. Printed cloths are worn occasionally, as in Berar and Bundelkhand, for sarees; and the ends and borders have peculiar local patterns. There is also a class of prints on coarse cloth, used for the skirts or petticoats of women of some of the lower classes in Upper India; but the greatest need of printed cloths is for the kind of bedcover called palampore, or single quilts.

In the costlier garments woven in India, the borders and ends are entirely of gold thread and silk, the former predominating. Many of the sarees, or women's cloths, made at Benares, Pytun, and Burhanpur in Gujerat, at Narrainpet and Dhanwarum in the Hyderabad territory, at Yeokla in Kandesh, and in other localities, have gold thread in broad and narrow stripes alternating with silk or muslin. Gold flowers, checks, or zigzag patterns are used, the colours of the grounds being green, black, violet, crimson, purple, and grey; and in silk, black shot with crimson and yellow, crimson with green, blue, or white, yellow with deep crimson and blue, all producing rich, harmonious, and even gorgeous effects, but without the least appearance of or approach to glaring colour or offence to the most critical taste. They are colours and effects which suit the dark or fair complexions of the people of the country; for an Indian lady who can afford to be choice in the selection of her wardrobe, is as particular as to what will suit her especial colour—dark or comparatively fair—as a lady of England or France.

Another exquisitely beautiful article of Indian costume for men and women is the do-patta or scarf, worn more frequently by Muhammadan women than Hindu, and by the latter only when they have adopted the Muhammadan loongee or petticoat, but invariably by men in dress costume. By women, this is generally passed once round the waist over the petticoat or trousers, thence across the bosom and over the left shoulder and head; by men, across the chest only. Do-pattas, especially those of Benares, are perhaps the most exquisitely beautiful of all the ornamental fabrics of India; and it is quite impossible to describe the effects of gold and silver thread, of the most delicate and ductile description imaginable, woven in broad rich borders, and profusion of gold and silver flowers, or the elegance and intricacy of most of the arabesque patterns of the ribbon borders or broad stripes. How such articles are woven at all, and how they are woven with their exquisite finish and strength, fine as their quality is, in the rude hand-looms of the country, it is hard to understand. All these fabrics are of the most delicate and delightful colour: the creamy white, and shades of pink, yellow, green, mauve, violet, and blue are clear yet subdued, and always accord with the thread used and the style of ornamentation, whether in gold or silver, or both combined. Many are of more decided colours,—black, scarlet and crimson, chocolate, dark green, and madder; but whatever the colour may be, the ornamentation is chaste and suitable. For the most part, the fabrics of Benares are not intended for ordinary washing; but the dyers and scourers of India have a process by which the former colour can be discharged from the fabric, and it can then be re-dyed. The gold or silver work is also carefully pressed and ironed, and the piece is restored, if not to its original beauty, at least to a very wearable condition. The do-pattas of Pytun, and indeed most others except Benares, are of a stronger fabric. Many of them are woven in fast colours, and the gold thread—silver is rarely used in them—is more substantial than that of Benares. On this account they are preferred in Central India and the Dekhan, not only because they are ordinarily more durable, but because they bear washing or cleaning better. In point of delicate beauty, however, if not of richness, they are not comparable with the fabrics of Benares. Scarfs are in use by every one,—plain muslins, or muslins with figured fields and borders without colour; plain fields of muslin with narrow edging of coloured silk or cotton (avoiding gold thread), and narrow ends. Such articles, called 'sela' in India, are in everyday use among millions of Hindus and Muhammadans, men and women. They are always open-textured muslins; and the quality ranges from very ordinary yarn to that of the finest Dacca fibres.

The textures of the dhoti, saree, loongee, manufactured in Britain and sent to India, are in general too close, too much like calico in fact, which makes the garment hot, heavy in wear, and difficult to wash. The surface becomes rough and 'fuzzy' in use, from which the native fabric remains free. Comparatively few native women of any class or degree wear white; if they do wear it, the dress has broad borders and ends. But what all classes wear are coloured cloths,—black, red, blue, occasionally orange and green, violet, and grey. All through Western, Central, and Southern India sarees are striped and checked in an infinite variety of patterns. Narrainpet, Dhanwarum, and Muktul in the Nizam's territories; Gudduk and Bettigherry in Dharwar; Kolhapur, Nasik, Yeokla, and many other manufacturing towns in the Dekhan; Arnee, in the south, and elsewhere, send out articles of excellent texture, with beautifully-arranged colours and patterns, both in stripes and checks. For the costly and superb fabrics of cloths of gold and silver (kimkhab), and the classes of washing satins (mushroo and hemroo), the gold and silver thread is simply the result of skilful and delicate manipulation. The gold and silver cloths (kimkhabs) are used for state dresses and trousers, the latter by men and women; and ladies of rank usually possess petticoats or skirts of these gorgeous fabrics. Mushroo

and hemroo are not used for tunics, but for men's and women's trousers and women's skirts, as also for covering bedding and pillows; they are very strong and durable fabrics, wash well, and preserve their colour, however long worn or roughly used. They can hardly be compared with British satins, which, however, if more delicate in colour and texture, are unfitted for the purposes to which the Indian fabrics are applied. Many of the borders of loongees, dhotis, and sarees are like plain silk ribbons, in some instances corded or ribbed, in others flat.

The manufacture of Kashmir shawls is not peculiar to that province. Those formerly issued from that province were exquisitely woven, with unrivalled elegance and chasteness of design, softness and finish, in quality, arrangement of colours, and use of dyes which the finest Paisley and French shawls do not approach. The exquisite shawls of Kashmir grow rarer and rarer every year, and their place has been usurped by hand-embroidered fabrics of lower value, with more showy and more vulgar patterns. In the Panjab and Dehli, of late years, workmen have commenced to embroider Kashmir cloth and net with floss silk and braid, but solely for sale to Europeans, who wear them as tunics, jackets, scarfs, and the like. In the hand-worked Kashmir shawls, as also in the Dehli work, wooden needles of hard wood are used, slightly charred, with a hole in the centre of the needle to receive the yarn.

The Muhammadan weavers of India produce plain muslins, such as turbands, scarfs, the loongees or waist-cloths worn only by Muhammadans, and coarse cloths, called jote and khadi. They seldom weave coloured yarn, except for loongees, and pieces of soussi, a fabric somewhat coarse but very durable, used by women for petticoats and trousers. They are strict in their religious observances. They marry among their own body. Hindu weavers are of different degrees of caste; those of Northern India are termed Kori or Koreya, and have several divisions who eat meat and drink spirits. The non-Aryan Koli also weaves a coarse cloth; as also the Julai, a Sudra race found all over India. They weave plain as well as coloured fabrics, fine goods, turbands, scarfs, bodices, or silk or cotton or mixed sarees, or women's cloths, and dhotis or men's cloths. The manner in which they arrange their colours and weave stripes and checks, with broad borders of figured silks, evince great practical knowledge of and perfection in their art.

The rumal, used as a cloth for the head, is of cotton or of silk.

The saree of women is of silk, or of plain white, striped, and flowered muslins, with silk borders and ends, plain, or with gold thread. They are of comparatively loose, open texture, soft and pliable, and when worn as an entire garment, they fall gracefully to the shape, and are readily adjusted.

Ordinary cloths woven in India are the dhoti, do-patta, and loongee waist-cloths of cotton worn by Hindu men.

Soussi is a somewhat coarse cotton fabric, used by Muhammadan women for petticoats and trousers, also for covering cotton mattresses and other like purposes.

The thread or yarn from which the manufactures of Narrainpet, Dharwar, Muktul, Amarchinta, and Gudwal are woven, is spun in the adjoining districts. The spinners are Dhers, who are unrivalled in this branch of industry. They purchase the cotton in the seed, which is the produce of Shorapur and the country around, and it is cleaned entirely by the hand, as the use of a churka or other cleaning implement they allege breaks or injures the fibre. The spinning-wheel has a large circumference, and is in some instances worked by a treadle, and the spinning is carried on in a close room, from which wind is carefully excluded. The perfection of the cotton manufactures of Narrainpet, Dharwar, and Muktul, as well in regard to colour as texture, is attributed by the native weavers to the quality of the water, in regard to which they are most particular, and to the clays and earths obtainable near those places in which the thread is washed after its long oil process. The water is represented as hard and unfit for culinary purposes or washing, yet without salt, and which, in washing the thread, and brushing it as stretched on the loom, contracts the fibre and renders it clean and smooth in working. There can be no doubt of the permanency of the colours, and that all the madder reds and browns improve with washing. It is of essential importance to use none but permanent colours, as any others subjected to the rough treatment of Indian washermen would speedily fade or change. The silk dyes are perhaps less permanent than the cotton, but still they last many years, and bear frequent washing.

The Kori or Koreya are Hindu weavers of Northern India. The Tânti weavers are also Hindus. In the Chutia Nagpur province of Bengal there are about 50,000 of helot weaver races, besides whom are thousands of weavers in the Pan or Panwa, Ganda, and Chik of the southern Tributary Estates, and the Pab and Panika of the western districts have features rather of Hindu form than Kolarian or Dravidian.

Thoughout British India Hindu weavers are considered a low caste, and to escape from this position many of them have embraced Muhammadanism, and are called Julai or Julaha. Momin, in Arabic a true believer, is a name often applied to Indian Muhammadan weavers.—*Ed. Rev.*, July 1867; *Ward*, iii. p. 126; *Dr. Watson.* See Arts and Manufactures.

WEBERA CORYMBOSA. *Willd.*

Stylocoryne Webera, *Sch.* | Rondeletia Asiatica, *Linn.*
Kunkra, . . . BENG. | Terana pullum, . . TAM.

The fruit of this plant, a small black berry, is eaten by poor people. It is a beautiful shrub, which is rarely seen in low lands or in cultivated districts. Dr. Roxburgh, i. p. 696, described W. corymbosa, macrophylla, odorata, oppositifolia, and scandens.—*Ainslie; Roxb.*

WEBERA TETRANDRA. *Willd.*

Canthium parviflorum, *Lam.*

Kandan karra, MALEAL. | Sengarary, . . . TAM.
Naga valli, . . SANSK. | Balusu kura, . . . TEL.
Karai, ... TAM.

Found as a small shrub on many of the barren wastes of the Dekhan, and on hill ridges, with a dark-coloured, hard, and pretty wood, good for turning small objects. In a verse of the Bharata, where Krishna, having been fed by a hunter or savage, his attendant asks, 'Is the Balusu kura

which you received from Panchalikudu equal to salyodanam (fine rice) apupa (cakes), saka (vegetables), supam (pulse)?' It is a common proverb also, 'Whilst life remains, I can subsist on the leaves (kura) of the Balusu;' implying submission to any necessity however grievous. A decoction of the leaves and bark is prescribed in certain stages of flux cases, and the root is supposed to have anthelmintic qualities. The leaves and fruit are eaten as greens.—*Wight; Gibson; Beddome, Fl. And.*

WEDELIA CALENDULACEA. *Nees.*

Verbesina calendulacea, *L.*	Jageria calendulacea, *Spreng.*
V. Bengalensis, *Pers.*	
Kesho-rej, . . BENG.	Pastale kaiantagerei, TAM.
Pilabhungra, . DUKH.	Patsu pulagunta gali-
Keshuria, . . . ,,	jeru, ... TEL.
Pi kajoni, . . . MALEAL.	

This perennial plant grows in the south of India, has a slight turpentinous taste, and is used in medicine.—*Roxb.* iii. p. 440.

WEEK, this division of time is recognised by Jews and Christians and Muhammadans, their religions requiring them to set apart the Sabbath and the Sunday and Friday. The Arab and Persian Muhammadans reckon their days as first, second, etc., designating Friday as the Jama day of assembly, and Saturday as the Haftah or 'week.' The Urdu names are Aitiwar, Pir, Mangal, Charshambah, Jumarat, Juma, and Awal Haftah. Hindus, until comparatively recent times, reckoned their days by the increasing and the waning moon, but have copied the Christian (or Roman) mode, and translated the names into their respective tongues. Tamil speakers name the seven days of the week from the sun, the moon, and the five principal planets. They observe the order of the apparent distances of the planets from the earth:—

Saturn . . .	Sani	Saturday.
Jupiter . . .	Viyazam . .	Thursday.
Mars . . .	Sevval . . .	Tuesday.
Sol	Nyayarn . .	Sunday.
Venus . . .	Velli . . .	Friday.
Mercury . .	Budan . . .	Wednesday.
Moon . . .	Tingal . . .	Monday.

Each hour, according to Hindu notions, being ruled successively by a planet, by counting the 24 hours of a day by each planet belonging to it in the above order (which is that of their apparent distance from the earth), it will be found that each day is named by the planet which governs its first hour. The first 25th hour is the first hour of the first day of the week, Sunday (Nyayarn), and counting with the 25th as the first of the second series of 24 hours, the next 25th will give the moon for Monday (Tingal), and so on for the rest of the week.—*Indian Statesman.*

WEEPING WILLOW, Salix Babylonica, probably of West Asiatic origin, now everywhere in cultivation.

WEEVILS. The family of the weevils is one of the most extensive amongst the beetles, and in Europe many of its members do much injury to agricultural produce. Mr. Nietner had seen nearly the whole sweet potato (Batatas edulis) crop of the Negombo district of Ceylon destroyed by one of them, the Cylas sturcipennis. The common rice weevil, Sitophilus oryzæ, is another instance; and one of the cocoanut tree destroyers of the Ceylon low country, the Sphænophorus planipennis, belongs also to this family. The Arhines? destructor, a beautiful green weevil, Mr. Nietner had not found do any injury to coffee trees; but Mr. J. Rose of Matturatti, writing to him, says the mischief they do is plentiful, and if they were as plentiful as the bug they would be the planters' worst enemies. 'Five or six acres were completely covered with them, and they consumed almost every leaf. Year after year they appeared upon the same place. One year they appeared upon a neighbouring estate in great force, and overran at least 40 acres. The same thing occurred on three other estates.'

There are two corn weevils, of the order Coleoptera, family Curculionidæ, and genus Calandra, the Sitophilus of Schönherr. Calandra oryzæ, the rice weevil, infests also wheat. It has a pair of serviceable wings. C. granaria, *Linn.*, the granary weevil, injures stored corn; in Britain has no wings. They pair from April to August, the warmer it is the oftener they propagate. Heating the grain to 135° is said to destroy them. If unscoured wool be mixed with the grain, the insects are attracted into it and perish. Lime-washing the walls and frequent stirring are preventives.

The leaves of the Azadirachta Indica or nim prevent the weevil attacking grain. If a few leaves be put in the barn with each waggon load of corn, maize, or wheat, and some scattered between each tier of sacks of grain when loading a ship, the grain put up in it will be preserved for years. Half a bushel of black salt, mixed with a hundred bushels of wheat, rice, or other grain, prevents the black weevil.

WEI. CHIN. A term applied to several underground rhizomes. Wei-jui or Yuh-chuh, CHIN., is a drug used as an antiperiodic; it is the root of a leguminous plant.

WEIGHTS AND MEASURES.

Mikyal, Kayl, . . ARAB.	Aiyar, Kobin, . . PERS.
Waznat, Kal, . . ,,	Peiman, ... ,,
Taul, Map, . . . HIND.	

The ancient linear measures of the Egyptians and the Jews were taken from a unit representing the human foot or arm. The cubit was the forearm, *i.e.* from the elbow joint to the tip of the long finger. The cubit was subdivided into two spans, or six hand-breadths (palms), or 24 finger-breadths (digits). The Jewish rod was 6 cubits. Several values have been assigned to the Jewish cubit, varying from 20 to 21 English inches. The Greeks and Romans measured by the foot (pes), the hand (palma), the palm (παλαιστη), and the finger (digitus), which mode passed down to the Romano-Germanic races. The Romans also had the pace, a military measure, and they and the Greeks had the cubit (cubitus), from the point of the elbow to the point of the middle finger, and the ulna; and a fathom, tesa, toise, is the outstretched arms across the body. Similarly in the E. Indies, the finger, the hand, the forearm, and the outstretched arms, also the foot, the pace, and the distance to which human voice can be heard, have suggested the linear measures in use.

A variety of nominal measures, and of values given to the same measure, exist in different parts of India, and even in the same district. Even in a single village a certain nominal measure will have half a dozen different values, according to which of as many different articles on the floor

of the vendor in the bazar is about to be sold. It is a very general custom that there should be two series of weights employed in each shop, according to the transaction. When the shopkeeper sells, he uses a maund of 24 lbs., but when he buys, this weight makes way for another of the same name of 28 lbs. In Azimgarh, for example, cotton and spice are measured by the seer of 80 tolas, ghi and salt by the seer of 95 tolas, while 96 tolas forms the rate for corn, sugar, and tobacco; the merchants themselves employing for their own purchases seers of 105 and 108 tolas. In Malda the seer has no less than fifteen different values,—50, 58, 60, 72, 75, 70, 80, 80⅝, 91, 92, 94, 96, 100, 101, and 105 tolas. In Dacca the relative values are 60, 70, and 82 tolas. Bhagulpur boasts of six different seers of 64, 67, 80, 88, 101, and 104 tolas respectively. The merchants of Juanpur employ in their own dealings a seer of 112¾ tolas, but retail to the people in seers of 80 and 96 tolas.

Cotton is sold in Madras in candies of 500 lbs., but in many of the cotton districts the candy is but 480 lbs. to the ryot. In Mysore, the same name represents 560 lbs., while in Pondicherry it sinks to 517 lbs., omitting fractions, and rises in the purchases of the merchants to 562 lbs.; while, as if further to complicate this measure, brass, copper, and zinc are valued according to candies of 450 lbs. In Kandesh, sesamum seed is sold by the candy of 560 lbs., mustard seed in Gujerat is measured by the candy of 612 lbs., while 580 lbs. is the value for mustard seed in Sholapur; and the territory of Goa measures its kokum by the candy of 784 lbs. The coffee grown in Mysore is estimated in maunds of 28 lbs. If bought by a Madras merchant, it is priced in maunds of 25 lbs., and transmitted to him by railway in maunds of 82 lbs.; but if bought for export from Calicut, it must be in maunds of 30 lbs. each.

The ordinary Madras maund is 25 lbs.; in Bengal it is 82 lbs.; while in Bombay it is 28 lbs. In some parts of the western coast of the Madras Presidency 30 lbs. is the value of the same nominal standard, while the indigo and other factory agents of Bengal reckon by a maund of nearly 75 lbs. In Bombay the bazar maund may contain 40 or 42 seers, while the candy may contain either 20, 21, or 22 maunds, and varies in weight from 500 to 560, 588, or even 616 lbs. In Surat and its neighbourhood, the maund may contain either 40, 41, 42, 43¼, or 44 seers, according to the article sold, or whether the transaction be wholesale or retail; and further, these seers themselves differ so much in value, that while the maund of 40 seers weighs 31 lbs. avoirdupois, that of 41 seers weighs 38 lbs.; that of 42 seers only 39 lbs.; that of 43¼ seers weighs 44 lbs.; and that of 44 seers only 41 lbs.! In Travancore the maund is 32 lbs. In Cuttack salt is sold in maunds of 100 lbs.; the duty is paid in the Panjab on maunds of 80 lbs., and in Calcutta of 82 lbs.

The original unit of weight in Southern India seems to have been the gold coin called by the English a pagoda. It is now uncurrent, but was about 52½ grains weight. 80 pagodas weight is, according to the native tables, a seer (cutcha) of 24 rupees weight. This corresponded with the average weight of the old native rupee of 175 grains; but since the introduction of the Company's rupee of 180 grains, the pagoda weight is 54 grains generally. The same confusion formerly existed in Bengal between a Sicca weight of 179⅔ grains and a Sicca rupee of 192 grains. There are also seers both in Madras and Bombay of 84 rupees weight. A greater degree of confusion could not possibly exist, nor greater hindrances to internal trade and prosperity.

The question of the weights and measures has been before the several Governments of India ever since the early years of the 19th century. In a letter to the Madras Government from the Court of Directors of the E.I. Company, dated 6th July 1829, the Court forwarded standard weights and measures in accordance with Act v., George IV. cap. 74; and subsequently the Directors, in their despatch of 17th July 1833, expected the general adoption in India of the imperial measures. The Government of India, in Act vii. of 1833, furnished certain ponderary tables, but these did not make any allusion to measures of capacity, although by far the greater portion of the domestic transactions in India are in grain. The Calcutta Chamber of Commerce, on the 19th of May 1836, resolved to adopt the weights of the Government, but urged the introduction of the imperial gallon for liquids, and proposed that new measures of capacity for grain should be regulated by the weights; but they did not, however, show how this was to be done, and the Government declined to act on the recommendation of the Chamber.

The table of weights adopted by the Government of India for the use of their own offices, was in accordance with native usage in Bengal, and was approved of by the Chambers of Commerce in Calcutta and Bombay. It is as follows:—

1 tola	= 180 grains.	
5 tolas	= 1 chittak.	
16 chittaks	= 1 seer = 80 tolas = 2·075143 lbs. avoir.	
40 seers	= 1 mun (or maund) = 82⅔ lbs. exactly.	

By a proclamation of the Governor of Madras in Council, October 16, 1846, after the 1st of January 1847, the undermentioned weights, showing the equivalents in avoirdupois and troy weights, could be used in the revenue, commissariat, and other public departments throughout the Madras Presidency:—

Madras Weights.	Avoirdupois.			Troy.		
	lbs.	oz.	drs.	lbs.	oz.	dwts.
180 grains = 1 tola .	0	0	6·582⅔	0	0	7½
3 tolas = 1 pollam	0	1	3·748⅔	0	1	2½
40 pollams = 1 viss .	3	1	5·942⅔	3	9	0
8 viss = 1 maund	24	10	15·542⅔	30	0	0

Thus—

40 pollams = 1 viss = 120 tolas = 3·0857 lbs. avoir.
8 viss = maund = 960 tolas = 24·6857 ,, ,,

This table was sanctioned for Madras by the Government of India, but was entirely different, with the exception of the tola unit, from the weights adopted for Calcutta.

The Madras Government in this notification promulgated also a table of measures to be used in Government transactions as follows:—

1 ollock	=	12½ cubic inches.
8 ollocks	= 1 measure (puddee) = 100	,,
8 measures	= 1 marcal = 800	,,

But these measures were not adopted by the people; and even in the town of Madras the Government had to authorize the stamping with

the Government seal, the customary measure or puddee of 104¼ cubic inches, which had been the real standard since 1802.

The *linear measure* unit of India is generally the distance from the elbow to the tip of the middle finger of a tall man. This length is known as the Hat'h, HIND., Mulum, TAM., Mora, TEL., and averages 19½ inches. It is always translated cubit, though invariably exceeding the English cubit of 18 inches by 1½ or 2 inches. In the Southern Carnatic, the adi or length of a tall man's foot is in use, and averages 10¼ inches.

Guz.—Akbar, after very considerable inquiry, introduced as the only legal measure, what is called the Ilahi guz. The Ayin Akbari informs us that this was taken as the mean of three chief guz then existing, the smallest about 28 inches, and the Ilahi guz between 33 and 34 inches. Mr. Duncan, after prolonged inquiry, estimated it at 33·6 inches, while others have valued it from 33 to 34·25 inches; a mean of these is 33·75 inches. Jervis thinks it was exactly 33·5 inches. Jonathan Duncan employed, when engaged in 'settling' the N.W. Provinces, a guz of 33½ inches. In the coast districts of the west, the most common guz is that of about 28 inches. In other parts there is a group whose average is about 39 inches. Frequently two or more of these are present in one locality for different transactions. Merchants will buy by the guz of 34 inches, and sell by that of 30; or silk will be measured by one, cloth (cotton or woollen) by another, while carpenters and bricklayers will use each a distinct measure. For instance, cotton cloth in Surat is measured by the guz of 27·8 inches, silk and other valuable stuffs by the guz of 34·7 inches, while the carpenter employs a guz of 27·2 inches. At Juanpur, the carpenter values his guz at 30 inches, the tailor estimates his at 34 inches, while the cloth seller employs one of 40 inches. The muslin seller at Farrakhabad uses a guz of 33¾ inches, the cloth seller one of 34 inches, while the seller of silk for turbands and full-dress coats uses no other than 38½ inches. Similar cases might be adduced in infinite abundance. Wherever the cubit varies, the guz follows, usually in the proportion of 12 to 7, though this is by no means an invariable rule.

The guz in the Madras Presidency is from 26 to 39 inches. It is, however, very much superseded by the English yard measure. In the districts of Madura and Tinnevelly, the tutcha-kole or artificer's stick is 33 English inches.

In the south of India the guz is subdivided into 24 ungulum, each of which, taking the Tanjore guz of 33½ inches, is $1\frac{4}{10}$ of an English inch. The term ungulum in Tamil signifies the thumb, and in the above measure it is the distance from the thumb joint to the tip of the nail. This ungulum is considered equal to 2 virrul kuddei, or finger-tip breadths.

The term *ungulum* is, however, sometimes used to mean a thumb-breadth, and is then the same as the virrul kuddei or finger-breadth or digit, or the 24th part of a cubit (about ·82 inch), according to the following table:—

4 finger-breadths	= 1 palm.
12 finger-breadths	= 1 span.
24 finger-breadths	= 1 cubit.
4 cubits	= 1 fathom.

The *tutcha-mulum* or artificer's cubit (double) of Trichinopoly is 33 inches, or the same as the Tinnevelly tutcha-kole, and is subdivided into 24 ungulum.

The *bam*, translated *fathom*, in Salem and Coimbatore averages 6 feet 4½ inches, and in Guntur 6 feet $6\frac{8}{10}$ inches. It is generally, but not always, subdivided into 4 cubits. The bam or fathom is also used by native seamen on the lead line.

For distances of greater length, there is no defined measure in Southern India. A *nali-vulli* in Tamil is dervied from Vulli, a road or way, and Nali, a period of time, which is the 60th part of the 24 hours, or 24 English minutes, generally known as an 'Indian hour.' The distance that is usually walked in this time is called a nali-vulli, and is about 1½ English miles or somewhat less. Seven nali-vulli make a *kadum* of about 10 miles.

The *cos* is generally considered 2 English miles, but, according to Colebroke, as follows:—

4 cubits	= 1 danda or staff.
2000 danda	= 1 cos.

Taking the cubit at 19½ inches, the cos would be 2·46 miles.

Hat'h, in the linear systems of India, is the cubit or human forearm; and in oriental countries, as well as in the west, this unit is divided into two spans and 24 finger-breadths. Under the Hindu princes, the hat'h (in Sanskrit, hasta) was equal to two vitesti or spans, and to 24 angul (angula). The angul, finger, is divided into 8 jau (Sanskrit, yava) or barley-corns. 4 hat'h or cubits = 1 danda or staff; 2000 danda make 1 krosa or cos, which by this estimation should be 4000 yards English, or 2¼ miles. The Lilavati states that 10 hat'h make one bans or bamboo, and 20 bans in length and breadth = 1 niranga of arable land. Natives of India, in speaking of the hat'h or cubit, allude to the natural human measure of 18 inches, more or less, and it is practically used in measuring off cloths, ribbons, etc., and in taking the draught of water of a boat. In many places, also, in Bengal and in Southern India, the English cubit has been adopted as of the same value as the native measure.

In Burma, the people seemingly use a lineal measure of this name, consisting of the natural cubit plus a hand-breadth, which would be about 20 inches. The popular cubit in Birbhum is 15¾ inches in length; the Revenue Survey employed a cubit of 18⅘ inches. In the Hoogly district, the cubit varies from 18 to 19¾ inches; at Sarum, 24 inches; while in Broach, Kaira, and Vijydrug it is respectively 19·2, 19·4, and 19·58 inches.

Jureeb, PERS., is a measuring chain or rope. Before Akbar's time it was a rope, but he directed it should be made of bamboo with iron joints, as the rope was subject to the influence of the weather. European surveyors use a chain. A jureeb contains 60 guz or 20 gant'ha, and, in the standard measurement of the upper provinces of India, is equal to 5 chains of 11 yards, each chain being equal to 4 gant'ha. A square of one jureeb is a bigha. Till the new system of survey was established, it was usual to measure lands paying revenue to Government with only 18 knots of the jureeb, which was effected by bringing two knots over the shoulder of the measurer to his waist. Rent-free land was

measured with the entire jureeb of 20 knots. A jureeb in Hebrew and Arabic signified originally only a measure of capacity, equal to 4 qufeez, or 384 mud (Latin, modius), and in course of time came to signify the portion of land which required as much to sow it as a jureeb would contain. The pat'ha and nalee of Garhwal and Kamaon have a similar origin.

At the cession of the Carnatic, besides the Chittur pollams in N. Arcot, there were the two large zamindaries of Calastry and Cavetnaggur, the latter also known as Bom Rauze's country. Throughout the latter country (Bom Rauze's) the foot of the village god of Nanaveram was always taken as the unit of land,

Measurement of which 64 = 1 gant'ha.
100 gant'ha in Pungi } = 1 cawni.
12 or 15 in Nungi }

Bigha.—For square measures, the bigha is the most widely-spread standard. It is based upon the guz or cubit, and therefore differs in at least an equal proportion; the name being applied to any decently large area varying from an acre to 1500 square yards.

In Calcutta, the value is said to be 1600 square yards, while according to a very careful calculation made by Mr. Holwell, and quoted by Major Jervis, the real content should be 1778 square yards, more than ten per cent. greater than is commonly believed.

In Orissa, to the south of Calcutta, the bigha is 4840 square yards; while in Behar, to the west, it is only 3025 square yards. In Tirhut, it may contain amongst other values, any one of the following quantities,—3025, 3567, 3600, 4225, 4549, and 4900 square yards! Such a measure can only be of use to confuse. At Saharunpur, the bigha contains in one village 824½ square yards; in another, 2317·4 square yards; in a third, 2456·2 square yards; while in a fourth it contains 2756 square yards. In Nuddea, it may contain either 6400 or 3025 square cubits. The Bogra bigha is 1406¼ square yards, while that of Dehli is 3025, and that at Ghazipur contains 2755¼ square yards. At Shahjahanpur it may either be 2916 or 3600 square yards, while at Hoshangabad it is 4865$\frac{1}{16}$, and at Benares 3136 square yards. On the western side of India, the variations are equally numerous. At Broach, the bigha contains 2477; at Surat, 2844; in other parts of Gujerat, 2994; while in the east it contains no less than 4013 square yards.

In Southern India, it appears to have been the custom in ancient times to name an area of land after the quantity of grain that it was thought would sow it, or the quantity it was thought it would produce. Thus, for instance, a candy of land was as much as would produce a candy of grain, and this was by estimate, and not by actual measurement; or if a measured area was considered a candy in one village, it would not be so in the next. Even where there is some defined superficial measure, commencing from a rod square, the number of cubits to the rod varies, though the term by which the square rod is known is the same.

Cawnie.—In some districts of the Madras Presidency the land measure is well defined, as in the case of the cawnie and the acre. The former no doubt formerly differed in different places, but its dimensions seem to have been determined and introduced by Royaji, the celebrated dewan of Muhammad Ali (Wallajah), nawab of the Carnatic. Wherever the cawnie exists, it is now 57,600 square feet, or 1·322314 acres, except in some of the taluks of Trichinopoly. The English *acre* was introduced by Sir T. Munro into Bellary and Cuddapah during the survey of 1802–1806, and, 1842, it was introduced on a similar occasion into Kurnool. In both cases the chain of 33 feet was used instead of Gunter's chain of 66 feet, so that the square chain was $\frac{1}{10}$th acre, thus introducing an awkward sub-multiple.

The term goonta or coonta is synonymous with culi and guli. The word seems to denote the land measure next below the maximum of the place; thus the pooty of Rajamundry, the cutty of Masulipatam, the coatchel of Guntur, the goontoo of Nellore, the cawnie of Chingleput, the acre of Bellary, and the mow of Tanjore, are all subdivided into goonta (coonta) or culi (guli). The goontoo, etc., of one district, is not at all necessarily the same as the goontoo, etc., of another.

Mani.—In Madras, Sir Thomas Munro established a measure (called a ground or mani) of 60 × 40, or 2400 square feet, of which 24 make a kani = 57,600 square feet = 6400 square yards, or exactly equal to four Bengal bighas.

The *Madras kani* is to the English acre as 1 to 1·3223, or as 121 to 160 nearly.

Adi.—In Chingleput, the adi or Malabar foot is used, which is 10·46 inches; 24 adi = 1 kali, and 100 square kali = 1 kani, or nearly an English acre. The common kani, however, is 26 adis, or 22⅔ feet, which makes the kani = 1 acre 28¾ perches.

Biswa, from Bis, HIND., twenty, is the twentieth part of a bigha, and besides being a measure of land, is also used to signify the extent of proprietary right in an estate. Each estate or village is considered an integer of five bigha, which is divided into imaginary biswa and biswansi, to show the right of any particular party. Thus the holder of 5 biswa is a holder to the extent of one-fourth of the entire village, precisely in the same way as the As was used amongst the Romans. Thus hæres ex summuncia, heir to one twenty-fourth; hæres ex dodrante, heir to three-fourths; hæres ex asse, sole proprietor. In the same manner, bes, bessis was used to express a biswa; berar,—socius ex besse; and thus in sound and meaning, for of course there is no real connection, there is a close resemblance between the words. Bes, when it was thus applied as a subdivision of the As, was the eighth part of a jugerum or acre; not, as is usually applied, two-thirds.

Cos, HIND., is the itinerary measure of India. The Ayin-i-Akbari lays down distinctly that the cos consists of 100 cords (tunab), each cord of 50 guz; also of 400 poles (ban), each of 12½ guz: either of which will give to the cos the length of 5000 guz. The length of the cos, as ascertained from the average distances of the old cos minar or cos pillars, is = 2 miles 4 furlongs 158 yards. In different parts of India, however, these vary, and in India the cos varies from about 1 mile to 3 miles.

The *Gujerati cos* is the greatest distance at which the ordinary lowing of a cow can be heard, which is determined to be 50 jureeb, or 15,000

guz. This cos resembles the Chinese lih, *i.e.* the distance which can be attained by a man's voice, exerted on a plain surface, and in calm weather. Another, in Bengal, is estimated by plucking a green leaf, and walking with it till it dry. Another is measured by a hundred steps, made by a woman carrying a jar of water on her head and a child in her arms. All these are very indefinite standards.

Meel or mile, league. — The same may be remarked of the oriental meel, as well as the European mile and league. The two former evidently derive their name from the Roman milliare, and the difference of the value proves that the mere name was borrowed without reference to its etymological signification. According to the Kamus, the oriental meel is a lax and vague measure, but it has been considered by Dr. Lee to be to the English one as 139 to 112. The league also, from the German Lugen, to see, and signifying the distance that can be readily seen by the eye on a plain surface, is as indefinite as a Gujerat gao and a Bengal or Dhuppea cos. Cos is an Indian word; the equivalent in Persian is kuroh, the same as the Sanskrit word krosa, of which four go to the yojan, about the precise value of which different opinions are held,—4 English miles according to Bopp; 4½, 5, and 9 miles according to Professor Wilson; but, according to the distances in Fa Hian's route, the yojan in his time was equal to 7 English miles, and this agrees much better with what we find the yojan to be when we resolve it into its component parts,—

8 barley-corns = 1 finger.
24 ,, = 1 dund.
1000 ,, = 1 krosa.
4 ,, = 1 yojan.

And, estimating the finger-breadth at eight barley-corns, this makes the yojan equal to 6 miles 10[illegible]rds and 2 feet.

Dry and Liquid Measures.—India does not, properly speaking, possess dry or liquid measures. When these are employed, they depend upon, and in fact represent, the seer or man weight, and the value of a vessel of capacity rests solely on the weight contained in it. The mode in which this is effected for the dry measures of the south and west of India, is by taking an equal mixture of the principal grains, and forming a vessel to hold a given weight thereof, so as to obtain an average measure; sometimes salt is included amongst the ingredients. The maund and seer measures of capacity are supposed to represent the equivalents of a maund and seer weight, although it is evident, since no two articles have exactly the same proportionate bulk, that no two measures need correspond. In the absence of suitable standards of capacity, almost every article is sold by weight, even ghi, oil, and milk. Grain is sold either by weight or measure, but with an understood proportion between them; thus in Madras the measure for paddy is exactly the bulk of a viss weight. There are, however, a few measures of a well-ascertained value, which appear to have been arranged in something like order around the cubic cubit. An old writer on arithmetic, Bhaskaracharya, states explicitly that a measure called karika was the cubic cubit, or ghunuhustu. Above this was the cube of a double cubit, and ten times the half of this is the garce, a measure well known through all Southern India, and formerly universal; so that the garce is 40 karika. The half of the karika is the parah. One-tenth part of the cubic cubit is the mercal. In Western India there is the candy of 10 cubic cubits. The cube of one-fourth of a cubic cubit is the pyli. In Southern India there is the tūmi of four hundredths of the garce, and the paddacu or one-fifth of the cubic cubit; while in the Telugu districts there is the pūti of two cubic cubits, and another tūmi one-tenth of one cubit. Turning northwards to Ganjam we find the burnum of two cubic cubits, and the nawty of one-tenth of a cubic cubit, and the tūm of one-fortieth of the same measure.

On the other side of India, in Bombay, there is the khundi, exactly corresponding with the garce. The cube of half the side of the garce, or the half of the cubic cubit, is the parah of the same value as in Southern India, while the cube of one-fourth the side of the parah is the seer. In Malwan, the khundi is greatly altered in value, and becomes ten cubic cubits, proving that there is an understood connection between the cubit and measures of capacity. In the same district is the parah of half the cubic cubit. As an official recognition of the relation between measures of capacity and the cubit, it may be mentioned that when the Government of Bombay ordered that the measures for salt throughout the Konkan should be rendered uniform, it was resolved to employ a parah of exactly half a cubic cubit, estimated at 19·5 inches. Reducing the measures referred to into a table, we find the following in cubic cubits:—

Madras garce, . . .	40	Mercal, ...	$\frac{1}{10}$
Malwan khundi, . .	10	Tumi, ...	$\frac{1}{40}$
Puti or burnum, . .	2	Nawty, ...	$\frac{1}{20}$
Ghunuhustu, . . .	1	Tum, ...	$\frac{1}{40}$

We see here two kinds of division besides the ordinary one of halves and fourths.

10 mercals = 1 cubic cubit.
10 ,, = 1 khundi.
Cube of ½ side of cubic cubit = pyli.
,, ,, ,, parah = seer.

If we compare the lengths assigned to the cubit in different parts of India, omitting one or two of the smallest and plainly diminished cubits, we shall find the average to be from 19·5 to 19·7 inches.

Trichinopoly is the only place where grain is said never to be sold by weight. The marcal (properly marakkal, from the Tamil) and parah are the commonest measures; the latter is known throughout India. In Calcutta it is called ferrah, and is used in measuring lime, etc., which is still recorded, however, in the man weight. In its weights, Southern India retained, from the ancient metrology of the Hindus, most of the names and terms properly Hindu, پلا pala; تلا tula; ويسا visa; بهارا bhara; كهاري khari; كهاندي (khandi); باها baha. Throughout the Moghul empire, on the contrary, the seer and man were predominant. The word mān, of Arabic or Hebrew origin, is used throughout Persia and Northern India, but it represents very different values in different places. Thus the man of Tabreez is only 6½ lbs. avoir., while that of Palloda in Ahmadnaggur is 163¼ lbs.

WEIGHTS AND MEASURES.

The following is the scale of measures in use at Madras :—

				Cub. in.	
		1 olluk	=	11·719	
8 olluk	=	1 padi	=	93·752	
8 padi	=	1 marcal	=	0·750	= 27 lbs. 2 oz.
5 marcal	=	1 parah	=	3·750	= 2 dr. water.
400 parah	=	1 garce	=	300·000	

The Madras Revenue Board, on the 19th May 1883, furnished the revenue collectors with a statement, showing equivalents in Government seers of 80 tolas of local measures of different food-grains and of salt. The grains tested were four kinds of unhusked and husked rice, Oryza sativa; the horse-gram, Dolichos uniflorus; the jowari or cholum, Sorghum vulgare; the bajri or cumboo, Penicillaria spicata; the varagoo, Panicum miliaceum; the ragi, Eleusine coracana; the ulundu, Phaseolus mungo; and wheat, Triticum æstivum.

Tūm.— In the Ganjam district, the assumed normal contents of the tūm, in rice, ranged from 80 to 280 tolas, with measures of cubic capacity 64·88 to 231·82 inches.

Seven *seer* measures, in use in the Madras Presidency, some of them struck, some liberally or moderately heaped, the assumed normal contents ranged from 75 to 130 tolas, viz. 75, 78, 80, 86, 90, 92, 130.

The *tavva* of four taluks of Vizagapatam is 33 tolas.

The Bezwara *mercal*, liberally heaped, 260 tolas.

The *adda* of Gudivada in the Kistna district, 210 tolas.

The *manika* and padi manika measure is in use in the Nellore and Kistna district, and liberally heaped contains from 106 to 200 tolas.

The *measure* in use in Bellary, Kurnool, Cuddapah, Madras town, and Chingleput is of 75, 80, 114, 120, 128, 130, 132, 135, 144, 150, and 160 tolas; and there is a half measure of 75 at Madarpak, and one of 64 at the Neilgherries.

The *padi* is in use in the Tamil districts, where there are seven quantities of 75, 86, 116, 133, 140, 144, and 150 tolas; and from half padi of 65, 66·5, 70, and 72 tolas.

The *nali* of Cochin is of 43 tolas.

A *garce* is assumed to contain 3200 measures, the weight of a measure of each of the following grains being—rice, unhusked, 80 tolas; do. husked, 120; Sorghum vulgare, wheat, and Eleusine coracana, each 111; Penicillaria spicata and Panicum miliaceum, each 102; Phaseolus mungo, 115; Dolichus uniflorus and salt, each 120.

The *mercal* of the Madras grain market is equal to eight Madras struck measures of 120 tolas each.

Seer.—The most common grain measure, and one which is to some extent known in almost every part of India, is the seer measure; this is always understood to be a measure which, when heaped, will contain a seer weight of rice, or in some places, instead of rice, a mixture of the nine most common grains, known as the nou-daniam measurement. The nine grains used in the Madras Presidency are rice, chenna, culti, pessalu, minamalu, dholl, anamalu, gingelly oil-seed, and wheat. As only heaped measure is recognised by native usage, it is evident that there is no rule as to the cubic contents of the measures used; for vessels of very different cubic contents may contain the same when heaped, in consequence of having different diameters. It is on this account that the values given to Indian measures, in such tables as those of Major Jervis, or Dr. Kelly in his Cambist, being founded on the gauged cubic contents, do not represent the true quantities.

By Act xi. of 1870, the Government of India established the metric system as the standard for India. But the Secretary of State disallowed the provisions of Act xi. relating to measures of length, and another Act, xxxi. of 1871, was substituted. For weights, a seer was decreed to be the unit of weight; and for measures of capacity, a measure containing one such seer of water, at its maximum density, weighed in a vacuum. The smaller and the larger quantities have not as yet (1884) been formulated; and the Bombay Government, writing on the 13th July 1878, stated 'that the standard weights and measures in the divisions of the Presidency and in the town of Bombay vary locally,' and no standard has ever been declared of general application, and having them tested is a matter of custom rather than of law, as the Government of India has not framed or issued rules under Act xxxi. of 1871.

The following measures of weight, capacity, and length are in use in the south and east of Asia :—

1 Indian imperial seer = avoir. 2·204,621,25 lbs. = 15,432·348,75 grains = 85·735,270,833 tolas. Avoir. 2 lbs. 3 oz. 4·383,04 drs. = 1 French kilogramme.

Avoir. 16 drs. = 1 oz.; 16 oz. = 1 pound (lb.); 14 lbs. = 1 st.; 28 lbs. = 1 qr.; 4 qrs. = 1 cwt.; 20 cwt. = 1 ton.

1 chittak = 5 tolas; 16 chittak = 1 seer; 40 seers = 1 maund; 1 maund = 37·324,195,385,3 imperial seers.

1 maund = troy, 100 lbs. = avoir. 82⅔ lbs.; 2½5 maunds = 9 tons.

1 Indian imperial seer = 32·150,726,562,5 troy oz. = apothecaries', 2·679,227,213,541,66 lbs.

10 rutti = 1 masha; 10 masha = 1 tola; 1 tola = troy, 180 grains.

1 imperial seer = 3·527,394 Madras seers = 2·449,458,927 Bombay seers.

10 imperial seers = 0·881,848,5 Madras maunds = 0·787,364,732 Bombay seer.

Madras weights—10 pagodas = 1 pollam; 8 pollam = 1 seer; 40 seer or 8 vis = 1 maund; 20 maund = 1 candy.

Bombay weights—9 tanka = 1 nowtuck; 8 nowtuck = 1 seer; 40 seer = 1 maund; 20 maunds = 1 candy.

Burmese weights—1 tikal = troy, 252 grains = 0·016,329,335 Indian imperial seer. 100 tikal = 1 vis = 140 tola = avoir. 3·60 lbs. = 1·632,933,548,1 Indian imperial seer.

1 Indian imperial metre = 39 British inches.

Ceylon.—Native Dry Measure.

4	cut chundoos	= 1 cut measure or seer.
19½	,,	= 1 coornie.
4⅘	cut measure	= 1 coornie.
2½	coornie	= 1 marcal.
2	marcal	= 1 parah.
8	parah	= 1 ammunam.
9⅜	ammunam	= 1 last.

Burma.—Major Burney, when Resident at Ava, mentioned vis, tikal, and moo as the general terms used in Burma in the transactions of commerce and accounts. Their subdivisions and multiples are,—

1 pe or be.				
2 = 1 moo.				
2½ =	1 mat.			
5 =	2 =	1 hkwe.		
10 =	4 =	2 =	1 kyat or tikal.	
1000 =	400 =	200 =	100 = 1 peiktha or vissom.	

100 tikal are precisely equal to 140 tolas.

Singapore.—Commercial Weight.

16 tahil = 1 catty = avoir. 1⅓ lbs.
100 catty = 1 pikul = ,, 133⅓ ,,
3 pikul = 1 bhara = ,, 400 ,,
40 pikul = 1 koyan = ,, 5333⅓ ,,

Straits Settlements.—Measures of Capacity.

4 pau = 1 chupah; 4 chupah = 1 gantang; 10 gantang = 1 parah.
16 gantang = 1 nalih; 10 nalih = 1 kencha; 5 kencha = 1 koyan.
800 gantang = 1 koyan; 20 gantang of rice = 1 bag.

Straits Settlements.—Long Measure.

4 plempap = 1 jengkal = 9 inches.
2 jengkal = 1 hasta = 18 ,,
4 hasta = 1 depa = 72 ,,
2 depa = 1 jemba = 144 ,,
20 jemba = 1 orlong = 2880 ,,

Opium Weight.

10 tee = 1 hoon; 10 hoon = 1 chee; 10 chee = 1 tahil.

Thuoc is the generic name for the measure of length in Cochin-China. Those more commonly employed vary from 0·405 to 0·649,68 metres, or from 15·945,255 to 25·578,551,28 English inches.

Siamese.—Long Measure.

1 niw = ⅓ English inch.
12 niw = 1 kup = 9⅓ English inches.
2 kup = 1 sawk = 19½ English inches.
4 sawk = 1 wah = 78 English inches.
20 wah = 1 sen = 130 feet.
400 sen = 1 yot = 9⅞ statute miles.

Siamese.—Dry Measure.

1 tanan = 1½ pint; 20 tanan = 1 tang.
25 tanan = 1 sat; 100 tang = 80 sat = 1 keean or koyan.

Chinese Weights.

58⅓ grains = 1 mace.
10 mace or 582 grains = 1 liang.
16 liang or 9330⅔ grains or 1⅓ lbs. = 1 catty.
1 tael = avoir. 1⅓ oz.
16 taels = 1 catty = avoir. 2⅔ lbs.
100 catties = 1 pikul = avoir. 133⅓ lbs.
1 catty = avoir. 1⅓ lbs.
1 pikul = 100 catties = 133⅓ English lbs.
1 catty = 16 tael.
1 tael = 1⅓ English oz.
16·80 pikul = 1 ton.
1 li or cash = avoir. ·0013 oz.; 10 li = 1 fan or kandarin = avoir. ·0133 oz.
10 fan = 1 tsin or mace = avoir. ·1333 oz.
10 tsin = 1 leung or tael = avoir. 1⅓ oz.
16 leung = 1 kan or catty = avoir. 1⅓ lb.
100 kan = 1 tam or pikul = avoir. 133⅓ lbs.
120 kan = 1 shek or stone = avoir. 160 lbs.

Chinese Measures.

10 fan = 1 tsun or inch = 1·41 English inch.
10 tsun = 1 chek or foot = 14·1 English inch = 1·175 English feet.
10 chek = 1 ch'eung or fathom = 11 feet 9 inches English.

The treaty of Tien-tsin fixes the ch'eung at 141 English inches; 1 li or mile = ½ English mile; 10 li or 1 po or league = about 3 English miles; 1 mau land measure = $\frac{2}{15}$ of an English acre.

China money.—From 1874 to 1882 the tael ranged in value from 5s. 0½d. in 1878 to 5s. 9½d. in 1880.

Hong-Kong.—Measure of Length.

1 ch'eung = 141 English inches.
1 covid or chek = 14⅒ English inches.
1 tsun = 1⅓ English inches.
10 fan = 1 tsun.
10 lip = 1 fan.

Archipelago.—The weights and measures of the Malays, with their denominations, have not only extended over the whole Malay Archipelago, but are also prevalent in the Philippines. The original measures of the Malays and Javanese were evidently by capacity (takar), and not by weight, for which there are no words in their language except such as signify heaviness or balance. The lowest denomination for a measure of capacity among the Malays goes under the name of chupak, most probably taken from the shell of the cocoanut or the joint of the bamboo. Of this, 4 make a gantang, and 800 of the last a koyan. The measures of length are taken from the members or parts of the human body, as finger-length, span, foot, pace, fathom, with the length from the foot of one side to the tip of the outstretched hand on the opposite one. Javanese, in reference to their irrigated land, have for the largest measure a jong, which literally signifies a ship, and this divided into halves called kikil, or a leg, and into fourths called ban, which means a shoulder. Another admeasurement of land goes under the name of the chacha, of which gawe-ning-wong is the synonym, the first word signifying count or census, and the last a man's work, that is, the quantity of irrigated land that a family of peasantry can till. This last term is of the same nature as the English plough of land. The Chinese have introduced their own well-defined weights, although under native names. Thus we have the tael or weight of 23 drams avoirdupois, the catty consisting of 16 tael, and the pikul, which literally signifies a man's load or burden, composed of 100 catties, or 133⅓ lbs. avoirdupois.

10 cash = 1 kandarin. | 16 tael = 1 catty.
10 kandarin = 1 mace. | 100 catties = 1 pikul.
10 mace = 1 tael.

Labuan.—Commercial Weights.

10 kandarin = 1 mace; 10 mace = 1 tael; 16 tael = 1 catty.
100 catties = 1 pikul; 40 pikul = 1 koyan.

—*Bayley's Madras Land Measures*, 1856; *Bayley's Suggestions*, 1858; *Bridgnell's Ind. Imp. Tables*, 1871; *Crawfurd's Dict.* p. 446; *Prinsep's Tables*, pp. 61, 62; *Kelly's Cambist; Jervis' Metrology; Mr. W. H. Bayley in* No. 4 *New Series of Madras Journal of Science for* July to September 1857; *Do. do. on the Land Measures of the Madras Presidency; Gover, W. and M.*, 1865; *India Governments' Records; Jervis, W. and M.*, 1826; *Müller, Ind. Tabs.*, 1836, *Statistical Abstract, Weights and Measures; Woolhouse, W. and M.*, 1858.

WEIR, JOHN, a skilled gardener who was employed under Mr. C. R. Markham to collect cinchona plants in the Caravaya forests of S. America. He conveyed his plants to India in 1860.—*Markham, Per. Bark.*

WEI-YUEN, the chief compiler and composer of the Hae-kwoh-too-che, the Chinese work usually known as Lin's Geography. It is a work of 25 volumes, and in a few years went through five editions. Wei-Yuen did not long survive his more celebrated collaborateur, Lin-tseh-seu. Both were sincere enemies of Great Britain and the British, and carried out their enmity in acts and in their writings.—*Dr. Edkins.*

WELDI, a tributary tribe of Bedouins on the right bank of the Euphrates.

WELL.

Baori, Baoli, . . HIND. | Chab, ... PERS.
Bao, ... MAHR.

Drawing water has ordinarily been the employ-

ment of females throughout the east from a remote antiquity. Some of the wells in India are constructed with much architectural embellishment, of great depth, and of considerable breadth. The more ancient are of a square form, those of recent date are frequently round. They are surrounded for their whole depth with galleries in the rich and massy style of Hindu works, and have often a broad flight of steps which commences at some distance from the well, and passes under part of the galleries down to the water. The deep wells have the descent from the brink by long flights of steps leading far down below the surface of the ground, relieved by landing-places and covered chambers, in which travellers may rest and take refreshment during the heat of the day.

In the alluvial lands of India, and in the beds of rivers, wells are frequently sunk by means of earthenware or iron rings, which are placed one over the other, and the inside earth or sand being scooped out, the rings sink down. These are called pot-wells, and in Bangalore cost about five rupees for a well eighteen feet deep. In Madras town a pot-well can be sunk at the rate of a rupee a foot.

Near Futtehpur, in sinking a well, the people build a hollow masonry tower, of the diameter required, and 20 or 30 feet high from the surface of the ground. This is allowed to stand a year or more till it become firm and compact; then they gradually undermine and promote its sinking into the sandy soil. When it has sunk to a level with the surface, they raise the wall higher, and go on throwing out the sand and raising the wall till they obtain water. Some of the wells of India are of several hundred yards in depth. In the Rajputana desert, water is only come to at depths up to 700 feet. But in the granitic tracts of India, the depth of wells ranges from 12 to 40 feet, according to the swell of the ground.

The importance of wells in an arid tropical country cannot be exaggerated, and the fame which is acquired by sinkers of wells has an illustration in John iv. 6, where the well of Jacob, sunk three thousand years before, was still distinguished. Even yet, among the Hindu people, to sink a well, or form a water reservoir or tank, is deemed an act of merit. In the Panjab, pucka wells are usually worked by the harth or Persian wheel. A broad-edged lantern wheel, whose axis lies horizontally over the centre of the well's mouth, carries, on its broad edge, a long belt of moonj rope made like a rope ladder, the ends of which, joined in an endless band, reach below the surface of the water. To this, at every step of the rope ladder, an earthen pot called tind is fixed. As the wheel revolves, the large rope belt descends into the water with its pots, the pots become filled with water, and are drawn up. As they reach the top of the wheel, they are, by the revolution of the wheel, inverted, and their contents poured out into a trough, which is ready to receive them, and which leads to the watercourse of the fields to be irrigated. Wells are often sunk in the alluvial soils of India as foundations for architectural structures.

In the Persian method of cooling wells, the well is covered in with beams, mats, and earth, and thatch is built over it to shield the water from the sun. The well, having been filled during the cold weather, may be opened in May, and the water remains as cool to the taste as ordinary ice water throughout the hot season. The water may be purified by being withdrawn into an earthen reservoir adjoining the well, and allowed to flow back. Ali Razza Khan, a Kazzilbash, was the first to introduce these wells into the Panjab. Two may be seen at Lahore, one near the Lohari gate, the other in the Sultan Serai. There are also two in the town of Amritsar, and one at Peshawur. The people crowd to those wells during the hot season as to a fair. The ordinary mode of raising water in India is by the hand, but in the south of the Peninsula of India the pe-cottah is used. It is a lever balanced on a pole, from one end of which falls a bamboo with an iron pot, and a man walks from one end of the lever to another to raise and depress the respective ends.—*Powell, Handbook; Econ. Prod. Panjab*, p. 207; *Heber*, ii. p. 357. See Water.

WELLESLEY. Lord Mornington, afterwards Marquess of Wellesley, was Governor-General of India, 1798 to 30th July 1805. He acted on the view that the British must be the one paramount power, and that native princes could only retain the insignia of sovereignty by surrendering their political independence; and his governing idea was to frustrate the possibility of a French invasion of India. In 1798 he formed an alliance with the Nizam of Hyderabad. In 1799, aided by the Hyderabad contingent, he made war against Tipu, the sultan of Mysore, and Seringapatam was stormed, Tipu falling in the breach. In 1802 he formed an alliance with the peshwa, and with the armies of Sir Arthur Wellesley and General Lake. In 1803 he compelled Sindia and the Bhonsla of Nagpur to cede territory and sue for peace, but the operations against Holkar were unsuccessful. The records of his administration are contained in the Notes relative to the Mahratta War, with Appendix and Plans, 1804; Appendix to Notes on the Mahratta War, Calcutta 1804; Vindication of the Justice and Policy of the late Wars in Hindustan and the Dekhan, London 1806; Despatches, Minutes, and Correspondence during his Administration in India, edited by Montgomery Martin, 1836.

WELLESLEY PROVINCE, in the Malay Peninsula, has remains of Hindu temples, and mounds of shell-fish have been discovered.

WELLINGTON. Arthur Wesley or Wellesley, Field-Marshall the Duke of Wellington, was a distinguished soldier, and an illustration of the importance to a commander of an acquaintance with the civil occupation of a statesman. On the 7th of March 1787 he received his first commission as an ensign in the 73d Regiment of Foot. In May 1794, being then in his 26th year, in command of the 33d Regiment, he embarked at Cork for service on the continent of Europe. In the spring of 1796, the 33d received directions to embark for Bengal. In February 1797, Arthur Wellesley landed at Calcutta. Immediately on his arrival, Colonel Wellesley was despatched upon an expedition directed against Manilla, but by the time that the several vessels had arrived at their first rendezvous the war against Tipu Sultan was determined on, and they were overtaken by a peremptory recall. The 33d was transferred from Bengal and placed upon the Madras Establishment. And on this new scene

of duty Colonel Wellesley arrived in September 1798. The commander-in-chief at Madras was General, afterwards Lord Harris, under whose auspices Colonel Wellesley was stationed at Wallajahbad.

The whole force against Tipu by the end of February 1799 had penetrated into the dominions of Mysore. The first action of importance took place near Malavelly, within thirty miles of Seringapatam. The British commander received Tipu's attack with the right wing of the army, leaving the left, which was composed of the Nizam's contingent under Colonel Wellesley, to charge and turn the flank of the enemy opposed to it. Colonel Wellesley's dispositions for this assault were speedily made, and, having been approved by General Harris, were executed with complete success. He was then placed in command of a field force, with which he advanced to the north of the Peninsula of India, Ahmadnaggur. Pettah was taken by assault on the 11th August 1803, and the fort, long considered the key of the Dekhan, surrendered on the following day. He fought and won the battle of Assaye on the 23d September 1803; Berhampore surrendered 16th October 1803; Argaum on the 28th November 1803; then the Gawilgarh hill fort was taken by his officer, General Stevenson, on the 14th December 1803; and on the 30th December a treaty of peace with Sindia was signed.

Major-General Wellesley was created an extra Knight Companion of the Bath, many addresses were presented to him by various public bodies in India, a splendid gold vase, valued at 1000 guineas, was given to him by the officers of his division of the Indian army, and a sword, worth £1000, was presented to him by the inhabitants of Calcutta. Sir Arthur embarked for England on the 10th of March. On his arrival he was appointed to the command of the troops at Hastings; and on the death of the Marquis Cornwallis, on the 5th of October 1805, to the colonelcy of the 33d. On the 8th of April he was sworn of His Majesty's Privy Council, and on the 10th of April 1806 he married Catherine, third daughter of the second Earl of Longford. In 1807, Sir Arthur accepted in the Portland administration the situation of Chief Secretary for Ireland, under the Duke of Richmond, but in taking office he had stipulated that his ministerial duties should not interfere with his professional; and accordingly, in the summer of 1807, he was once more employed on active service. In the expedition to Denmark he held a post under Lord Cathcart. For his services during this campaign he was publicly thanked in the House of Commons.

The remaining part of his career was on the continent of Europe, and here he won higher honours, and he died 14th September 1852.

WELLINGTON, formerly Jakatala, a hill station and military cantonment in the Neilgherry district, Madras, situated in lat. 11° 22′ N., and long. 76° 50′ E. Jakatala Hill is about 1½ miles from Coonoor, and 9 miles from Ootacamund, and is 6100 feet above sea-level.

WELLSTED, Lieut. J. R., an officer of the Indian navy, author of Travels in Arabia, and author (London 1838) of Memoirs on the Southern Coast of Arabia; Memoir on the Island of Socotra, in Lond. Geo. Trans. v. p. 129; Vindication of the Accuracy of Bruce, ibid. vii. p. 402; Journey in various directions through Oman, in Bom. Geo. Trans. 1836–1838; Bombay reprint, i. p. 3.—*Dr. Buist.*

WELSH, Colonel JAMES, author of Military Reminiscences, extracted from a Journal of nearly forty years' Active Service in the East Indies.

WELWITSCHIA MIRABILIS. *Hook. fils.* A most extraordinary vegetable production discovered in 1859 by Dr. Welwitsch in tropical S.W. Africa, about half-way between the equator and the Cape. It is a dwarf tree, seldom rising more than a few inches above the ground, with a diameter often of several feet, and a single pair of leaves, which lie flat on the ground, usually torn to ribands, which spring from the margin of the trunk, and persist through the lifetime of the plant, which is estimated to reach 100 years.

WEN-CHANG, the Chinese god of literature.

WENDLANDIA NOTONIANA. *Wall.* W. bicuspidata, *W. and A.* This small tree is common in most of the alpine and sub-alpine jungles of the Madras Presidency, from 2000 to 7000 feet elevation. The timber is strong, and used for various purposes by the natives. Wendlandia cinerea, *D.C.*, is a timber tree of Darjeeling and Terai.—*Beddome, Fl. Sylv.*

WENGER. Dr. Wenger, a Swiss, came to India in 1839 as a missionary of the Baptist Missionary Society. He translated the historical and prophetical books of the Old Testament, and the Gospels and Acts, into Sanskrit, putting the poetical parts of the Old Testament into Sanskrit verse. In Bengali he executed revisions of the translation of the Bible, parts of it he translated afresh, and his version is used by all denominations of Christians in Bengal.

WER. Hind. This Hindi word designates a feud, and in it we have a striking coincidence in terms: wer is a feud, werce, a foe. The Saxon term for the composition of a feud is wergeldt. In some of the Rajput states the initial vowel is hard, and pronounced ber. In Rajasthan, ber is more common than wer, but throughout the south-west wer only is used. In these we have the origin of the Saxon word war, the Scotch weir, and the French guer or guerre. The Rajput wergeldt is land, or a daughter to wife. It seems to be the word found in many tongues, the Sanskrit vri, the Greek ἄρης, ἥρως, war, wehr, vir or virtus, indicating strength or protection, manly power.—*Tod's Rajasthan*, i. p. 181.

WERN, a wood of Java used for furniture, of a brown colour, of a close substance and light; abundant in some districts.

WESH. Pushtu. Periodical changing of lands.

WESTERGAARD, N. L., professor of Indo-Persic languages in the University of Copenhagen; wrote Account of Caves near Carli, in Bom. As. Trans., 1842, i. p. 248; Letter respecting the Gabr, in Lond. As. Trans. xiii. p. 349; Radices Linguæ Sanskritæ, Bonn 1841; Sanskrit Reading Book, Copenhagen; on the Ancient Persian Cuneiform Inscriptions, Zeit. fur die k. des Morgenlandes, 1845; Decipherment of the Second Achæmenian Arrow-headed Writing, Mem. des Antiquaires du Nord, Copenhagen 1844; Zend-Avesta, with English Translation, Grammar, and Dictionary.—*Dr. Buist's Catal.*

WESTERN COAST of India includes Travancore, Cochin, and Malabar, and comprises a strip

of land of various width, lying between the sea on the western side of India, and the range of Western Ghats, which it includes. It is mostly undulating or hilly, almost everywhere covered with jungle of every description, from low bushes to the most lofty forest trees. Most of the roads here, too, are lined with splendid avenues of banyan, cashew, and various other fine trees. The climate is moist and comparatively cool. The Wynad district, and generally the wooded parts bordering the summit of the ghats, may also be included in this, which they resemble in climate and productions. The cardamom hills in Travancore are the southern continuation of the Western Ghats. Ghat is a term employed in India to designate a ferry or landing-place on a river, a range of hills, or the scarped wall of a table-land, or the defile or pass leading through or down such. The Western Ghat is the range of mountains which extend from the valley of the Tapti to the gap of Palghat, about 800 miles, and then, after an interruption, to Cape Comorin. The coast line from the sea to their base is generally flat and low, with occasional spurs or solitary hills, but the ghats rise abruptly almost scarped to an average height of 3000 feet; but Purunder is 4472, and Mahabaleshwara 4700, Matheran, a projecting spur, about 3500. The Eastern Ghats extend from Orissa to Coimbatore, along the eastern side of the Peninsula of India, at distances of 50 to 150 miles from the Bay of Bengal. They are steep, and well clothed with forests. The country lying between them and the sea is low, scarcely rising 100 feet above the sea. See Ghat.

WHALE BIRD, Prion pachyptila, also P. desolatus of Antarctic Ocean.

WHALEBONE, an elastic substance obtained from the upper jaws of the whale, which vary in size from three to twelve feet in length, and the breadth of the largest, at the thick end, is above a foot.—*Faulkner.*

WHALES, I', King, Ki-tian, CHIN., are mammals which live in the ocean. They are included in the order Cetacea. They are the largest of existing animals, and furnish whalebone, spermaceti, and oil. Species of the whale genera occur in the Arabian Sea, Bay of Bengal, Indian Ocean, and Pacific Ocean. Several abound in those parts of the ocean lying between the Bonins and the coast of Asia, and are in great numbers in the neighbourhood of Japan. So large a creature could not escape observation, and the Greek sailors who accompanied Nearchus in his navigation of the Arabian Sea were terrified by the appearance of whales (Κητωα, Arrian, Hist. Ind. cap. 30). A whale was stranded on the Chittagong coast in August 1842, which measured 90 feet in length and 42 in diameter; and another on the coast of Arakan in 1851, which was 84 feet long. They have been variously classified by naturalists. One arrangement will be seen under the heading Cetacea; and Dr. John E. Gray, who was in charge of the Zoological Collections in the British Museum, gives details in that Museum catalogue. The following is a synopsis of Asiatic species of whales and dolphins:—

CETACEA.

Sec. i. Mysticete, *Gray.*
Sub-Order i. Balænoidea.
Fam. i. Balænidæ, *Gray.*
Balæna mysticetus, *Linn.*, N. Sea.
B. marginata, *Gray*, W. Australia.
Eubalæna Australis, *Gray*, Cape of Good Hope.
E. Sieboldii, *Gray* (B. Japonica, *Gray*, B. Australis, *Temm.*), Japan.
Hunterius Temminckii, *Gray*, Cape of Good Hope.
H. Swedenborgii, *Lillejeborg*, N. Sea.
Caperea antipodarum, *Gray*, New Zealand.
Macleayius Australiensis, *Gray*, Australian Seas.

Sub-Order ii. Balænopteroidea.
Fam. ii. Megapteridæ.
Megaptera longimana, *Gray* (Novæ Zealandiæ, *Gray*), N. Sea.
M. Kuzira, Japan.
Poescopia Lalandii, —? Cape Seas.
Eschrichtius robustus, *Gray*, N. Sea, Sweden.

Fam. iii. Physalinidæ.
Benedenia Knoxii, *Gray*, North Sea, Welsh coast.
Physalus antiquorum, North Sea, Greenland.
P. Duguidii, *Gray*, N. Sea, Orkneys.
P. Patachonicus, Rio Plata.
Cuvierius Sibbaldii, *Gray*, N. Sea.
Rudolphius laticeps, *Gray*, N. Sea.
Sibbaldius borealis, *Gray*, N. Sea.
S. Schlegelii, *Gray*, Java.
S. Antarcticus, *Gray*, Buenos Ayres.

Fam. iv. Balænopteridæ.
Balænoptera rostrata, *Gray*, N. Sea.
Swinhoa Chinensis, *Gray*, Formosa.

Sec. ii. Denticete, *Gray.*
Sub-Order iii. Physeteroidea, *Gray.*
Fam. v. Catodontidæ.
Catodon macrocephalus, *Gray*, Tropical Seas.
Meganeuron Krefftii, *Gray*, Australian Seas.

Fam. vi. Physeteridæ.
Physeter tursio, *Linn.*, N. Sea, Scotland.
Kogia breviceps, *Gray*, Cape of Good Hope.
K. Macleayii, *Gray*, Australia, India.
Euphysetes Grayii, *Macleay*, Australia.

Sub-Order iv. Susuoidea.
Fam. vii. Platanistidæ.
Platanista Gangetica, *Gray*, India.
P. Indi, *Gray*, Indus.

Sub-Order v. Delphinoidea.
Fam. viii. Iniidæ.
Inia Geoffroyii, *Gray*, Brazil, Amazon.

Fam. ix. Delphinidæ, *Gray.*
Tribe i. Stentonina.
Pontoporia Blainvillii, *Gray*, S. Atlantic.
Steno frontatus, *Gray*, Indian Ocean.
S. compressus, *Gray*, S. Sea.
S. Capensis, *Gray*, Cape of Good Hope.
S. lentiginosus, *Gray*, India.
S. Tucuxi, *Gray*, Brazil, Amazon.
S. attenuatus, *Gray*, India.
S. fuscus, —?

Tribe ii. Delphinina.
Delphinus longirostris, *Gray*, Malabar, Japan, Cape of Good Hope.
D. delphis, *Gray*, N. Sea, N. Atlantic, Mediterranean.
D. Moorei, *Gray*, S. Atlantic.
D. major, *Gray*, —?
D. Walkeri, *Gray*, S. Atlantic.
D. Janira, *Gray*, Newfoundland.

D. Forsteri, *Gray*, Pacific.
Clymenia stenorhyncha, *Gray*.
C. microps, *Gray*, Brazil coast.
C. alope, *Gray*, Cape Horn.
C. euphrosyne, *Gray*, N. Sea.
C. styx, *Gray*, W. Africa.
C. gudumu, *Elliot*, India.
C. pomeegra, *Elliot*, —?
C. normalis, —? —?
C. doris, *Gray*, —?
C. euphrosynoides, *Gray*, —?
C. dorides, *Gray*, —?
C. obscura, *Gray*, S. Pacific.
C. similis, *Gray*, Cape of Good Hope.
Sotalia Guianensis, *Gray*, British Guiana.
Delphinapterus Peronii, *Gray*, New Guinea.
Tursio truncatus, *Gray*, N. Sea, Mediterranean.
T. metis, *Gray*, —?
T. cymodoce, *Gray*, —?
T. eurynome, *Gray*, India, Bay of Bengal, S. Sea.
T. catalania, *Gray*, N.W. coast of Australia.
Eutropia Dickiei, *Gray*, S. Pacific, Chili.
E. Heavisidii, *Gray*, Cape Seas.
Orcaella brevirostris, *Gray*, Indian Ocean.

Tribe iii. Lagenorhynchina.
Electra obtusa, *Gray*, —?
E. Asia, *Gray*, —?
E. fusiformis, *Gray* (Delphinus fusiformis, *Owen*), India.
E. acuta, *Gray*, N. Sea.
E. clancula, *Gray*, S. Pacific.
E. thicolea, *Gray*, W. coast, N. America.
Leucopleurus Arcticus, *Gray*, N. Sea.
Lagenorhynchus albirostris, *Gray*, N. Sea.

Tribe iv. Phocænina.
Pseudorca crassidens, *Gray*, N. Sea.
P. meridionalis, *Gray*, Van Diemen's Land.
Phocæna communis, *Gray*, N. Sea.
Acanthodelphis spinipennis, *Gray*, Brazil.
Neomeris phocænoides, *Gray*, Indian Ocean, Bengal Bay, Japan, Cape of Good Hope.

Tribe v. Orcadina.
Orca gladiator, *Gray*, N. Sea.
O. intermedia, *Gray*, —?
O. magellanica, *Gray*, Buenos Ayres.
O. destructor, *Gray*, Peru.
O. Capensis, *Gray*, S. Ocean, Cape of Good Hope.

Fam. x. Globiocephalidæ, *Gray*.
Globiocephalus svineval, *Gray*, N. Sea.
G. Edwardsii, *Gray*, Cape of Good Hope.
G. Grayii, *Burmeister*, Buenos Ayres.
G. macrorhynchus, *Gray*, S. Seas.
G. Indicus, *Gray* (G. Sieboldii, *Gray*), Japan.
Sphærocephalus incrassatus, *Gray*, British Channel.

Fam. xi. Belugidæ.
Grampus Cuvieri, *Gray*, N. Sea.
G. Richardsonii, *Gray*, Cape of Good Hope.
Beluga catodon, *Gray*, N. Sea.
B. Kingii, *Gray*, Australia.
Monodon monoceros, *Gray*, N. Sea.

Sub-Order vi. Ziphioidea.

Fam. xii. Hyperoodontidæ.
Hyperoodon butzkopf, *Gray*, N. Sea.
Logenocelus latifrons, *Gray*, N. Sea.

Fam. xiii. Epiodontidæ.
Epiodon Desmarestii, *Gray*, N. Sea, Mediterranean.
E. cryptodon, *Burmeister*, Buenos Ayres.
Petrorhynchus Capensis, *Gray*, S. Seas, Cape Seas.

Fam. xiv. Ziphiidæ.
Berardius arnuxi, *Gray*, New Zealand.
Ziphius Sowerbiensis, *Gray*, British Channel, Irish Sea.
Dolichodon Layardii (Ziphius Layardii, *Gray*), Cape of Good Hope.
Diplodon Sechellensis, *Gray* (Ziphius Sechellensis), Seychelles.

Mr. Isaac Walton, a telegraphic officer in the Persian Gulf, in a report to the Bombay Government about the year 1877, says:—'The cable from Kurachee to Gwadur, about 300 miles long, was suddenly interrupted on the evening of the 4th, at a point estimated to be about 116 miles from Kurachee. The *Amberwitch* arrived at this place about two o'clock on the afternoon of the 6th, and the cable was hooked at a quarter of a mile from the point of rupture. In hauling in the cable an unusual strain was experienced, as if the cable had fouled a rock, but, on persevering for some time, the body of an enormous whale, entangled in the cable, was brought to the surface. It was found to be firmly held by two and a half turns of the cable, taken immediately above the tail. Sharks and other fish had partly devoured the carcase, which was rapidly decomposing, the jaws coming adrift on arriving at the surface. The tail, which was twelve feet wide, was perfectly preserved, and was covered with numerous shells at its extremities. Apparently the whale had rubbed itself against the cable for the purpose of ridding itself of parasites, and had with a stroke of the tail broken the cable, and at the same time so coiled itself up in it as to be strangled thereby.' Several cables have been destroyed by other creatures in which different seas abound. One of the most destructive is the Limnoria terebrans, a little creature only about as big as an ant. Yet, according to Dr. Carpenter, it has before now shown itself capable of imperilling the safety of bridges and harbour piers. Several cables off the coast of Ireland have been very seriously damaged by it. It is small enough to be able to squeeze in between the wires in the sheathing of a cable, however well it may be constructed.

The cachalot, Physeter macrocephalus, is the sperm whale; the male ranges in length from 38 to 76 feet, and is about 60 feet on the average, but the female does not exceed 30 or 35 feet. The cachalot is without symmetry, of a prevailing dull-black colour, occasionally marked with white, especially on the abdomen and tail. They propel themselves round by striking and pulling against the water with the flashes of their tails. The lower jaw is diminutive, slender, and in form not unlike the mandible of a bird; the teeth of the upper jaw, wholly ivory, in aged males are of great solidity, and weigh from two to four lbs. each. It spouts a thick watery mist from its nostrils at intervals of 10 or 15 minutes. Its

valuable sperm is a solid mass of soft yellow oily fat, weighing between two or three tons, in a hollow of the head. The cavity, called case, is situated to the right and beneath the spouting canal, and corresponds to nearly the entire length of that tube. It is filled with a very delicate well of cellular tissue, containing in large cells a limpid and oily fluid, which is liberated on the slightest force. The quantity, chiefly spermaceti, contained in this singular receptacle is often very considerable, and nearly 500 gallons have been obtained from the case of one whale. It has been noticed in the Mediterranean, and a stray individual in the Thames, but occurs in the Pacific, Indian, and Chinese seas. The liquid first drawn from the head of the animal is a mixture of spermaceti and sperm oil; from this the solid matter is separated by filtration through bags, and subsequent compression. After this it is melted in water, skimmed, and remelted with a little potash water, to remove the last traces of the oil; lastly, it is permitted to concrete slowly, during which it is crystallized in brilliant white masses. Pure spermaceti is white, tasteless, inodorous, crystalline, insoluble in water, slightly soluble in boiling alcohol; it forms a soap with potash. It is composed of carbon, 81·66; hydrogen, 12·86; oxygen, 5·47. Spermaceti was once much used internally as a demulcent and emollient, especially in troublesome catarrhs and ysentery. It is at present employed solely as an external application, being an ingredient in numerous cerates and ointments. Mr. Beale gives 84 feet as the length of a sperm whale of the largest size, and its diameter 12 or 14 feet. Of this huge mass, the head occupies about one-third of the entire length, with a thickness little inferior to that of the body; while, as this thickness is equal throughout, the front of the head terminating abruptly, as if an immense solid block had been sawn off, this part of the animal bears no small resemblance to an immense box. The appearance of a whale when disturbed, and going what seamen call 'head-out,' with his vast bluff head projected every few seconds out of water, has a most extraordinary appearance.

The pursuit of the sperm whale is attended with much greater danger than that of the Greenland whale, and Beale gives many instances in which, in his own experience, boats were stove in and men lost. Stories of fighting whales, he says, are numerous, but probably exaggerated; one, known as 'Timor Jack,' is said to have destroyed every boat sent against him, till at last he was killed by being attacked from several directions at the same time, thus diverting his attention from the boat which made the successful attack. Another, known as 'New Zealand Tom,' destroyed nine boats successively before breakfast, and when eventually captured, after destroying many other boats, many harpoons from the various ships which had attacked him were found sticking in his body. There is one well-authenticated instance of a vessel being attacked and destroyed by a sperm whale. The American whale-ship *Essex* was attacked by one, which, first passing under the vessel, probably by accident, came in contact with her keel and carried it away; then, turning and rushing furiously upon the ship, the whale stove in her bow; so serious was the breach, that the vessel speedily filled and went down. Most of the crew were away in their boats at the time, but those on board had just time to launch their one remaining boat before the vessel sank. The boats made for the coast of Peru, the nearest land, many hundreds of miles distant; one of them was picked up drifting at sea, and three of the crew, who were found in it in a state of insensibility, were the only survivors of the ill-fated vessel.

In addition to the sperm and oil, this species yields another product, which is, or was, very valuable, although it is the result of disease, and one would imagine a very uninviting substance. It is the ambergris, a concretion of the indigestible portions of the cuttle-fish, which form the food of the sperm whale. The nucleus of the mass is generally the horny beaks of these creatures, and the substance itself is found in the intestines of the sperm whale, or on the shores of the seas frequented by this species. No other whale is known to be subject to these bezoars.

Although possessing a range greater than any other known species of animal, it is only open and deep waters which can be said to be the home of the sperm whale; and when found in shallow seas, its generally emaciated condition indicates the absence of its proper nourishment; and the readiness with which whole herds precipitate themselves stupidly upon the sands, shows how little they are acquainted with such objects.

Every favourite resort of the sperm whales, although not out of soundings, has claims to be considered the site of submerged land. The islands of the Polynesia, which are its special feeding-ground, are the beacons left by the submerged Pacific continent.

Seven species of whales are known to the Japanese, — the awo-sangi, iwasikura, kud-suri, mako, nagass, sebio, and sutukad-sura. The skin, which is black in most kinds; the flesh, which is red and looks like beef; the intestines, which from their remarkable length are called feakfirs, that is, an hundred fathoms long; and all the inward parts,—are eaten, pickled, boiled, roasted, or fried. The fat or blubber is boiled into train-oil, and even the sediments of the second boiling are eaten. The bones, such as are of a cartilaginous substance, are boiled when fresh, and cut or scraped, cleaned and dried for the use of the kitchen. Several little things are made of the jaw-bones, fins, and other bones, which are of a more solid substance, and particularly their fine steelyards for weighing gold and silver are made of them, and have borrowed their name from them.—*Williams' Middle Kingdom*, p. 258; *Tennent, Ceylon*, p. 68; *American Expedition*, p. 243; *Capt. Sparkes in B. A. S. Journ.*, 1852; *Ouseley's Tr.* i. pp. 150, 230; *Arrian, Hist. Ind.* cap. 30; *Kæmpfer's Japan*, i. p. 133; *Hartwig; O'Sh.; Gosse's Nat. Hist.* p. 115; *Smith*, p. 230; *Jerdon's Mammals; Gray, Catalogue.*

WHAMPOA, a town built on Bankshal Island, in the Canton river. Two high islands, by Europeans commonly called Danes and French islands, form Whampoa anchorage, in lat. 23° 6½′ N.

WHANGHEE. JAP., MALAY. A name derived from the Chinese Wang, yellow, and Hee, root, a species of cane exported from China. The whanghee cane has a pale, hard bark and flexible stem, with intervals of about an inch and a half or

two inches, and a number of little holes at the knots. These small canes, with short internodes, are imported from China into England as walking-sticks.

WHEAT.

Hinteh, ...	ARAB.	Grano, Formento, . .	IT.
Lai, Siau-met, .	CHIN.	Gandum, Trigo,	MALAY.
Kia-size-ts, . .	,,	Khanak, ...	PANJ.
Hvede, ...	DAN.	Gundum, ...	PERS.
Tarw, ...	DUT.	Pszenica, ...	POL.
Froment, Bled, Ble,	FR.	Trigo, ...	PORT.
Weitzen, ...	GER.	Pscheniz, ...	RUS.
Purvi, ...	GR.	Hvete, ...	SW.
Khittah, ...	HEB.	Godumbi, ...	TAM.
Gehun, ...	HIND.	Godumalu, . . .	TEL.

The geographical range of the wheat region along the Atlantic portions of the western continent, embraces the tract lying between the 30th and 50th parallels, and, in the country westward of the Rocky Mountains, one or two more degrees farther north. Along the west coast of South America, as well as in situations within the torrid zone, sufficiently elevated above the level of the sea, and properly irrigated by natural or artificial means, abundant crops are often produced. Wheat has, from time immemorial, been a staple crop in the plains of Northern India, and especially in the Panjab. The climate and soil are well fitted for this cereal, but, owing to defects and carelessness in the agriculture and harvesting, the crops, though excellent, fall short of what most corn-growing countries produce.

Wheat is grown to a great extent in Berar, in Coimbatore, and largely in Burma, and it is now largely and increasingly exported from India, viz.:

1874–75, . .	1,069,076 cwt.	Rs. 49,04,352
1875–76, . .	2,498,185 ,,	90,10,255
1876–77, . .	5,583,336 ,,	1,95,63,325
1877–78, . .	6,340,150 ,,	2,85,69,899
1878–79, . .	1,044,709 ,,	51,37,785
1879–80, . .	2,195,550 ,,	1,12,10,148
1880–81, . .	7,444,375 ,,	3,27,79,416
1881–82, . .	10,863,520 ,,	8,60,40,815
1882–83, . .	14,151,765 ,,	6,07,13,170

In 1883, Messrs. M'Dougall Brothers were requested by the India Office to take a given quantity of the four representative Indian wheats, viz. Indian 'fine soft white,' 'superior soft red,' 'average hard white,' and 'average hard red,' and manufacture them into flour by the ordinary process of grinding under millstones; also that similar quantities should be manufactured into flour by means of crushing between rollers, according to what is known as the Hungarian or roller system; further, that a given quantity of each flour should be manufactured into bread; that the qualities and other characteristics of the flours and offals thereof should be severally noted; and that the Indian wheats should be severally compared with all the leading varieties of home and foreign wheats. They reported that they all possess, in a marked degree, the same characteristics of great dryness and a distinct beany and almost aromatic flavour, inseparable from wheats grown in the climates and soils of the tropics. Also, that the flours are ricey, the texture of the bread is too close, and the crust is hard and brittle. But these characteristics do not detract from their usefulness in any important degree. A miller cannot show skill in his craft to greater advantage or profit than in the way he selects his wheats and mixes his grists, so as to produce to best advantage a flour from which bread can be made of the colour, bloom, strength, and flavour desired, and withal a good yield. Messrs. M'Dougall pronounced the Indian wheats to be exceedingly useful wheats,—in fact, hardly equalled, for what is deficient in the English market, by any other wheats. Their chief characteristics are just those in which wheats grown in the variable British climate are most deficient. Their great dryness and soundness render them invaluable for admixture with English wheats that are in any degree out of condition through moisture; and the great proportions of the wheat harvested here have been in that condition for years past,—a condition that must prevail in all other than that of wheats harvested and stored during fine and favourable weather.

In London the lowest points in the 19th century as respects the annual average price of wheat was 38s. 7d. in 1851; in 1835 it was 39s. 4d.; and in 1864, 40s. 3d. The following has been the yearly average price of wheat during the past 25 years:

Year.	s.	d.	Year.	s.	d.	Year.	s.	d.
1859, . .	43	9	1868, . .	63	9	1876, . .	46	2
1860, . .	53	3	1869, . .	48	2	1877, . .	56	9
1861, . .	55	4	1870, . .	46	11	1878, . .	46	5
1862, . .	55	5	1871, . .	56	8	1879, . .	43	10
1863, . .	44	9	1872, . .	57	0	1880, . .	44	4
1864, . .	40	3	1873, . .	58	8	1881, . .	45	4
1865, . .	41	10	1874, . .	55	9	1882, . .	45	1
1866, . .	49	11	1875, . .	45	2	1883, . .	41	7
1867, . .	64	5						

In India, several species and varieties of wheat are grown, viz.:

Triticum vulgare, *Var.* hybernum or winter wheat.
T. vulgare, *Var.* æstivum or spring wheat.
T. compositum, Egyptian wheat.
T. spelta, bere or spelt, much cultivated in France.
T. monococcum, remarkable for its single row of grain.

That which is chiefly cultivated in England is the T. vulgare. Of this there are two varieties,—T. æstivum or summer wheat, and T. hybernum or winter wheat; the former is sown in the spring, and the latter in the autumn. Of these varieties, again, there are several different modifications.

In India, wheat of all kinds is the growth of the rabi or spring harvest. The number of varieties in the Panjab is not in reality very great, though considerable difference of nomenclature exists. Wheat is sown in the months of Kartak and first half of Maghar, and is cut in Baisakh (April). Wheat is often sown mixed with barley; this is called goji in the Panjab, and trikala in Cis-Sutlej States; or with gram, Cicer arietinum, and then called bhera; or the red and white varieties are sown together under the name of jogyan. The principal difference observable in Panjab wheats is that some are bearded and some are awnless. There are two sorts of the bearded wheat, one with a dark-coloured beard, the other with a light-yellow beard.

Gerard speaks of wheat at 10,000 and Captain Webb at 12,000 feet on the southern slope of the Himalaya. The extreme limit is given at 13,000 to 15,000 feet. Wheat grows to a height of 13,000 feet at Lara and Ladang, above Dangk-kar in the Spiti valley. In the valley of the Indus, it appears at Ugshe and Chimra at 11,000 to 12,000 feet. A wheat, called daud-khani, with a large and very white grain, was introduced from the N.W. Provinces, and grown chiefly on the banks of the Sutlej, on alluvial and irrigated lands. It is much used by sweatmeat makers on account of its being so white. It sells, where grown, at about 31 to

32 seers per rupee, always cheaper than pamman, being considered inferior.

Multan wheat is beardless, and its grain long and heavy. It is exported in large quantities to Rajputana and to Sind.

Four kinds of wheat are grown in Oudh, called Safeda, Morilwah (which is awnless), Samodwah, and Lallia. The first two are the best kinds, and were sold from 16 to 40 seers per rupee, according to the abundance of the season. The other two kinds are those most generally sown. When the wheat crop is from 4 to 6 inches high, it is irrigated once, and then a second time when it begins to flower. It is grown on heavy soils, and generally near the banks of rivers. It is sown in October.

In Sumbulpur district, wheat is extensively cultivated. The flour made from it is excellent, as is the bread.

A beautiful wheat is produced in the Jubbulpur, Narsingpur, and Hoshangabad districts, all along the line of the railway to Bombay.

Wheat is grown largely in the Burmese territories. The soil of Pegu is too moist, and the climate too damp for it.

Wheat is grown to a considerable extent in the Bara-Mahal district of the Madras Presidency.

All kinds of wheat contain water in greater or lesser quantities. Its amount is greater in cold countries than in warm. In Alsace from 16 to 20 per cent.; England from 14 to 17 per cent.; United States from 12 to 14 per cent.; Africa and Sicily from 9 to 11 per cent. This accounts for the fact that the same weight of southern flour yields more bread than northern; English wheat yields 13 lbs. more to the quarter than Scotch. Alabama flour, it is said, yields 20 per cent. more than that of Cincinnati. And in general, American flour absorbs 8 or 10 per cent. more of its own weight of water in being made into bread than the English. The English grain is fuller and rounder than the American, being puffed up with moisture. To ascertain the amount of water in flour, take a small sample, say five ounces, and weigh it carefully; put it into a dry vessel, which should be heated by boiling water; after six or seven hours, weigh it; its loss of weight shows the original amount of water.

Bombay wheat is whiter and heavier than that from Kattyawar, and produces a greater quantity of soojie and flour. That of Kattyawar is smaller and darker, and produces good flour, though smaller in quantity, with less soojie.

Added to their dryness, the thinness of the skins of Indian wheats, and the consequent greatness of the yield of flour, must always place them in the front rank as a miller's wheat, whenever they are handled with reasonable intelligence and skill. Such unprecedented yields of flour as shown by these wheats, ranging (by ordinary grinding) from 77·46 to 80·52 per cent., against English 65·2, and American spring 72·2, speak volumes in their favour; and their value is still further increased by another point of merit of almost equal importance, viz. a larger percentage of bread may be obtained than from other flours. For the best of these Indian wheats (the fine soft white), on the day they were valued on Mark Lane Market, a price was offered as high as that for American 'winters,' New Zealand, or English. The beany flavour of the other three sorts is not a serious obstacle, as fair average deliveries, when well cleaned and properly dealt with, can be employed in the proportion of 25 to 50 per cent. along with home-grown or other wheats, such as Americans, possessing a fine sweet milky or nutty flavour. Glancing at all the facts, Messrs. M'Dougall think it is evident that these wheats afford a larger margin of profit, both to the miller and the baker, than any other.

Wheat is largely used in China. It is exclusively raised in the provinces of Ho-nan, Shen-si, Shan-si, Shan-tung, and Peh-chi-li. As a rule, it is sown in winter, although occasionally as a spring crop. It is usually sown broadcast.

India's best soils yield on the average ten bushels per acre, while England yields near 30 bushels the acre. Sir J. B. Lawes has raised 43½ bushels of 62 lbs. Each additional bushel to the acre of the present cultivated area of India is equal to the yearly maintenance of 22 millions of people.

WHEAT-MIDGE, Cecidomyia tritici, a fly and its caterpillar, infesting wheat.

WHEELER, J. TALBOYS, author of Madras in the Olden Time; The History of India from the Earliest Ages; The Geography of Herodotus; i. The Vedic Period and the Mahabharata, ii. The Ramayana and the Brahmanic Period; Rare and Curious Narratives of Old Travellers in India in the 16th and 17th Centuries.

WHIRLPOOLS.

Yay-way, ... Burm. | Gird-ab, ... Pers.

These occasionally occur in the Ganges and Irawadi. A native writing of one which he saw near Koostee, says he saw the water within two or three miles whirling into a cavity several yards deep, which, after an interval, disgorged that which it had previously taken into it.

WHIRLWIND.

Lay-boay, ... Burm. | Gird bad, ... Pers.
Devil wind, . . . Eng. | Peshash, ... Tam.

The whirlwinds which occur in the desert west of Kharan, near Ragan in Baluchistan, would perhaps be more correctly called by some other name. They are vast columns of sand, which begin by a trifling agitation with a revolving motion on the surface of the desert, and gradually ascend and expand, until the tops of them are lost to the view, in which manner they move about with every breath of wind like a pillar of sand. Lieut. Pottinger saw at the same time 30 or 40 of them of different dimensions, apparently from 1 to 20 yards in diameter. Those who have seen a waterspout at sea may exactly conceive the same formed of sand on shore. Whirlwinds are extremely common in the Panjab, and in the central parts of the Peninsula of India, and some of them are supposed to be owing to electric action. Dr. Adams, writing of them, observes that about noon, when the west wind sets in, clouds of sand sweep across the country, penetrating through the minutest chinks and crevices. Whirlwinds are then of frequent occurrence. At a distance they look like revolving clouds of smoke, shooting upwards fully 200 feet. These cycloidal movements often last for upwards of half an hour, and carry with them whatever light substance they may encounter; after gliding along for some distance they finally disappear. The meeting of two opposite currents of air is no doubt at times the cause, inasmuch as a whirlwind was always seen to commence at the corners of two ranges of buildings placed at

right angles to each other. The following note of the loss of polarity by the needle during a whirlwind is given in a letter in the Bombay Times, May 30, 1846:—

'There is a class of magnetic local perturbations apparently confined to these seas, one of which was experienced by the *Queen* on her late voyage from Aden, which we do not remember to have seen noticed by magneticians. When about three hundred miles from Bombay, the people on board the steamer observed the atmosphere get suddenly clouded all around with that strange lurid appearance which indicates the approach of a burst of rain or hurricane. By and by appeared overhead those strange and turbulent vapours commonly attendant on a whirlwind or waterspout, and a light whirlwind accordingly made its appearance. At this time the magnetic virtue of the compass appeared *to vanish: the needle lost its polarity and traversed* equally in all directions. A state of matters so surprising was of short endurance; the sky cleared without a tempest, and all went well again.' It was, we think, about A.D. 1844, that an incident of this sort was met with by the H. C. schooner *Mahi* on her way from the Persian Gulf. She was surrounded by beautiful groups of whirlwinds and waterspouts ranging about her in all directions, when suddenly the needle lost its polarity, and continued for some time useless for the purpose of steering.'

Dr. Bradley has clearly established the fact that the lesser whirlwinds at all events are either due to direct electrical agency, or are characterized by the most striking electrical exhibitions.—*Pottinger's Tr.; Adams.*

WHITE ANTS, or Termites, literally build a cell round the great progenitrix of the community, and feed her through apertures. Whenever buildings are infested with the destructive white ants, their nests containing the queen ant will always be found in the immediate neighbourhood; and as the destruction of the queen ant destroys the colony, there is no reason why any building should suffer from this destructive insect; and instructions are now given generally for digging up the white ants' nests in the neighbourhood of all public buildings. As a royal cell not unfrequently contains two, and sometimes three queens, and several royal cells, containing one or more queens, may frequently be found in the same nest, the ground should be excavated until the entire destruction of the nest has placed the destruction of all the queens beyond doubt. Vegetable wax has been found efficient in checking the approach of the white ants. Cultivators of sugar-cane know how destructive are the ravages of these insects, and the following is said to be an efficacious, though rather tedious remedy:—

Asafœtida (hing), 8 chittak; mustard seed cake (Surson ki-khulli), 8 seers; putrid fish, 4 seers; bruised butch root, 2 seers; muddur, 2 seers. Mix together in a large vessel with water sufficient to make them into the thickness of curd; then steep each slip of cane in it for half an hour before planting; and, lastly, water the lines three times previous to setting the cane, by irrigating the water-course with water mixed up with bruised butch root, or muddur, if the former be not procurable. White ants can be completely extirpated from a cane plantation by manuring the soil well with mustard cake, and stirring it up constantly.

A mixture of quicklime, soap, and tar, smeared where the white ants appear, puts an effectual stop to their inroads. Tar, turpentine, kerosene oil, earth oil, and margosa oil are also valuable; wood-ashes also are of value, sprinkled about the orifices of the dwellings, and smoking them out with wet straw; the Acorus calamus, steeped in water, is said to be of use. Sarcostemma acidum is employed in the west of India to destroy them. The Poona Observer states that tobacco decoction was applied to a piece of ground where for eleven years the white ants had destroyed everything put down; their removal was most effectually secured by the sprinkling of the decoction. Solutions of salts, ashes, and quicklime prove temporarily efficacious; and if dry ashes be put into an ant-hill, and hot water poured in, the ants will be killed.

In existing buildings, auger holes from the top of the beams near the walls may be bored, and fish oil or the earth oil (naphtha) poured in, and allowed to find its way into the wood. In short, a process similar to creosoting extemporized. Fish oil is effectual, and is more readily diffused through the wood.

A coating of tar, creosoting, and impregnation with dilute sulphate of copper, by means of Boucherie's apparatus, appear effectually to preserve timber and other substances from the attacks of white ants.

Few timbers (unless they have gone through some creosoting or kyanizing operation) can be said to be quite impervious to the attacks of white ants. The wood of the Strychnos nux vomica is, however, quite proof against them, probably owing to the very bitter properties of the timber. The sal or Shorea robusta, also, as far as has been observed, quite withstands their attacks. The harder timbers of India, such as the iron-wood or mesua, the Soymida febrifuga, and the acha or Hardwickia binata, are the least susceptible of injury by this insect. The timbers which have proved least susceptible of injury by white ants are teak, pedouk, Trincomalee, and rose.

Like a species of the ant that secretes formic acid, so the white ant secretes termic acid, with which it softens and moulds the soil it excavates from the earth to build its mounds and nests. To the former it gives solidity when hardened by time; to the nest itself it gives some elasticity and a corrugated leathery appearance when moist or recently excavated. Should the nest be freely handled, it causes some irritation, and stains the fingers slightly. Owing to this acid property, the white ant earth is in use as an embrocation when applied to sprains or bruises in native medicine. In native veterinary practice, it is in general use for such purposes, when boiled with an equal portion of cow-dung and applied warm to the swollen part, under the name of Leep.

Kirby and Spence (Introduction to Entomology, p. 312) say of the Termes lucifugus, a variety of the white ant, 'These insects seem to be furnished with an acid of a very penetrating odour, which is perhaps useful to them for softening the wood.' This odour to a moderate extent exists in the fresh excavated nest of the common white ant or Termitidæ.

The frosted appearance of glassware covered with the mud of the white ant, is caused by the acid secreted by this insect, which Dr. Shortt named termic acid, in an essay submitted to the St. Helena Government through the Madras Government in 1862 or 1863, when the St. Helena Government had offered a prize for the detection and destruction of white ants in that colony, which was said to cause much destruction to houses and

property.—*Mr. Simpkins; Mr. Rohde; Mr. Smart; Col. Simpson; Dr. Hunter; Captain R. H. Beddome; Captain Dangerfield; Col. T. H. Campbell, in Proceedings, Madras Military Board; Poona Observer; Dr. Shortt.*

WHITE ELEPHANTS are reverenced by the Burmese and Siamese. All the white elephants now existing in Siam and Burma are of a light mouse colour, somewhat of the same tint as the pale freckles to be found on the trunk of almost every ordinary elephant. This light-grey is uniform all over, the spots on the trunk being white. The depth of the colour varies greatly. To be regarded as a white elephant, it must have five toe nails on its hind feet instead of four. These are white elephants debased by sin. The final test is to pour water on the elephant; if a white elephant, it turns red; while a black elephant becomes blacker. The colour of the present Sinpyoo-daw of Burma is a mixture of light-brown, and dingy, smoke-smirched cream colour. The iris ought to be yellow, with a reddish outer annulus. Buddhists, since the Christian era at least, have venerated white elephants. In the Tree and Serpent Worship (plate xxxiii.) there is a bas-relief containing a short epitome of the life of Buddha. It begins with Maya's dream. She is represented as lying asleep on her couch on the terrace of the palace, and dreaming that a white elephant, which is represented in the bas-relief, appeared to her, and, as she dreamt, entered her womb. This was interpreted by Brahmans learned in the Veda as announcing the incarnation of him who was to be in future the deliverer of the world from pain and sorrow. This was in the 1st century of the Christian era. About 30 years afterwards, in the sculptures of the tope at Amaravati (plates lxv., lxxiv., xci. of the same work), the same story is repeated, but with more detail, and carried still further. The white elephant is brought down from heaven in great state, borne in a canopied car carried by Devata, and accompanied by music and dancing. This occupies a whole panel by itself. In the next, Maya is represented as asleep, the white elephant above her, as in the former bas-relief. In the other sculptures she is represented standing, holding a branch of a sal tree, and the infant Buddha is delivered from her side and received by the god Indra and attendant Devata. In the great temple of Boro Buddor, in the island of Java, the same scene is represented (i. plate xxviii. fig. 25 of the great Dutch work on the subject). Maya is asleep on her couch, surrounded by numerous attendants, and the white elephant appears from heaven, not borne in state as at Amaravati, but resting on heavenly lotus flowers. He is, however, represented as worshipped, at least with the royal umbrella borne over him, in the next plate (xxix.). These bas-reliefs were executed about the 6th or 7th century A.D.—*Dr. James Fergusson.*

WHITE GRUB is the Ancylonycha, *sp.* See Bug; Coffee; Insects.

WHITE LEAD, Carbonate of lead.

Asfeidaj, ... ARAB.	Plumbi carbonas, . LAT.
Fen-yuen, Fen-sih, CHIN.	Suffedah, ... PERS.
Kwan-fen, Shwui-fen, ,,	Muthu vullay, . . TAM.
Plom carbonate, . . FR.	Sibaydu, ... TEL.
Bleiweiss, . . . GER.	Istibedsh, ... TURK.
Cerussa, ... IT.	

Is usually made by suspending thin plates of lead over heated vinegar, the vapour of which corrodes the metal, and converts it into a heavy white powder. Mixed with oil, it forms a common paint; it is also employed in medicine.—*Faulkner.*

WHITE PEPPER.

Safed mirch, GUJ., HIND.	Vella mellogu, . . TAM.
Piper album, . . . LAT.	Tella mirrialu, . . TEL.

The fruit of a slender climbing plant, Piper nigrum, gathered after it is fully ripe, and freed of its dark coat by maceration in water. It is smooth on the surface, and is milder than the black pepper. The plant is extensively cultivated in Malabar, Sumatra, Siam, Malacca, etc.—*Faulkner.*

WHITING. Kullengan mutchie, DUKH.; Kellunga meen, TAM. Two or three species of fish common in Calcutta are called whiting, from their resemblance, both in form and flavour, to the European fish of that name. Corvinus coitor, *Blyth*, inhabits the estuaries of the Ganges and Irawadi. Its air-bladder makes excellent isinglass. It is frequently seen in the Moulmein basin.

WIGHT, ROBERT, M.D., of the Madras Medical Service, a distinguished botanist, and long superintending the cotton experiments at Coimbatore. He wrote on the Medical Properties of Mudar, Madras Lit. Trans., 1835, ii. p. 70; on the Nuth Grass of the Ceded Districts, ibid. 1838; on the Flax of Courtallum, from the Coromandel Coast; on the Land-winds of Coromandel, ibid. iii. p. 32; on the Acclimation of Extra-tropical Plants, ibid. v. p. 39; on the Cultivation and Preparation of Senna, ibid. p. 358. In the year 1834 was published the first volume of Wight and Arnott's Prodromus Floræ Peninsulæ Indiæ Orientalis. His smaller work was named Contributions to the Botany of India. From 1838, he began to print the Illustrations of Indian Botany, which were soon after followed by the Icones Plantarum Indiæ Orientalis, and his Spicelegium Neilgherriensis; and in addition many papers appeared in the Madras Journal of Science and in the Calcutta Journal of Natural History. He died at Reading in England, about the 18th June 1872. His Icones Plantarum, in six quarto volumes, illustrated with valuable plates, is alone a monument of his untiring industry and great ability, upon which he expended a large amount of his private funds.—*Dr. Buist's Catalogue.*

WIJAO, a sovereign of Ceylon who introduced the caste system, and which still prevails amongst the Buddhist inhabitants, though condemned by the doctrines of their teacher. The Portuguese, Dutch, and British Governments have each tried to eradicate it. The Aggana Suttan, in the Dighanikuya section of the Pitaka, enforces the eligibility of all classes, however low, to the office of the priesthood, which commands the homage of the highest; and the same doctrine is repeated in the Madhura Suttan. The Wasala Suttan contains a stanza, beginning with 'Majachcha Wasala hotin,' which runs thus: 'A man does not become low caste by birth; nor by birth does one become high caste: high caste is the result of high actions, and by actions does a man degrade himself to a caste that is low.' It was found impossible, however, to eradicate it, and caste continued to be tolerated by Singhalese kings as a social institution. In other Buddhist countries, Burma, Siam, and Tibet, the caste system does not exist in any form.—*Tennent's Ceylon.*

WIKSTRÆMIA SALICIFOLIA. *Dne.*
Thilak, ... BEAS. | Bhat-niggi, . . . RAVI.

A small shrubby plant, which occurs sparingly on some of the Panjab rivers in the Himalaya at from 5500 to 7000 feet up to near the Indus; paper inferior to that from the daphne is made from its bark in Kamaon, and it furnishes a strong rope at Naini Tal.—*Dr. J. L. Stewart.*

WILD BEASTS in India destroy numbers of human beings and domestic animals. In the seven years 1875 to 1881, the average number of persons annually killed by them was 20,608, viz. by snakes, 17,404; wolves, 636; tigers, 835; leopards, 234; hyænas, 31; bears, 98; elephants, 48; other wild beasts, 1337.

Of cattle, the average numbers killed annually in the same period was 51,718, viz. by tigers, 14,125; leopards, 16,392; wolves, 11,213; snakes, 2977; hyænas, 2101; bears, 613; elephants, 31; other wild animals, 4239.

In 1883, the number of wild beasts and venomous snakes destroyed were, — wolves, 4538; leopards, 3397; bears, 991; snakes, 254,968; tigers, 1557; hyænas, 1014; elephants, 2; others, 3780.

WILD-FOWL. Ducks, teal, etc., are largely brought to the markets of the principal towns of India at certain seasons of the year. An enormous quantity breed in Tibet, including many Indian species that migrate no farther north. The natives collect their eggs for the markets of Jigatzi, Giantchi, and Lhassa, along the banks of the Yaru river, Ramchu and Yarbru and Dachen lakes. Amongst other birds, the saras, or giant crane of India, repairs to these enormous elevations to breed, but the saras (Grus antigone) breeds also south of the Himalaya, and specimens too young to fly are occasionally brought for sale even to Calcutta. Eggs are two in number, about $3\frac{3}{4}$ inches long by $2\frac{1}{2}$ inches broad, of a bluish-white, with a few distantly placed rufous specks and blotches. Lake Ramchu is frequented by great abundance of water-fowl, wild geese, ducks, teal, and storks, which on the approach of winter take their flight to milder regions. Prodigious numbers of saras are seen there at certain seasons of the year, and any quantity of eggs may be collected; they are found deposited near the banks. Instances have been known of the saras breeding in captivity. The European crane, Grus cinerea, a common Indian bird, in Scandinavia breeds in extended morasses, far away from the haunts of men. It makes its nest, consisting of stalks of plants and the like, on a tussock, and often amongst willow and other bushes. Major Cunningham, in his Ladakh, etc., remarks that he shot the wild goose on the Thogji, Chanmo, and Chomoriri lake at 15,000 feet; and Colonel Bates and he shot three teals on the Suraj Dal, a small lake at the head of the Bhaga river, at an elevation of upwards of 16,000 feet. About two days' journey from Dehli is the Nujjufghur jhil, a great marsh covered with water-fowl. The method of capturing them there accords with the practice that obtains in other parts of Asia. Earthen vessels, wide enough to admit a man's head into them, and perforated with small holes, are allowed to float about for days on the surface of this jhil, until the ducks, teal, and water-fowl in general, seeing them daily, become quite accustomed to the sight, and fearlessly swim around and even approach and peck at them. This preparatory step is followed by the fowler supplying himself with a wooden float, strong enough to support him. Using it like a hobby-horse under him, he launches himself into the swamp with the earthen vessel over his head of a similar size and kind, and similarly perforated as those indicated above. The float is dispensed with in many parts of the marsh that are shallow. With a bag of network tied round his waist, he silently paddles himself along with his hands under water, until he gets among the earthen vessels and fairly amid the birds. He commences his task by quietly and patiently pulling them down one by one by their legs, and putting them into the bag, which is so well adjusted round his person that the struggles of the birds do not scare away the rest. Some use small baskets of wicker-work, with a lid of the same material, which answers the purpose better. When the bag or basket is full, the fowler recedes to the spot whence he set out on his aquatic expedition, and there empties the contents into a basket large enough to contain about four or five times the number of the small one, and then begins anew. Large nets are also laid out on favourable sites, towards which the ducks, etc., are driven, and are thus taken in great numbers.

In India may be seen, floating on the surface of the deeper waters, fleets of the Anatidæ, the Coromandel teal, the Indian hooded gull, the Caspian tern, and a countless variety of ducks and smaller fowl,—pintails, teal, red-crested pochards, shovellers, and terns; Fuligula rufina, *Pallas;* Spatula clypeata, *Linn.;* Sterna minuta, *Linn.;* Pelicanus Philippensis, *Gmel.* Pre-eminent in size and beauty, the tall flamingoes, with rose-coloured plumage, line the beach in long files. The Singhalese designate them the 'English soldier birds.' In China, the fenny margins of lakes and rivers, and the marshes on the sea-coasts, afford both food and shelter to innumerable flocks of water-fowl. The banks along the wide delta of the Pearl River and the islands in it are frequented by immense flocks of geese, teal, ducks, and other birds; and they are likewise very abundant and tame along the inland water-courses. Ducks are sometimes caught by persons who first cover their heads with a gourd pierced with holes, and then wade into the water where birds are feeding; these, previously accustomed to empty calabashes floating about on the water, allow the fowler to approach, and are pulled under without difficulty. The wild goose caught on the shores of the Pearl River, and the common goose of Chinese farmyards, do not differ much, both of them being a plain ashy-grey colour, with a large knob at the base of the upper mandible. This bird and the mandarin ducks are both considered as emblems of conjugal fidelity, and a pair of one or the other usually form part of wedding processions. The Yuen-yang, as the Chinese call this duck, is a native of the Central Provinces, and is reared chiefly for its beauty. It is one of the most variegated birds known, vying with the humming birds and parrots in the diversified tints of its plumage, if it does not equal them for brilliancy.—*Williams' Middle Kingdom,* p. 263; *Hooker, H. J.* ii. p. 161; *Tour of India by French,* p. 193; *Tennent, S. Nat. Hist.* p. 260.

WILFORD, COLONEL, an officer of the East India Company's Bengal army. In the English

burial-ground at Sechole, the most interesting monument is that of Colonel Wilford. The Hindu nation has reason to venerate the memory of this indefatigable Sanskrit scholar, who had almost Hinduized himself by a residence in Benares from 1788 to 1822, and who at length mingled his dust in the soil of that great seat of Brahmanical learning. He wrote Remarks on the City of Tagara, As. Res. i. p. 369; an Essay on Egypt, iii. p. 295; Dissertation on Semiramis, iv. p. 363; Account of Ancient Inscriptions, v. p. 135; on Hindu Chronology, v. p. 241; on the Names of the Cabirian Deities, v. p. 297; on the Caucasus, vi. p. 455; on the Sacred Isles of the West, ix. p. 32, x. p. 27, xiii; Chronology of the Kings of Magadha, ix. p. 82; on the Eras of Vikramaditya and Salivahana, ix. p. 117.—*Tr. of Hind.* i. p. 285.

WILKINS. Sir Charles Wilkins was the first European who acquired a knowledge of the Sanskrit language. He translated the Hitopadesa from the Sanskrit. He translated also into English the Bhagavat Gita, from which it was translated into the French, Russian, and German, and Schlegel produced a Latin version; gave a Glossary of Oriental Terms in the Fifth Report of the Select Committee on India Affairs, London 1813; furnished a Translation of the Monghir Inscription, As. Res. i. p. 123; of Buddal Inscription, i. p. 131; of Buddha Gya Inscription, i. p. 284; Observations on the Sikhs, i. p. 289; and wrote an Account of Two Inscriptions from the Vindhya Mountains, ii. p. 167. Author of a Grammar of the Sanskrit Language, London 1808; and Sanskrit Radicals, London 1815.—*Rennell's Memoir*, p. 332.

WILKS, Lieut.-Col. MARK, author of Historical Sketches of the South of India, London 1817, 3 vols. 4to; Translation of an Inscription on a Tambu Paka, ibid. viii. p. 736; History of Mysore, London 1810.—*Dr. Buist's Cat.*

WILLOUGHBY, Lieutenant, of the Bengal army. On the 11th of May 1857, with a mind capable of conceiving, and a heart and hand resolute and steady to perform, he blew up the magazine at Dehli.—*Tr. of Hind.* ii. p. 361.

WILLOW TREES are species of the genus Salix; the weeping willow is S. Babylonica. Willow bark contains, according to Davy, 2·3 per cent. tannin, and that of the Leicester willow 6·8 per cent. Danish leather, which has a peculiar and agreeable odour, and is used for making gloves, is prepared from kid and lamb skin by means of willow bark, which is also used in the preparation of Russia leather, but the odour of that leather is produced by the oil of birch tree bark.

WILLUGHBEIA EDULIS. *Roxb.* Luti-am, Hind. A very large climber in the forests of Chittagong and Sylhet. Every part of the plant on being wounded discharges an abundance of fluid caoutchouc. The fruit is pulpy, soft, and yellow, and esteemed by the natives. Dr. Mason says that W. Martabanica of the forests of Tenasserim produces a fruit as large as an apple, which Europeans sometimes call a kind of fig. It has an agreeable taste, but abounds in a milky juice. Its colour is yellow, and it is about the size of an orange.—*Roxb.* ii. p. 57; *Mason; O'Sh.*

WILSON. Horace Hayman Wilson went to India in September 1808 as an Assistant-Surgeon on the Bengal Establishment, and was attached to the mint at Calcutta, in association with Dr. Leyden, then next to Henry T. Colebrooke, the most distinguished orientalist in India. His studies, consistently carried through more than half a century, placed him at last the highest authority of the day upon all questions of Sanskrit literature and of Hindu theology and antiquities, as well as of the customs and social habits of the races through which that literature and religion had come down to the present generation. In 1813 he published a poetical translation of the Megha Duta, an epic poem of Kalidasa, which obtained a world-wide reputation; and he undertook the laborious task of preparing for the press, from materials collected by Colebrooke, a dictionary of the Sanskrit language with English interpretations. This was completed in 1819, and a second edition was published in 1832. It has been the key by which, mainly, the learned of Europe have obtained access to this branch of literature. His earliest article in the volumes of the Asiatic Society of Bengal was published in 1825. It was on the History of Kashmir, from the Raja Tarangini and other authorities. It attracted much attention, and was speedily translated and republished in Paris. Every subsequent volume of the Researches of this Society contains more than one contribution from his prolific pen. He compiled, in 1827, a History of the first Burmese War. He was employed by the Government of India in preparing a catalogue of the manuscripts collected by Colonel Colin Mackenzie in the south of India. In 1834 he published, under the title of the Hindu Theatre, a translation into English, with preliminary essay, of four Sanskrit dramas of antiquity. The work was received with very general favour; for the dramas were found to possess much artistic merit in the combination of incidents and in the exhibition of character; one especially, the Mrichhakati, or Play of Toy Cart, is a representation of the manners and habits of thought and condition of society in Central India at a very remote period. These four dramas, with the Sakuntala, previously translated by Sir William Jones, are among the most curious relics of Indian antiquity. But his name will live in India, and especially in Bengal, for the part he took in promoting useful instruction. He introduced the study of European science and English literature into the education of the native population. He was the Secretary to the Committee of Public Instruction at Calcutta, and he devoted himself especially to directing the studies of the Hindu College from the date of its establishment. In 1833, the University of Oxford having, through the magnificent bequest of Colonel Boden, established a Professorship of Sanskrit, Dr. Wilson was selected for that liberally-endowed situation, and was appointed also to the office of Librarian to the East India Company, in succession to Dr. Wilkins. His separate works, published after his return from India, all aimed at the wider spread of knowledge in the lore which he had so thoroughly mastered,—like his essays and translations of the Vedas and Puranas; or like his Sanskrit Grammar and Glossary of Indian Terms, for the useful purposes of instruction; or like his edition and continuation of Mill's History of British India; or like his Ariana Antiqua, on the Antiquities and Coins of Afghanistan,—with the higher aim of producing a lasting record for the information of the world at large.

He translated from the Sanskrit into English

the Vishnu Purana; Mrichhakati, or The Toy Cart; Vikrama and Urvasi, or The Hero and the Nymph; Uttara-Rama-Charita, or continuation of the History of Rama; Malati and Madhava, or The Stolen Marriage; Mudra Rakshasa, or The Signet of the Minister; Ratna Vali, or The Necklace. His prose writings were—a Sketch of the Religious Sects of the Hindus; Notice of Three Tracts received from Nepal; on the Religious Practices and Opinions of the Hindus; on the Civil and Religious Institutions of the Sikhs; The Religious Festivals of the Hindus; on Human Sacrifices in the Ancient Religion of India; on the Supposed Vaida Authority for the Burning of Hindu Widows, and on the Funeral Ceremonies of the Hindus; on Buddha and Buddhism; on the Religious Innovations attempted by Akbar; Analysis of the Puranas; Hindu Fiction; on the Medical and Surgical Sciences of the Hindus; Introduction to the Mahabharata; Introduction and Extracts from the Dasa Kumara-Charita; Account of the Panchatantra; History of Mantragupta; History of Visruta; Review of Sir F. W. Macnaghten's Hindu Law; Review of A. W. Schlegel's Bhagavat Gita; Review of Max Muller's History of Ancient Sanskrit Literature; Preface to the Sanskrit Dictionary; Notice of European Grammars and Dictionaries of the Sanskrit Language. He also gave short accounts of the Sanskrit dramas, Mahavera-Charita; Veni Sambara; Malavikagni Mitra, or Agni Mitra and Malavika; Prachandu-Pandava; Hanuman-Nataka; Dhananjaya-Vijaya; Sarada-Tilaka; Anargha-Raghava, or Murari-Nataka; Yayati-Charita; Mrigankalega; Dutangada, or the Mission of Angada; Vidagdha-Madhava; Abhirama-Mani; Madhurani-Ruddha; Kamsa-Badha; Pradyumna-Vijaya; Sri-Dama-Charita; Dhurta-Nataka; Hasyarnava; Dhurta-Samagama; Chitra-Yajna; Kantuka-Sarvasva.

John Wilson, D.D., born in the Berwickshire burgh of Lauder, 1804, died at Bombay, 1st December 1878.

'From his cradle
He was a scholar, and a ripe and good one;
And, to add greater honour to his age
Than man could give him, he died fearing Heaven.'

He was the first English scholar to master the original Zend texts, and he was the first missionary to educate and admit to the Christian church two converts from the faith of Zoroaster. Native female education was commenced by himself and his family, and before 1839 there were native girls' schools established in Bombay and its neighbourhood, under Dr. Wilson's superintendence, attended by between three and four hundred pupils. He delivered lectures on Natural History, Early Church History, Early Indian History, Indian Antiquities, Indian Ethnography, and the Doctrines of the Bible. His work on the Religion of the Parsees was published in 1843. A few years later, his Lands of the Bible, a storehouse of Biblical research. His next works of importance were his History of the Suppression of Infanticide in Western India; Exposure of Hinduism, Bombay 1832; Lecture on the Vendidad Sadi, 1833; Refutation of Muhammadanism in Oriental Christian Spectator, 1833, Bombay 1834, 1840; Second Exposure of Hinduism, Bombay 1834; Letter to Jaina Priests of Palitana, Bombay 1835, 1837, 1852; Discourse on the British Sovereignty in India, 1835 and 1837; Translation of the general Sirozeh of the Parsees, Lond. As. Trans. 1837, iv.; Letter on Girnar Tablets, As. Trans. 1838; Note on the Worship of Vetal, Lond. As. Trans. v. 1839; Sermon to the Parsees, with an Account of their Settlement in India, etc., 1839, 1847; Notes on the Kissah-i-Sanjan, or Arrival of the Parsees in India, translated by Lieutenant E. B. Eastwick, in Bom. As. Trans. 1842, No. iv.; Vendidad Sadi, etc., in the Zend, with Framji Aspendiargi's Gujerati translation, 1842; Zarthusht-Namah of Zarthust Berham, in [redacted] London 1842; Account of the Warahs [redacted]is, two forest tribes, Lond. As. Trans. 184[redacted]; The Parsee Religion, as contained in the Zend-Avesta, etc., Bombay 1843; on the Sacred Literature of the Hindus, North British Review, 1844; Lands of the Bible visited and described, 2 vols., Edinburgh and London 1847; Brief Notes on certain Parthian, Bactrian, and Indian Coins, in Bom. As. Trans. January 1849; Memoir on the Cave Temples and Monasteries, and other Ancient Buddhist, Brahmanical, and Jaina Remains of Western India, in Bom. As. Trans. January 1850; on the Hazors of Scripture, with the Identification of Hazor of Kedar, Bom. As. Trans. 1852; Second Memoir on the Cave Temples, etc., ibid.; India Three Thousand Years Ago, Bombay 1858.—*Dr. Buist's Cat.*

WIND.

Bara, ...	HIND.	Vaya, ...	SANSK.
Ang, ...	MALAY.	Gali, ...	TAM.
Bad, ...	PERS.		

In 1831, Mr. Redfield of New York established the fact that storms, seemingly the most violent and lawless, moved with precision in fixed paths, and executed their rotative movements with almost the regularity of the balance-wheel. He also demonstrated that hurricanes in the northern hemisphere revolve around their centre invariably in a direction contrary to that of the hands of a watch, and the knowledge of this physical law of storms, in countless cases has saved large vessels, and even whole squadrons, from probable destruction. Captain Douglas Wales of the Mauritius, a sailor of experience and great practical knowledge and skill, in a paper on the Converging of the Wind in Cyclones, argues that on the margin of these storms, whose diameter is often several hundred miles, the wind does not always blow around the central area of the storm in concentric circles, but frequently it converges or curves inward, in nearly radial lines, upon the centre of the gale. As it is in the centre that the verticose motion of the cyclone is most intense and deadly, it is of course of the first importance to give it a wide berth. According to the 'law of storms,' as first stated by Messrs. Redfield, Reid, Dove, and others, the winds within the entire area of atmospheric disturbance blew in perfect and concentric circles around the common centre. Captain Wales, however, after multiplied observations, shows that this rule is not strictly observed by the winds. This important fact does not, however, at all overthrow, but confirms Mr. Redfield's discovery. The converging of the wind towards the centre of the revolving gale, is of course due to the centripetal force being greater than the tangential force, which is the fact observed in tornadoes.

Dust storms of India sweep along the surface of

the ground sometimes for two or three hundred miles, and cause much inconvenience.

Land and sea breezes occur on the seaboard of all tropical countries, and on all islands in the tropics. Upon the northern coast of Java, the phenomenon of daily land and sea breezes is finely developed. There, as the sun rises almost perpendicularly from the sea with fiery ardour, in a cloudless sky, it is greeted by the volcanoes with a column of white smoke, which, ascending from the conical summits high in the firmament above, forms a crown, [illegible]mes the shape of an immense bouq[illegible]ey seem to offer to the dawn; then [illegible] sea breeze plays over the flood, which, [illegible]e torrid zone, furnishes with its fresh breath so much enjoyment to the inhabitants of that sultry belt of earth, for by means of it everything is refreshed and beautiful. The transparency of the atmosphere is so great there that they can sometimes discover Venus in the sky in the middle of the day. In the rainy season the land looms very greatly, and mountains which are from 5000 to 6000 feet high are visible at a distance of 80 or 100 English miles.

In the *Red Sea* the wind from May to November is northerly, and the other six months is southerly, but there are also land and sea breezes.

Monsoons, Trade-Winds.—Mountains which lie athwart the course of the winds have a dry and rainy side, and the prevailing winds of the latitude determine which is the rainy and which the dry side. The weather side of all such mountains as the Andes is the wet side, and the lee side the dry. Were the Andes stretched along the eastern instead of the western coast of America, we should have an amount of precipitation on their eastern slopes that would be truly astonishing; for the water which the Amazon and the other majestic streams of South America return to the ocean, would still be precipitated between the sea-shore and the crest of these mountains.

The same phenomenon, from a like cause, is repeated on the mountain sides in intertropical India, only in India each side of the mountain is made alternately the wet and the dry side by a change in the prevailing direction of the wind. From October to April the north-east trades prevail. They evaporate from the Bay of Bengal water enough to feed with rain during this season the western shores of this bay. After the north-east trades have blown out their season, which in India ends in April, the great arid plains of Central Asia, of Tartary, Tibet, and Mongolia become heated up; they rarefy the air of the north-east trades, and cause it to ascend. This rarefaction and ascent, by their demand for an indraught, are felt by the air which the south-east trade-winds bring to the equatorial doldrums of the Indian Ocean; it rushes over into the northern hemisphere to supply the upward draught from the heated plains, as the south-west monsoons. The forces of diurnal rotation assist to give these winds their westing. Thus the south-east trades in certain parts of the Indian Ocean are converted during the summer and early autumn into south-west monsoons. These come from the Indian Ocean and Sea of Arabia loaded with moisture, and, striking with it perpendicularly upon the ghats, precipitate upon that narrow strip of land between this range and the Arabian Sea an amount of water that is truly astonishing. There are thus not only the conditions for causing more rain, now on the west, now on the east side of this mountain range, but the conditions also for the most copious precipitation. Accordingly, when we come to consult rain gauges, and to ask meteorological observers in India about the fall of rain, they tell us that on the western slopes of the ghats it sometimes reaches the enormous depth of twelve or fifteen inches in one day.

These S.W. monsoon winds of India continue their course to the Himalaya, dropping moisture along their course, and in crossing this range they are subjected to a lower temperature than that to which they were exposed in crossing the ghats. Here they drop more of their moisture, in the shape of snow and rain, and then pass over into the thirsty lands beyond, with scarcely enough vapour in them to make even a cloud. Thence they ascend into the upper air, there to become counter-currents in the general system of atmospherical circulation.

The greatest rainfall occurs on the slopes of those mountains which the trade-winds first strike, after having blown across the greatest tract of ocean. The more abrupt the elevation, and the shorter the distance between the mountain top and the ocean, the greater the amount of precipitation.

Sudden storms are common throughout India in the spring. For an hour before sunset, clouds are gathered in the western horizon, which is illuminated with repeated flashes of lightning, accompanied with a continued muttering of distant thunder, the atmosphere becoming oppressively sultry. Suddenly the heavens are furiously agitated, a brightening space is seen on the horizon, and they appear rapidly diverging from it as from a centre. A few large drops of rain are dashed downwards with great violence, a whirlwind rises almost instantly, and blows as if it blew its last, with a violence to which Europe is a stranger. The rain then falls as if a deluge were commencing, sudden and terrific crashes of thunder are heard above and around, and hailstones such as we have read of are often precipitated with most injurious effect. The violence of the storm is generally exhausted in about half an hour.

Hailstorms are dreaded in India, as the hailstones are often very large, and sometimes kill man and beast, as well as destroy much of the crops.

Typhoon is the European name of frightful equinoctial gales which vex sea and land about the tropics, in the eastern seas, and down as far as to 10° from the equator. The whole Eastern Archipelago is excluded from their sphere, while the whole of the Philippines is within it, the island of Mindanao alone excepted. Typhoon is said to be a word of Chinese origin, from Ta, great, and Fung, tempest. It may, however, also be from the Arabic Tufan, a storm, and that from the Arabic root Taof, he did turn. Typhoons, cyclones, and tornadoes are great rotatory winds that move along a curved line in increasing circles, sometimes centripetal. In the northern hemisphere, the rotatory movement follows a direction contrary to that of the hands of a clock; while the opposite takes place in the southern hemisphere. In maritime language, typhoons are dangerous tempests which occur in the northern part of the China Sea, along the southern and eastern

coast of China, near Formosa, the Bashee Islands, the north end of Luconia; also to the eastward of those islands, and betwixt Formosa and the Japan Archipelago. These tempests usually blow with the greatest fury near the land; as the distance is increased to the southward from the coast of China, their violence generally abates, and they seldom reach beyond lat. 14° N., although a severe gale has been experienced at times two or three degrees farther to the southward. They occur in both monsoons.

A *velocity* of 60 or 70 miles an hour is a tolerably severe gale, and a tropical hurricane rarely exceeds 100 miles an hour. On the 18th of August 1876? however, as the central vortex of storm approached Cape Lookout about half-past six in the morning, the anemometer was found to be registering 138 miles an hour. At this point the instrument gave way, the cups being violently torn from their stems. It is said, however, that an hour and a half after the break-down of the anemometer the wind was estimated to have attained a speed of 165 miles an hour, or some 30 miles an hour in excess of what rendered the Guadaloupe hurricane so famous in the annals of meteorology. This American storm is thought to have been the most violent ever recorded. A velocity of 100 miles an hour means a pressure of nearly half a hundredweight on a square foot.

In one of the most violent tempests that ever swept over London, a pressure of only 35 lbs. was registered. During a storm in Liverpool in 1863, every now and again the wind registered a velocity of 93 miles an hour, and in February 1868 it was thought to have attained 120 miles an hour, and did enormous mischief on the north-west seaboard.

The *desert* of Kharazm or Regan, from June to September, is liable to destructive hot winds, in which man and beast perish, even the hardy camel perishing miserably. The Baluchi call it Julot or Julo, the flame, also Bad-i-Simoom, or the poison wind. There is great heat of skin, quickly ending in death. The approach of the wind is ushered in by an oppressive calm in the air, and a degree of heat that affects the eyes; the precaution then adopted by travellers is to cover themselves over, and lie prostrate on the earth. A curious fact is established by this custom, that any cloth, however thin, will obviate the deleterious effects of the Bad-i-Simoom on the human body.

The hot winds on the Oxus at Hissar and in Khiva are called Tibbad. The hot wind of the sandy deserts of Central Asia, laden with fine dust, blows over Khojend and Khokand, where it is called Garm-sal, darkens the atmosphere, and kills the silk-worm. It blows through the Khojend opening into the Farghana valley. At Yarkand, in autumn, a fine dust sometimes for seven or eight days fills the atmosphere.

With the Hindus, the air, or Vayu, and the winds, or Maruts, are personified and invoked. The maruts are depicted as roaring amongst the forests, compared to youthful warriors bearing lances on their shoulders, delighting in the soma juice like Indra, and, like him, the bestowers of benefits on their worshippers.—*Maury's Physical Geography; Horsburgh; Vigne; Markham's Embassy; Reid; Capper; Piddington.*

WINE.

Inub, Khamr,	Arab.	Vinum,	Lat.
Tsa-pyit-ya,	Burm.	Bu-angur,	Malay.
Tsiu,	Chin.	Mei,	Pers.
Vin,	Fr.	Vinho,	Port.
Wein,	Ger.	Wino, Wino-gradnoe,	Rus.
Oinos,	Gr.	Draksha-rasa,	Sansk.
Dakh-ka-mad'h,	Hind.	Madira,	,,
Ungur-ka-shrab,	,,	Sarayam,	Tam.
Vino,	It., Sp.	Sarayi,	Tel.

Wines used in the south and east of Asia are almost all imported from Europe, only to a small extent from Australia. The quantities received into British India of wines and liqueurs have been latterly as under:—

	Galls.	Rs.		Galls.	Rs.
1874-75,	564,921	47,46,951	1878-79,	487,787	41,41,744
1876-77,	464,242	40,69,585	1879-80,	443,978	39,27,310
1877-78,	496,733	43,60,198	1882-83,	418,173	38,45,719

Wine is mentioned as having been known to Noah (Genesis ix. 21), who drank of the wine, and was drunken. The allegory of the trees in Judges ix. 13, speaks of the vine which cheereth God and man; and St. Paul (1 Timothy v. 23) recommends the use of a little wine for the stomach's sake. Before his time Homer had said,—

'The weary find new strength in generous wines;'

and Martial had sung,—

'Regnat nocte calix, volvuntur biblia mane,
Cum Phœbo Bacchus dividit, imperium,'

which has been rendered,—

'All night I drink, and study hard all day,
Bacchus and Phœbus hold divided sway.'

In Europe, in the manufacture of wine ripe grapes are trodden by men or cattle in a vat, and the juice which is thus forced out is called must. The marc or solid parts being mixed with the must again in wooden tanks, fermentation soon takes place, much heat is developed, and carbonic acid gas is copiously disengaged; the marc now rises to the surface of the tank, and when the effervescence ceases, the subjacent wine is drawn off from below, and the marc then subjected to strong pressure.

If the wine be bottled before the fermentation has terminated, it has the property of foaming in the glass in consequence of the sudden liberation of carbonic acid; champagne is thus manufactured. In the preparation of white wines the marc is removed before fermentation.

According to Humboldt, the conditions of climate essential for the manufacture of good wine are, a range of temperature from 62° to 50° or even 47°, provided the winter heat is not lower than 38°, nor that of summer below 66° or rather 68°. At a higher mean temperature the juice passes too rapidly into the acid fermentation. The manufacture of wine thus becomes impracticable in the plains of India; moreover, the rains set in so soon after the ripening of the grape, that the manufacture of raisins by sun-drying is equally impossible. Dr. Royle informs us of the existence of luxuriant vineyards in Kanawar, between lat. 31° and 32° N. (or nearly that of Madeira), at an elevation of 9000 to 10,000 feet, the grape being of delicious flavour, and the climate exactly suited for both the wine and raisin manufacture. Grapes are also abundant in Kashmir, Kābul, and Bokhara, and afford both raisins and wine. The most celebrated of eastern wines, however, is the Shiraz, prepared in the districts of Khollar, near

the village of Bendamir. There are two varieties, red and white, the former containing 15½, the latter nearly 20 per cent. of alcohol.

The Mosaic law prescribes drink-offerings of a particular measure of wine at the ordaining of priests, and also at harvest festivals and on other occasions of solemnity during the year. In the ancient Greek ritual, not only wine, but other drinks were used, and almost each god and each feast had its appropriate libation of liquids as well as its offering of flowers, fruit, cake, or flesh. Hardly a sacrifice was complete without the use of wine. It was dashed over the brows of the horned victim when immolated, and poured over the cakes which were spread upon the altar. The wine to be used at every meal was first offered in libation to the gods.

Turks.—Timur and his ladies appear to have been confirmed wine-bibbers. Ruy Gonzalez de Clavijo, who visited their court as ambassador from the king of Castille and Leon in 1403, in describing a feast given by Hausada, the wife of the eldest son of Timur, says that when 'the ambassadors arrived, the ladies were drinking, and the way they drink is this: An old knight, a relation of the lord, and two small boys, his relations, serve the cup, before Hausada, and before the other ladies, in this manner: they hold white napkins in their hands, and those who pour out the wine, pour it into small golden cups, which they place on flat plates of gold. Those who serve the wine then come forward, with the pourers-out behind, and when they have got half-way, they touch the ground three times with their right knees. When they come near to the ladies, they take the cups, with their hands wrapped in the white napkins, so that they may not touch the cups, and present them kneeling, to the ladies who are going to drink. . . . You must not think this drinking is of short duration, for it lasts a long time without eating. Cano, the wife of Timur Beg, came to this feast. After the drinking had lasted a long time, Cano called the ambassadors before her, and gave them to drink with her own hand, and she importuned Ruy Gonzalez for a long time, to make him drink, for she would not believe that he never touched wine. The drinking was such that some of the men fell down drunk before her; and this was considered very jovial, for they think that there can be no pleasure without drunken men.' The ambassadors could not withstand the temptation. Neither the Jewish nor the Christian religion prohibited wine or strong drinks.

Muhammadans.—The use of wine is forbidden in the Koran under the word Khamar, which literally means anything intoxicating. Persian shiahs, however, have always been less strict in regard to indulgence in wine. Pietro della Valle mentions two ordinances of Shah Abbas, the one forbidding its use, showing that the religious precept had failed in effect; and the second annulling the prohibition, upon finding that the people, especially the soldiers, had substituted for wine a liquid preparation of opium, by which their health was injured. Wines, by the Persians, are valued for their intoxicating qualities, and not at all for their flavour. Mazanderan, bordering the south of the Caspian, and Khorasan, the eastern continuation of the former province, are the Lesbos and Chios of the subjects of the Shah, but the characteristics and reputation of their produce have become blended in the wine of Shiraz. An old Persian proverb declares that he 'who would live merrily should take his wine from Shiraz, his bread from Yesdecast, and a rosy wife from Yest.'

Shiraz is famed for its vineyards and pomegranate orchards, the former bending under the weight of the largest grape of any Persian vine, although the smaller imperial fruit of Tauris is most juicy and delicate. The principal gardens are situated at the foot of the Zagros mountain, having a fine exposure. 'Apertos Bacchus amat colles.' The vines are grown low, and sometimes trained over stone walls. At Kasvin the growers irrigate their gardens only once a year, about the middle of April, and there is a tradition that the clayey soil thus treated retains sufficient moisture for the season. The vines cultivated in the rising ground of Zagros may be divided into twelve varieties. First there is Kishmish, bearing a beautiful large bunch of white grapes, the berries being oval and without seed. This species serves both for wine-making and the production of raisins. Damas gives a black grape, from which the finest red wine, rich and of great durability, is made. The vines called after Samarcand differ; some yield bunches 12 lbs. in weight. Then there are the Rischbaba, Askeri, and Tauris varieties, supplemented by a vast number of white, green, yellow, violet, red, brown, blue, and black grapes. The juice is fermented in glazed earthenware vases, which are buried in cool cellars. The wine is bottled in glass flasks containing about five imperial pints, and sold by weight. Its taste to a foreigner is at first harsh, but after a few trials there are few who would not appreciate its good qualities. A German connoisseur highly praises the Shiraz produce, comparing it, indeed, to the best growths of Burgundy. Next to Shiraz, Teheran, Yezd, Kasvin, Tabreez, and Isfahan are the most important wine-producing places. They are all situated on the southern slopes of mountain ranges, and thus possess the chief requirement in viticulture. The modern Persian purchases his wine from the Parsee, Jewish, or Armenian growers, who mix it with arrack, saffron, or the extract of hemp.

Wine of a red colour is made by the Siah-posh, who export it in leather skins. The nobles of Kābul each has his own wine-press. The juice is trodden out into a large earthen vessel or masonry reservoir, from which the juice flows through a small hole into a narrow-mouthed earthenware receptacle, and the mouth closed for forty days, when a flagon of fine porous clay is poured in, and the mouth closed air-tight, with a luting of dough, and placed aside to ripen. In Afghanistan and in the British districts on the N.W. of India, the vine grows in wild luxuriance, and in Kashmir wine is made from the grapes of that favoured climate.

A wine called Kishmishi is made in Sind from dried grapes, and that called Anguri is made of the Sind grape at Hyderabad, Sehwan, and Shikarpur. They are sold pure, or strengthened with spirit made from raw sugar.

The *Chinese* in the cold weather drink a fair quantity of wine, but are seldom addicted to drunkenness. Their wines are crude spirituous liquors, almost altogether unrefined, distilled from rice, millet, barley, and other fermented grains,

and the process of distilling seems to have been perfected during the Mongol dynasty. Grape wine was originally brought from certain volcanic districts in Turfan, which has prejudiced the Chinese against it, as they consider it heating. A wine flavoured with sandal-wood, brought from Siam, was formerly in great repute in China. The celebrated Cheh-kiang wine, called Shau-hing-tsiu, is wholesome and in great repute throughout China; it has a yellowish colour and sour flavour. The Yuen-hwa-tsiu is a weak white wine or spirit, flavoured with the flowers of the Passerina chamædaphne, and reputed to be tonic. The Kwei-yuen-tsiu is a red wine. The Pih-luh-tsiu is a greenish coloured wine or spirit, resembling a cordial, made at Peh-chi-li and Hu-peh. The Feu-tsiu is a kind of strong whisky, originally distilled in Fu-chau-fu in Shan-si. The wines of China are taken warm, very soon redden the face, and culminate in evanescent stimulation.

The wines known to Europeans in S.E. Asia are almost exclusively the product of Europe; little of the wines from the Cape of Good Hope, or from Australia, is used. The *palm wines*, the fermented sap of the several species of palms, are very extensively used by all classes of natives, but by Europeans they are untasted.

The wines best known in India are sherries of kinds, clarets, champagne, hock; the Sicilian marsala is scarcely ever seen under that name. The Rhenish wines are often put on the tables of the more wealthy, and the Hungarian, Italian, and Greek wines are rapidly gaining ground. Port or Lisbon are very rarely seen, and the famed wine of Shiraz or Kerzerum is wholly unknown, though Ahmad of Andabul sang,—

> 'Bring the bowl and pass it round,
> Lightly tune the sportive lay;
> Let the festal hour be crown'd,
> Ere 'tis lost like yesterday.'

WINI. Sansk. Winaya, Burm. The Burmese book which regulates the life and conversation of the Buddhist monks.

WINNOWING. Matthew iii. 12 says, 'Whose fan is in his hand.' The common winnowing fan of the Hindus is square, made of split bamboos, and the corn is winnowed by waving the fan backwards and forwards with both hands.—*Yule*, p. 169.

WIRD. Arab. Repeating perpetually something out of the Koran; a supplication or blessing.

WIRGEL-COIL, a celebrated temple in Ceylon. It was plundered in 1839 by moormen (Muhammadans) from Batticaloa of jewellery to the amount of Rs. 6000.

WISTARIA SINENSIS, *D.C.*, Glycine Sinensis, *Sims.*, is a twining plant, one of the Fabaceæ and of the section Phaseoleæ. In China, Mr. Fortune saw one which had all the appearance of a tree in miniature. Every one of the branches was loaded with long racemes of pendulous lilac blossoms. At another place he saw a Wistaria evidently of great age. It measured, at 3 feet from the ground, 7 feet in circumference, and covered a space of trellis-work 60 feet by 102 feet. Thousands of long racemes hung down nearly half-way to the ground.—*Fortune, Japan and China.*

WITCHCRAFT is believed in by all the races of the south and east of Asia. It still lingers even in civilised Britain. Amongst the Musalman we find the first distinct expression of the religious condemnation of all magic as a sin, because it is treason against God. But sorcery of all kinds is known and incessantly practised. Much business is done in amulets, charms, spells, exorcism, magic mirrors, cabalistic figures, divination, sortilege, and the like. But all such proceedings and devices are opposed to the true spirit of Islam, and are condemned by Musalman divines. For the admission of other supernatural beings into any kind of partnership with God, in the exercise of miraculous powers, which are his attributes, or the performance of wonders without calling on God's name or ascribing the glory to him, are matters upon which Muhammadanism looks with a very unfavourable eye. The Banjara race are confirmed believers in witchcraft. In one of their Berar encampments near Khamgaum, a headman had lost some of his cattle by death in a most mysterious manner. He came to the conclusion that there was a witch in the encampment, and resorted to the priest for advice, and agreed to give him 60 rupees. The priest performed a number of mummeries, and then pointed out an old woman as the person who had caused all the destruction to the cattle. The woman was a wife of another headman, was seventy years of age, and was the mother of ten children. When the husband of the woman was informed of the revelations of the priest, he told his wife of the same, and although she protested most earnestly against what was said, she was not believed, and the husband and two of his sons led her to a lonely place in the jungle, and strangled her with a rope. The two sons then dug a grave and buried the poor woman. The father and his sons were condemned to death.

So late as the year 1863, an old man of 80 was swung for a wizard in the hill stream at Little Hedingham, in Essex, and died from it. In the wild tract in the extreme south-west of Udaipur, in 1871, the headman (Gounthee) of a Bhil village was taken ill, and one Lemba Bhaguri, a bhopa or witch-finder, was employed to discover the witch who had caused his sickness. That man's account of what happened, given before the Political Assistant at Kotra, was as follows:—'Dhuna *Doongri took* a handful of grain, and, having waved it over the body of the Gounthee Sukra, asked me to look at the grain. I looked at it, but I never spoke or said a word, nor did I show that any one was a witch. I remained perfectly silent. On this, Champa, Knolo, and the four sons of Sukra said to me, "Why are you silent and do not speak? We have already arranged everything: Deeta, Loi's wife, is the witch, and she has made the Gounthee ill; let us go and put her to the test." On this every one rose, went and seized Deeta, and took her to the water and put her to the water test (which is the following:—A bamboo is embedded at the bottom of any piece of water. The accused goes to the bamboo, holds it and by it descends to the bottom. In the meantime one of the villagers discharges an arrow from his bow, and another villager runs to pick it up and bring it back to the place it was launched from. If the unfortunate woman is able to remain under water until this is done, she is declared innocent, but if she comes up to breathe before the arrow is returned to the bowman, she is a true witch, and must be swung as such). The bow-

man was Kumla Kasota, his father's name Nurhingh, of village Khara. The fetchers of the arrow were two of Sukra's sons, Kumla and Joyta. I was also present at the time of test. The woman failed in the test, and thus became a witch. At this a great outcry was raised, and the woman was seized and tied up and taken away. I returned to my home.' Other evidence, however, showed that, after looking at the grain, Lemba had declared Deeta the witch. What happened then may best be told in Deeta's own words:— 'Seven Bhils of Jhanjur and Kumla of another village came to my house and told me I was a witch, and that I had made Sukra Gounthee ill. They seized me, saying, "Come and undergo an ordeal." I agreed, and went with them. They put me to the test of taking out a rupee from heated oil. I twice took out the rupee from the burning oil without injury to myself, and was innocent. They allowed me to go home. At the time of undergoing the ordeal, my husband Deeta Loi and his elder brother Lalla were present on my part. A month after this the above-named seven Bhils again came to my house, seized me, and said they would put me to the water test. They took me to the river and told me to perform the test. I refused, and did not enter the water; they then took me to a tamarind tree behind Sukra's house, and applied a bandage of red chillies over my eyes, tied me to a rope head downwards from the tree, and began to swing me backwards and forwards. They swung me for two whole days; the third day they swung me till 12 o'clock A.M. They, thinking me then dead, undid the ropes, and left me there. Budda Paigee, who belongs to my father's village, and whom I call brother, took me to his house and attended to my wounds and my inanimate state. Having a little life in me, I recovered.' The rope, it appeared, had been tied round her ankles. During the swinging the Bhils kept on shouting and urging her to confess. They used to take her down at night, but not to untie the rope, and they gave her food. Two of the neighbouring Thakurs tried to stop the swinging, but the Bhils would not obey; but at last a period was put to further torture, either by the influence of the Mewar Vakil, or by the impression that its victim was already dead. The Political Assistant sentenced Lemba to five years' imprisonment in the Ajmir jail. The punishment of the villagers who swung the woman had been committed by the Durbar to a neighbouring chieftain, and he executed it in such a barbarous manner as to call for severe animadversion on the part of the British political officers.

In 1872, in the Bhil country, a Baniya of Kushulgarh, by name Fatta, was very ill, and he and his family fancied he was bewitched. The Baniya himself believed that his liver was being devoured by the woman Chundoo, described to be 70 to 80 years of age, whose cattle he had previously taken in satisfaction of a debt. He consequently summoned, from a neighbouring village, the witch-finder Vosta, who performed the usual incantations called Kajlee, and confirmed the Baniya's suspicions; and Badria Tarri, one of the Bhils present, recommended that Chundoo should be swung. Chundoo was sent for, taken to the kotwali, and confined there. After an interval of a few days, some Bhils were summoned, and paid to swing Chundoo as a witch at a little distance outside the city. The poor woman was taken to a banyan tree and swung from her wrists, her eyes, as is customary on such occasions, being bandaged with red chillies. The swinging was carried out under the direction of Ali Kotwal, the bhopa being also present on each day to obtain the witch's confession. She refused to confess or exorcise the Baniya, whom she upbraided for having taken her cattle. After swinging for four days, the unfortunate creature died, and orders were given to the Bhils to bury her. The swinging of alleged witches was of common occurrence in the Bhil tracts before the Mewar Bhil corps was raised at Khairwara, but rarely happens now-a-days. The belief in witches is widespread. Juvini tells us that from time immemorial women had been addicted to witchcraft in Turkestan and Transoxiana; witches were called in to sick people, and practised spells and incantations by which they pretended to drive away diseases. —*P. Arminius Vambery, Bokhara*, p. 143; *Pioneer.*

WITHANIA COAGULANS. *Dun.*

Panir, .	HIND., PANJ.	Spin bajja, . .	TR.-IND.
Khamjaria, . .	RAVI.	Khumazare, . .	,,
Kulilana, . . .	,,	Makhazura, . .	,,

This plant grows in the southern parts of the Panjab near houses or fields, seldom in the desert. The Afghans use it for coagulating milk; its seeds in colic, and its bitter leaves as a febrifuge. It is also a veterinary medicine.—*Honig.; Stewart; Powell.*

WITHANIA SOMNIFERA.

Asgand nagori, . .	HIND.	Ashwa-gandha, .	HIND.
Isgand, ...	,,	Lal kuti, . . .	PANJ.

Its long white root is used as a diuretic and a deobstruent; its leaves, bitter and narcotic, useful in special diseases and in swellings, and externally in carbuncle; it is said also to improve the complexion.—*Powell.*

WITTOBA or Vithoba, one of the many subordinate incarnations of Vishnu. It took place at Panderpur, a town about eighty miles to the south-east of Poona. The Brahmans speak of it as an event of not very ancient date, but say that it is recorded, perhaps prophetically, in the Bhagavata. A splendid temple is there dedicated to his worship. He is represented sculptured in stone, of the size of a man, standing with his feet parallel to each other, with his hands upon his lips, the fingers pointing forwards; he is covered with a sort of raised hat, crowned with a linga; his hair is plaited, and turned up. Wittoba is also worshipped at Alundi, but his principal shrine is at Panderpur, on the Bhima, to the westward of Sholapur. Wittoba is a god of very questionable orthodoxy, but he is very popular among the Mahrattas. The same is the case with Kandoba, who is yet more popular among the lower orders of Mahrattas, and, if possible, less orthodox; they are probably the ancient deities of the Mahratta race.

WOAD, a dye yielded by Isatis tinctoria, *L.*, said to have been used by the ancient Britons, prior to the Roman conquest, to stain their skin a blue colour.

WODALA, a seafaring race on the coasts of Gujerat and Cutch.

WODEN, supposed to be the Buddha of Hindustan. The name came from the east to Europe just when active missionaries were spreading

Buddhism on all sides; and the fourth day of the week is Wednesday in the west, and Budhbar in the east. Beyond these names, however, there is no similarity between the gentle ascetic Sakya Muni, to whom this appellation is given in Buddhist countries, and the fierce warrior who came to Europe.

WOFTANGIL. KASH. A grass of Kashmir, from which is prepared a yellow dye for shawl-wool.

WOLAR, a lake near Srinuggur in Kashmir.

WOLF.

Canis lupus, *Linn.*	C. palipes, *Sykes.*
Deeb, ... ARAB.	Bherija, Landga, . HIND.
Tola, ... CAN.	Lupo, Lupa, . . . IT.
Vulf, ... GER.	Lupus, ... LAT.
Lukos, ... GR.	Vrika, ... SANSK.
Zeeb, ... HEB.	Lobo, Loba, Lupia, . SP.

The wolf roams over British India, never singly, but always in large or small packs. If a single one appear, it may be assumed that others of the pack are near. They are bold even in the vicinity of towns, scarcely moving off from horsemen; and in Central India, Oudh, and the Panjab, they destroy large numbers of children, and even full-grown men and women. In this case two wolves would attack, one stealing up behind and seizing the victim by the neck, while the other, coming swiftly up, tears out the entrails in front. In the seven years 1875 to 1881, 4452 persons were destroyed by wolves in India. Their ordinary prey are deer and sheep, and in pursuit they display great sagacity, throwing out flanking parties on surrounding the game. Recently a sambur deer was seen to run close up to a railway train in Berar, but halted as the train moved on; looking beyond, a body of wolves were observed in its pursuit.

Wolves are numerous in the neighbourhood of Sultanpur, and, indeed, all along the banks of the Gumti river, among the ravines that intersect them; and a great many children are carried off by them from towns, villages, and camps. Hardly any of the Hindu population, save those of the very lowest class, who live a vagrant life, and bivouac in the jungles or in the suburbs of towns and villages, will attempt to catch or kill them. All other Hindus have a superstitious dread of destroying or even injuring them; on whose hand a drop of wolf's blood has fallen, believes himself doomed to destruction. The class of little vagrant communities above mentioned, who have no superstitious dread of destroying any living thing, eat jackals and all kinds of reptiles, and catch all kinds of animals, either to feed upon themselves, or to sell them to those who wish to keep or hunt them. Wolf-boy; Colonel Sleeman mentions instances of children brought up by wolves. —*Rajasthan*, i. p. 466; *Sleeman's Journey*, p. 206.

WOLFF, REVEREND JOSEPH, a native of Germany, a Jew convert to Christianity, domiciled in England, who travelled as a missionary to the Jews through Central Asia, to Kābul, to Jedda, and to Bokhara; in 1844 he made a noble effort to release Colonel Stoddart and Capt. Conolly.

WOMAN.

Amraah, . . . ARAB.	Aurat, ... HIND.
Vifmann, . ANGLO-SAX.	Donna, ... IT.
Wimann, . „	Mulier, ... LAT.
Wimman, Wemann, „	Zan, ... PERS.
Femme, ... FR.	Muger, ... SP.
Frau, Weib, . . . GER.	Pomli, . . TAM., TEL.
Ishsha, ... HEB.	

The respective numbers of men and women in the world are usually accepted as being about equal, but in the 1881 census of British India the women of that country are 5,991,881 fewer than the men, the respective numbers being 129,941,851 males and 123,949,970 females; and it has shown also that the proportion varies greatly in the several provinces, and that in Bengal, Madras, Mysore, and Travancore, the women preponderate—

	Males.	Females.		Males.	Females.
Bengal,	34,625,591	34,911,270	Mysore, .	2,085,842	2,100,346
Madras,	15,421,043	15,749,588	Travancore,	1,197,134	1,204,024

This difference in the relative proportion of the sexes has been receiving the attention of the British Government during all the 19th century, and the surmise has been that it has resulted from neglect and murder of the infant girls, as all classes throughout Asia value male children, and some of the races are known to have been guilty of female infanticide. It was practised amongst the Arab tribes until forbidden by Mahomed. Several of the clans of Rajputs and Jat of India have notoriously destroyed their infant girls, and with the Chinese poor the new-born girls are not unfrequently deprived of life. Since the early years of the 19th century, the British in India have been endeavouring to suppress this crime, and in several of the suspected localities the numbers of women and girls have been increasing, but in the Census Report of 1881 an opinion has been suggested that amongst some of the Rajput clans more male than female children are born.

In the vast regions of Southern and Eastern Asia, the personal appearance, apparel, mental characteristics, and social position of women are as varied as the tribes and races of which they form a part. In the Sareda Tilaka, in a monologue of later date than the play of Mrichchakati (which was of the 1st century of the Christian era, but still of comparative antiquity), there is a description of various women of India. 'There goes the maid of Gurjara (Gujerat), blooming as with perpetual youth, having eyes like the chakora, of the complexion of the yellow rochana, and a voice musical as that of the parrot. She wears anklets of silver, large ear-rings set with pearls, and her bodice is buttoned below the hips with gems. The matron of Maharashtra proceeds yonder, her forehead stained with saffron, and with silver chains upon her feet; she wears a coloured veil, and a girdle round her loins. A Chola female (south of India) approaches, whose cheeks are tinted with saffron, and whose dress is embroidered with the buds of the lotus.'

In the south-west of Asia the Circassian and Georgian girls, and in British India the Rajputni, are the more famed for their personal appearance. The Circassian girls are not strikingly handsome, but they are well formed, and very clever and intelligent. This makes them engaging, attractive, gracious, and affable, and they soon acquire influence in a Turkish family. Georgian women are handsome, but much inferior to the Circassian in mental qualities.

At the present day, in countries where Muhammadan manners prevail, and now including India, the women in the streets have a much meaner appearance than the men, because women of the better class are so little abroad. Their more

common costume are bodice and gown, or cloth worn in the form of a gown. Some of the Muhammadan women have trousers; and the women of all the races make a display of jewellery, often, as with the Marwari women, consisting of weighty anklets or bracelets, or, as with the Binjara women, of deer-horn rings covering the forearm, and most of the races have rings for the fingers, toes, ears, and nose. The ta-mein wrapper of the Burmese women is so narrow that the left limb is exposed at every step. The Teyati women of Travancore and Malabar, and the Namburi women in their households, have no covering above the waist. Until 1871, the Juanga women of the Northern Circars had two bunches of leaves as their sole attire.

The Miri women on the N.E. frontier wear a small petticoat woven of filaments of cane, about a foot in breadth, and tight round the loins. The Abor women, also on the N.E. frontier, have often no other covering than three to twelve shell-shaped embossed plates of bell-metal suspended from a string round their loins; and lastly, the Mincopi men and women of the Andamans are nude.

In social life, the women of the Muhammadans are strictly secluded. In this respect the Asiatic races have had different customs from the most ancient times. Woman with the Accadians was deemed the equal if not the superior of the man. We learn from the book of Esther that amongst the early Persians ladies were even admitted to banquets and received strangers in their own apartments, whilst they resided habitually in houses separate from the dwellings of the men. Amongst the Hindus of the ancient Vedic times, the women seem to have freely moved about. The rishi and his wife are described as conversing on equal terms; go together to the sacrifice, and practise austerities together. Lovely maidens go in a procession, and grown-up daughters remain without reproach in their father's house. In the Mudra Rakshasa, a Sanskrit drama, Chandragupta asks, 'Why are not all the citizens with their wives abroad and merry-making?' There must also, however, have been other habits in those days, and notices occur indicative of the seclusion of their women. Panini uses the term Asuryam Pasya, one who never sees the sun, as an epithet for a king's wife. In the Ramayana occurs the word Avarodha, fenced or guarded place; it is used for the women's apartments. And Rama says to Vibhishana, that in great calamities, or on the occasion of marriages, at the public choice of a husband by maidens, it is allowable for all the world to look upon women. The king, when within the palace, used to be attended by women, his guards, and other troops. Strabo says, 'Regis corpus mulieres curant, ea quoque de parentibus emptæ, qui regem custodient, et reliquis exercitus manent extra portas' (iv. 15, p. 228); and at the present day, in Hyderabad in the Dekhan, noble families still retain armed women as guards of their households, while nearly all the women of the Aryan and non-Aryan Hindus, and all those of the Mongoloid races of Further India, have their share of all the outdoor work of their establishments, and of all the amusements and sight-seeing. In Buddhist Burma, all the young move about unrestrainedly, dressed in their gayest and best, and their women engage largely in trade, and this is applicable to the customs of the Siamese, Chinese, and Japanese.

In Burmese Buddhism there is no difference between man and man but that which is established by superiority of virtue, and hence it is that the state of woman among Buddhists is so very much higher than it is among oriental peoples who do not hold by that faith. Nevertheless, in India, among the Mer and Rabari, the wife is the head of the house, pays all accounts, and transacts business. The seclusion of the women practised by the Muhammadans is part of their religious law; it is laid down in the Koran that they are only to be seen by the nearest relatives, by children, or by eunuchs, and the custom has to some extent been copied by the wealthier Rajputs and other Hindu races. In Southern India, the female attendants of the Muhammadan ladies are designated Moghulani.

Many Hindu and Muhammadan women have taken a part in the political life of India. At the present day the Begum of Bhopal is following in the footsteps of her mother, and is ruling her territory with justice and success. Their ancient Sanskrit dramas relate how Draupadi being insulted led to the war of the Yadava and Pandava; how Sita, being carried off by Ravana, led Rama to invade the Peninsula; how Nala in his love for Damayanti became an exile; how Raja Bharti in losing Pingala left the throne of Avanti. These may be only tales; but in historic times, A.D. 1175, the rape by Prithi-raj of the princess Sanjagata, the daughter of the king of Kanouj, led to the destruction of the Hindu rule; and in the present century, Kishen Koour, a daughter of the Maharana of Udaipur, was celebrated for her beauty. The rajas of Jeypore and Jodhpur both demanded her hand in marriage, and for some years Rajputana was the prey of foreign invasion and civil war. To restore peace, her parents, in 1809, were obliged to consent that poison should be administered to her, which the victim, for the sake of her country, unhesitatingly drank. The sacrifice, however, brought no peace to Rajputana. An easy cynicism has furnished even a recent Hindu writer with derogatory thoughts of women and the three most prolific sources of litigation are said to be chattels, women, and lands. A native couplet to this effect runs,—

'Zan, Zamin, Zar,
Tinon kazyah ka ghar.'

But modern Hindus consider that the good fortune of a husband depends on that of the wife; hence a woman is considered as an emblem of Lucki or Lakshmi, the goddess of fortune, and Hindu poets almost invariably represent women as amiable and affectionate. In this they might have given a lesson to the bards of more lofty nations, and particularly to the Greeks, who both in tragedy and comedy pursued the fair sex with implacable rancour. Aristophanes is not a whit behind Euripides, although he ridicules the tragedian for his ungallant propensities.

In the Sanskrit drama, the passion of Malati is equally intense with that of Juliet; but her unconquerable reserve, even to the extent of denying her utterance to him she loves more than life, is a curious picture of the restraint to which the manners of Hindu women were subjected, even whilst they were in enjoyment, as appears from the drama, of considerable personal freedom.

A Sanskrit drama says,—

'A woman's bliss is found, not in the smile
Of father, mother, friend, nor in herself;
Her husband is her only portion here,
Her heaven hereafter. If thou indeed
Depart this day into the forest drear,
I will precede, and smooth the thorny way.
. . . . . A gay recluse,
On thee attending, happy shall I feel
Within the honey-scented grove to roam,
For thou e'en here canst nourish and protect;
And therefore other friend I cannot need.
To-day most surely with thee will I go,
And thus resolved, I must not be deny'd;
Roots and wild fruit shall be my constant food.'

Another author makes a loving woman say to her husband,—

'But without thee e'en heaven would lose its charms.'

. . . . . .

'Pleased to embrace thy feet, I will reside
In the rough forest as my father's house.
Void of all other wish, supremely thine,
Permit me this respect,—I will not grieve,
I will not burden thee,—refuse me not.
But shouldst thou, Raghuvu, this prayer deny,
Know, I resolve on death.'

The Uttara-Rama-Charita, the Vikrama and Urvasi, and the Mudra Rakshasa, contain many illustrations of the Hindu woman's love and affection. In the latter piece occurs an example, in comparatively humble life, of the strong affection of a Hindu wife. Chandana Das, like Antonio in the Merchant of Venice, is doomed to die to save his friend. His wife follows him to the scene of execution, with their only child, and the succeeding dialogue ensues,—

'*Chand.* Withdraw, my love, and lead our boy along.
Wife. Forgive me, husband,—to another world
Thy steps are bound, and not to foreign realms
Whence in due time thou homeward wilt return;
No common farewell our leave-taking now
Admits, nor must the partner of thy fate
Leave thee to trace thy solitary way.
Chand. What dost thou mean?
Wife. To follow thee in death.
Chand. Think not of this,—our boy's yet tender years
Demand affectionate and guardian care.
Wife. I leave him to our household gods, nor fear
They will desert his youth; Come, my dear boy,
And bid thy sire a long and last farewell.
Thus could I sweetly pass a thousand years.'

Woman has ever been held in higher honour amongst the Teutonic nations than amongst those of the south of Europe or of the east, and has contributed, by the elevating influence she was permitted to enjoy, to their moral exaltation and martial superiority. Tales of the Hindus turn upon the wickedness of women, the luxury, profligacy, treachery, and craft of the female sex. The Pancha-tantra contains many stories of the objectionable character now mentioned, and these have been repeated in all the literature emanating from that ancient book; but the Hindu woman's attachment to her parents, her brothers and sisters, her husband and her children, is characterized by all the devotion and unselfishness of woman's love. As manager and mistress of a household, she exhibits an energy and concentration not always to be found amongst the more favoured mothers of the west.

The doctrines of the Hindu religion have been singularly careful to protect the female sex and infants from violence, and it has been declared unlawful to put a woman to death for any offence whatever. A Sanskrit sloka runs,—

'Shut gao wudhe vepra,
Shut vepra wudhe istreea;
Shut istreea wudhea bala,
Shut bala wudhe muresha.'

'To kill one Brahman is equal to one hundred cows; to kill one woman is equal to one hundred Brahmans; to kill one child is equal to one hundred women; to kill one hundred children is an offence too heinous for comparison.'

Tacitus tells us that the Germans deemed the advice of a woman in periods of exigence oracular. So does the Rajput, as the bard Chund often exemplifies, and hence they append to her name the epithet Devi (or, contracted, De), godlike. But notwithstanding the prevalence of this feeling amongst Rajputs, with this once martial race, from ancient times, leading the females captive appears to have been the sign of complete victory. Rajput inscriptions often allude to a conqueror beloved by the wives of his conquered foe, and in the early parts of Hebrew Scripture the same notion is referred to. The mother of Sisera (Judges ver. 31) asks, 'Have they not divided the prey; to every man a damsel or two?' To a German mind, says Tacitus, the idea of a woman led into captivity was insupportable, and to prevent this the Rajput performed the johura sacrifice, when every sachæ (branch) is cut.

Muhammad Kasim, nephew of Hejaj, governor of Basra, was sent with a force to take Sind, then under Dahir (about A.D. 711, A.H. 92). He took Dewal, defeated and took prisoner a son of Dahir, advanced on Nerun (the modern Hyderabad), and took Sehwan. He subsequently advanced on Alor, where he encountered Dahir, who was defeated and slain. His widow defended the city, but ultimately the women devoted themselves to the flames, which they lighted themselves. The Rajput garrison battled for the sacrifice of themselves, and perished fighting. The city was taken by assault. All the men in arms were slaughtered in the storm, and the women and children reduced to bondage.

Many of the Thugs attributed the discovery of their system by the British to some of their parties having occasionally murdered women; and with the predatory Mang race of the Dekhan the persons of women have been religiously respected in their dacoity expeditions, no violence being ever offered to them under any circumstances. On no occasion will the Mang lay hands on the sex, nor will they despoil them of such of their wearing apparel as may be on their persons, threats being mainly the means employed to induce them to give up the property in their possession.

Marriage.—Aryan and Turanian races, in the selection of their wives, follow very different customs. The one is exogamic, taking wives from other tribes than their own; and the other endogamic, taking them from their own tribes. The Warali tribes are divided into sections, and no man may marry a woman belonging to his own section. In the Magar tribes a section is called a thum, and the same rule prevails. The Ho, Munda, and Oraon are divided into clans or keli, and may not take to wife a girl of the same keli. Again, the Garrows are divided into mahari, and a man may not marry a girl of his own mahari. With Muhammadans, the selection is not restricted; but in India, amongst Muhammadans of Arab descent, a young man can claim to marry his

mother's brother's daughter as his right. Amongst the Kol of Central India the marriage by capture still continues, as amongst some of the Turkoman races and amongst some Mongoloid races in the Malay Peninsula; and young men amongst the Gond race occasionally serve for a wife.

The marriage customs of the races under notice, their polyandric, polygamic, and sati suicidal customs, will be found described under these headings; but it may be mentioned here that amongst the Semitic races the position of their women has varied. The Hebrew Scriptures show progress in the Jewish views as to women. At the outset, the right of woman to choose her lot seems to have been wholly disregarded. Abraham twice permitted Pharaoh to have Sarah, Judah condemned his daughter-in-law to be burned, and God is described as having threatened to give David's wives to his neighbour or to his son; Michal was transferred to Phaltiel from David by Saul, who had quarrelled with David, and kings habitually succeeded to their predecessor's wives. Sir William Muir says (Annals of the Early Caliphate, i. p. 271) that under the old chivalrous code of the Arabs, the wife of noble blood held a position of honour and supremacy in the household, from which she could not be ousted by any base-born rival, however fair or fruitful. But in the victorious wars waged in Umar's time, the baneful influence of polygamy was quickened by the vast multitudes of slave girls taken by the army and distributed or sold both among the soldiers and the community at large, and it was intensified by the husband's power of arbitrary divorce, and the unlimited licence of servile concubinage. The noble wife's position fell to be one among many, and if the slave girl bore the husband children she and the children became at once free.

Amongst some of the Mongoloid races whose daughters grow up unmarried, a courting, as is customary in Britain and its colonies, is common; but as most of the marriages take place while girls are of tender years, or where, as with the Muhammadan and the Kayasth races, the women are gosha, or secluded, and courting is inapplicable or impossible, the betrothal arrangements are made by the parents direct, or by means of agents called dilalah. The daughters of non-Aryan races are married later in life. Amongst the Burmese, courting is a loving custom, and the early hours of the night are designated courting time.

With several of the races their women when married are disfigured. Muhammadan wives of the south of India have their teeth blackened with missi, a vitriolic dentifrice made from gall-nuts, myrobalans, pods or gum of the keekur tree, a species of Acacia leucophlæa, sulphate of copper, and steel filings. Similarly, the women in Japan have their teeth blackened and their eyebrows shaved. The Khyen or Kayn or Chin, of the Yoma mountains and the Prome district of Burma, tattoo the faces of their women in a manner which gives them a most demoniacal appearance, but under British rule the practice is being discontinued. Their women are handsome, and many of them were captured for the kings, and the practice was originated to prevent this. In the large towns of China and Japan, concubinage seems to prevail to a greater extent than it is met with in the western countries of Southern Asia. In Japan, the practice, so soon as a woman is married, of staining her teeth black, and thus destroying one of woman's greatest ornaments, can only have the effect of making the wife less attractive to the husband, and forcing his affections elsewhere. And in the concubinage of China there is not found among the young women whom they select, any of the deformed feet which the richer classes of the people create for the girls who are to be the wives of their households.

The Burmese and some of the races of the Eastern Archipelago are not greatly restricted before marriage. The Nair women, and women in Malabar of the races following the law of descent in the female line, are their own mistresses. The Comanches, Aleutians, Eskimo, and Kamtschadales cede their wives to their guests, and the wives of the Hassaniyeh Arabs of Nubia have the free disposal of themselves every fourth day.

Occupation.—The wives of the Muhammadan, the Kayasth, and the Rajput afford no outdoor aid to their husbands; but the Kunbi and Kurmi women, the Jat women, the Vellalar, Reddi, Kapalu, and Okla, the shepherd dhangar and kurumbar women, and the women of nearly all the Mongoloid, Turanian, or non-Aryan races, engage in outdoor work along with their husbands; and with some of the Mongoloid races in the N.W. and N.E. borders of British India, the field labour is almost entirely carried on by the women.

Education.—In British India, since the middle of the 19th century, Dr. John Wilson of Bombay, followed by other Europeans, and by a few Hindus and Muhammadans, has been trying to educate Hindu, Parsee, and Muhammadan women.

There have always been Hindwani and Musalmani who have been educated, but writing is not looked upon with favour. There is a Tamil proverb that 'ignorance is the chief ornament of women' ('Ariyāmei mātharukku ābaranam'). Even Auvaiyar, the most popular Tamil poetess, echoes this saying ('Pethumei enbathu mātharku anikalam'). Hindus of all classes acquiesce in the statement enshrined in this barbarous verse. And it is curious to find that Pan-houi-pan, celebrated among Chinese writers, though a woman, endeavours in her works to humiliate her own sex by reminding them continually of the inferior rank they occupy in creation. The position of a Chinese woman is certainly very abject.

At the present day the Deva-dasa attached to the Hindu temples are almost the only educated Hindu women. A Hindu describing them says,—'The women of the Brahmans are very beautiful, but their total want of education or accomplishment makes dancing women sought after by all Hindus. They can sing, they can read; from their childhood they have been trained in the arts that captivate. Their black eyes know how to flash or languish; their feet have been taught what, to a Hindu, appears the poetry of motion. Many of them can play on instruments of music. They know the arts of painting the eyebrow, and of winding the gauzy robe elegantly round their slim persons. They are the only women in India who are familiar and easy in the company of men.'

The male population has been to a great extent educated, and the men have learned to admire that education in the temple women which cannot be found in their own wives. Hindu domestic life is thus a farce. A young Hindu enters life on his

own account. A few months have passed since the flowers were showered and the horns blown to celebrate his wedding. His eyes are now gradually opened to the fact that his young bride is an insipid child. She cannot read a line from the Ramayana to cheer him in a weary hour. Her stock of conversational powers is small; she cannot make herself half so pleasant as a girl with large anklets, who nods and laughs to him whenever he passes by the temple. His ideas of purity and the sacredness of the marriage tie are very misty. How many of his rich neighbours have several wives! How many of them have the temple Dasi! So, without a qualm of conscience, he slips away from the right path. He goes home to eat, and goes to the temple for recreation, not ashamed to be the avowed admirer of the Aspasias and Phrynes, from the same cause which attracted Socrates and made Pericles a slave, and which will continue until the united charms of the dance and the song are sanctioned to be practised in the Hindu homes. To improve the morality of Hindus, educate Hindu women. Education aiding immorality is the bane; education assisting morality must be the antidote. One of the greatest questions which can occupy the minds of the friends of India is, How can her women be reached, and their intellectual, moral, and religious condition be improved?

The Muhammadans also have bands of singing women, whose lives are similar to the Deva-dasa of the Hindu temples. It is said that Phryne offered to rebuild Thebes at her own expense, provided an inscription was placed on the walls, 'Alexander diruit sed meretrix Phryne refecit,' which was not allowed. Similarly, at the close of the 18th century, Chand, a famed cantatrice of Hyderabad, built a mosque, and asked a learned man for a couplet that would indicate the date, and he wrote, 'Pesh-i-īn mihrāb, sajūd-i-khas-o-ām ast, Falk gūft īn bait-ūl-harām ast,' which was not accepted.

In *Buddhist* countries women are more nearly the companions of the men, and the Tibeto-Burmans and cognate Indonesian tribes permit great licence to both sexes prior to marriage. In Burma, marriages are contracted after puberty. Their young people seem happy and contented, and women conduct much of their market and commercial transactions, yet their ambition is not satisfied. Wherever the Buddhist philosophy has spread the doctrine of metempsychosis, women hope that in their future changes they may be born as men; and Burmese and Chinese women frequently pray that their soul may, as a reward for virtue, on entering the world a second time inhabit the body of a man.

Reverence of Husband, etc.—At daybreak, the Hindu wife rises, tidies up the house, and then touches her husband's feet to awaken him. After bathing and worship and preparing the food,—and a Vaishnava woman does not allow any one but her husband to see her cooking,—she presents food to her husband, and in so doing turns around him (circumambulates), and prostrates herself before him. This practice of the wife worshipping the husband is very ancient. In the Sanskrit drama styled Ratna Vali, or The Necklace, Vasava-datta, after worshipping the image of the deity, her attendant says,—'The worship of the divinity concluded, be pleased, madame, to pay adoration to your lord.' Vasava—'Where are the flowers and unguent?' Kanch—'Here, madame.' On which Vasava-datta worships the king. This is conformable to the Bhavishyottara Purana, which directs: 'Having offered adoration to the mind-born divinity, let the wife worship her husband with ornaments, flowers, and raiment. Thinking internally with entire complacency, this is the god of love.' All Hindu women worship or reverence the cow, the tulsi plant (Ocimum basilicum), the lights of the lamps, and the gate or door entrance, of which the goddess Lakshmi is the guardian; and with Vaishnava women of the south of India, every Friday evening at lamp-lighting time, the house and utensils are cleaned, and the household god worshipped.

Names.—Women's names in China are taken from gems, flowers, personal appearance, or virtues. The names of Hindu women are usually those of their goddesses, with the adjunct Ma or Amma, meaning mother, or Bai, meaning lady. The names of plants are not unusually given, as Tulsi or Tulsi bai; and those of goddesses, as Durgamma, Lakshmi bai.

Muhammadan women of rank in the south of India have Nissa, Begum, Bi, Khatun, and Khanum as concluding, and their names or parts of their names usually represent some quality or condition, as Rahim-un-Nissa Begum. Of these, Nissa is the highest in dignity, Khatun is that added to the names of the Pathan women, as Rahmat Khatun; Bi to names of the Syudani and Shaikh women; and Khanum to the women of the Moghul race. The female servants have names indicating some personal peculiarity, or the mode of their acquisition, as Gūl-Andām, rose-bodied; Nargas or narcissus, etc.

In Hindu life a married woman is not allowed to utter the name of her husband, or of any of his relatives, male or female, except those who are younger than herself.

Suicide.—For a Muhammadan woman to destroy herself on the demise of her husband is an unheard-of thing, but with Hindu women it was frequent until the early years of the 19th century, and Chinese women continue it to the present day. See Suttee. About 1880, a daughter of the late Chinese Minister to London, Kwo Sungtaon, recently afforded an example of what a Chinese wife should be and do. According to the Pekin Gazette, at the age of seventeen she became the wife of the brother of Tso Tsung-tang, the conqueror of Kuldja. Not long afterwards her husband fell ill, and when ordinary nourishing food failed to revive him, she sliced a piece from her arm and mixed it with his broth. But her husband died. This event only opened a new field for the exercise of saintly duty. So to poison herself she refused to swallow anything but gold-leaf, with no result; and her friends besought her to throw away the poison. She consented, but took advantage of the first illness which overtook her to starve herself to death.

Many of the Buddhist women of Tibet become nuns; in China, also, among the Buddhists there are nunneries, and there is a Hindu sect in the Bombay Presidency with nuns. But amongst Muhammadan women such a condition is extremely rare. Zinat-u-Nissa, the spinster daughter of Aurangzeb, died unmarried. In the History of Ahmadnaggur, by Shahab-ud-Din, she is stated

to have loved raja Sahu, her father's prisoner. She is buried near Aurangabad. After the conditions affecting the young and the married, it remains to notice those of the widows,—

Rajat, Aem, Rabz, ARAB.	Vidova, . OLD PRUSSIAN.
Rabzat, Tor, . . ,,	Widewa, ,,
Feadbh, ... CELT.	Vi-dhava, . . . SANSK.
Bewa, Rand, . . HIND.	Viduwvo, . . SLAVONIC.
Vedova, ... IT.	Kumbinjathee, . TAM.
Vidua, . . . LAT., SP.	

The widows of the various races of South-Eastern Asia are treated very variously. Amongst the polyandrist Nair race such a state as widowhood is an impossibility. With several of the Jat and Gujar clans, when a brother dies and leaves a widow, a younger brother marries her. Muhammadan law permits re-marriage of widows, and in Arabia, Persia, and Egypt such is common; but in British India Muhammadan widows rarely re-marry. Amongst the Jews of old the widow was allowed to re-marry; and amongst the Hindus re-marriage of widows is permitted by their great lawgiver Menu, but in practice it is rare, although legalized in 1856 by an Act of the Indian Government. Amongst a few of the non-Aryan races a widow is re-married by the pāt ceremonial, and if a Muhammadan woman marry it is by the nikkah form. The painfulness of the widowed state is alluded to in Lamentations i. 1, 'How is she become as a widow!' and this can be understood by no one so well as by a Hindu widow, who is considered as the most forlorn and desolate being on earth. Such a female has her hair cut short, she renounces all ornaments, eats the coarsest food, fasts frequently, and is all but an outcaste in the family of her deceased husband. In British India, until the administration of Lord William Bentinck, many of the widows of Rajputs and Brahmans burned themselves on the funeral pyres of their husbands; and to this day, in the island of Bali, the widows are stabbed with a kris, and their bodies burned with that of their husband. Widow burning is not authorized in the Veda. A widow is merely to accompany her husband to the funeral pile, and there is addressed with a Vedic verse, viz. 'Rise, woman, come to the world of life; thou sleepest nigh unto him whose life is gone: come to us. Thou hast thus fulfilled thy duties of a wife to the husband who once took thy hand and made thee a mother.' The Rig Veda, x. 18, 7, 8, requires the widow to leave the funeral pile before the fire is applied to it; and widows of the Hindus, according to the Atharva Veda, ix. 5, 27, 28, could marry again.

Up till the assumption of Mysore by the British, it was usual to sell widows convicted of unchastity. They were often redeemed by their relatives for 3 to 12 pagodas. Women who eat the sacrificial rice, Beli-anna, at certain pagodas became forfeited to the pagodas, and reside there, performing menial offices. They generally become prostitutes.—*Tod's Rajasthan*, i. pp. 312, 612, 613; *Correspondence relative to Hindu Infanticide*, p. 42; *Elph.* 262; *Lubbock, Orig. of Civil.* 96; *Max Muller, Chips*, p. 35; *Colebrooke's Essays*, i. p. 133; *H. H. Wilson's Select Works*, ii. p. 270; *Barth.*

WOMBAT of Bass and Flinders, a marsupial animal of New Holland, the Phascolarctos of De Blainville, the Koala of Cuvier, the Phascolome of St. Hilaire, the Amblotes of Peron.—*Jam. Ed. Journ.* i., 1826, p. 108.

WOMEN'S CLOTHS. In Southern India this description of clothing is chiefly manufactured at the town of Arnee, in the collectorate of North Arcot. They are of various colours, with borders, chiefly used by Brahman women. They are sold at from 2 to 12 rupees each. See Clothing.

WOOD.

Arunyavu, . . . CAN.	Hezm, ... PERS.
Nath'h, . . . DUKH.	Chob, ... ,,
Bois, ... FR.	Arunuyum, . . SANSK.
Wald, ... GER.	Davou, . . . ,,
Lacaru, ... GUJ.	Bosque, Selve, . . SP.
Lakra, ... HIND.	Kadu, Kambu, . . TAM.
Bosco, Selva, . . IT.	Chettu, Karra, Koia, TEL.
Lakara, . . . MAHR.	

See Timber Trees.

WOOD. Lieutenant John Wood, of the Indian navy, was born in 1812, and educated at the Perth Academy. He joined the Indian navy when very young, and retired from it in 1842. He became managing director of the Indus Flotilla, and lived in Sind for many years. He died in London, 13th November 1871. From 1835 to 1836, while lieutenant of the navy, he was engaged in the survey of the river Indus, from the sea to Attock. From Attock he descended the river to Kalabagh, passing its falls and rapids. In 1836 he accompanied Sir Alexander Burnes in his mission to Kābul. He crossed the mountains to Kunduz, and was the first European, since Marco Polo, to reach Pamir, the Bam-i-Dunia. In 1838 he discovered the source of the Oxus, and received the gold medal of the Royal Geographical Society. His writings were—A Report on the River Indus, in Bl. As. Trans., 1841, x.; Notes on the Lower Part of the Indus and of the Craft thereon, in Bom. Geo. Trans., 1836-1838, reprint, i. p. 89; Journey into the Naga Hills, ibid., 1844, xiii. p. 17; Journey to the Oxus, Lond. 1841, i. 8vo; Journal of a Visit to the Laccadive Archipelago, in Lond. Geo. Trans., 1836, vi. p. 29.

Starting from the mouth of the Indus, Captain Wood accompanied Burnes' expedition up that classical river, and, after arrival at Kābul, was sent forward to Kunduz. Leaving his companion Dr. Lord there, he pushed on eastwards, and struck the Oxus at Fyzabad, passed thence to Jerm, making an expedition to the lapis-lazuli mines; was detained by winter storms at Jerm, in Badakhshan, from Christmas to the end of January, and then followed one of the chief streams which make the Oxus, along its frozen bed to its source in a lake on the great Pamir steppe. The snow lay thickly on the hills and river. During the last marches there was no wood to be found, and the only fuel was the dung of animals encamped in the summer on spots known to the wandering tribe from whom his escort was taken, and now dug out by the men from beneath the snow. Arrived at the lake Sir-i-Kol, as it is called, following Captain Wood, a night had to be passed at this enormous altitude, where the pulses of some of the party galloped 124 beats in a minute, the lowest being 110. In the morning Captain Wood and his followers sallied forth upon the lake, sounding it with great difficulty, for the ice, 2½ feet thick, had to be broken, and 'a few strokes of the pickaxe produced an exhaustion that stretched us upon the snow to recruit our breath.' There was only 9 feet of water, though the lake is 14 miles long by about a mile in breadth. The water was of a reddish tinge,

and 'emitted a slightly fetid smell.' The bottom was oozy and tangled with grassy weeds. At this height the human voice was sensibly affected, and conversation hushed for very weariness. Nature seemed to defy the power of man to search into her hidden mysteries. The sound of a human voice would have been music to the ear, but no one at this inhospitable season thinks of invading these gelid domains; yet Captain Wood made his observations, and returned in safety to give them to his countrymen.—*Dr. Buist; E. I. Marine Surveys.*

Sir Charles Wood, created Lord Halifax, for several years during the changes succeeding the Indian Mutiny of 1857, the Minister for India. His chief work was to amalgamate the Indian with the British army, and his plans needed many changes. His friends claimed for him credit for restoring the Indian finances, but in this he had no share.—*Howell-Thurlow*, p. 22.

WOOD-ALOES. Ak-yun, BURM. The aloes-wood, agallocha wood, or eagle-wood of the Old Testament.

WOOD-APPLE TREE. Feronia elephantum, *Cor.* Wood-apple gum, obtained from the Feronia elephantum, is very abundant, and forms the well-known East India gum-arabic. From its ready solubility without residue, it gives the best mucilage for making black ink.—*M. E. J. R.*

WOOD-ASHES. Tsau-hwui, CHIN.; Rakh, HIND. Used as a detergent remedy in disorders of the skin and hair.

WOODCOCK, Scolopax rusticola, *Linn.*

S. Indicus, *Hodgson.* | Tutatar, . . . HIND.
Sim-titar, . . . HIND. | Sim-kukra, . . „

This woodcock is a winter visitant to the more elevated wooded regions of India, the Himalaya, Neilgherries, Pulneys, Shevaroys, Coorg, and doubtless all the other high ranges of Southern India. During its periodical migrations north and south, individuals are occasionally killed in various parts of the country in the plains, near Calcutta, at Dacca, Tiperah, Noacally, Berhampur, Masulipatam, Kaladgi. It arrives about the middle of October, and leaves in February. Mountaineer says they breed in the hills near the snows in considerable numbers, and are seen towards dusk, about the open glades and borders of the forest on the higher ridges, flying rather high in the air in various directions, and uttering a loud wailing cry. The only other true woodcocks are S. saturata, *Horsfield*, and S. minor, *Gmelin.*

WOODFORDIA FLORIBUNDA. *Salisb.* A tree of the Panjab, in Kangra; flowers used in dyeing.

WOOD-MOTH, Wood-carrying moth.

Sacktrager, . . . GER. | Muluka rasari, . . TAM.
Dara-kattea, . SINGH. | Kundi puchi, . . „

There are five ascertained species of these in Ceylon,—Psyche Doubledaii, *Westw.;* Metisa plana, *Walker;* Eumeta Cramerii, *Westw.;* E. Templetonii, *Westw.;* and Cryptothelea consorta, *Temp.*

Their larvæ construct for themselves cases, which they suspend to a branch, frequently of the pomegranate, surrounding them with the stems of leaves and thorns, or pieces of twigs bound together by threads, till the whole presents the appearance of a bundle of rods about 1½ inches long. From the resemblance of this to a Roman fasces, one African species has obtained the name of Lictor. The German entomologists denominated the group Sacktrager, the Singhalese call them Dara-kattea, or 'billets of firewood,' and regard the inmates as human beings, who, as a punishment for stealing wood in some former stage of existence, have been condemned to undergo a metempsychosis under the form of these insects.

The male, at the close of the pupal rest, escapes from one end of this covering; but the female makes it her dwelling for life, moving about with it at pleasure, and, when alarmed, draws together the purse-like aperture at the open end.—*Tennent's Sketches of the Nat. Hist. of Ceylon*, p. 432.

WOOD-OIL.

T'ung-yu, Siu-yu, . CHIN. | Hung-t'ung-yu, . . CHIN.
Peh-t'ung-yu, . . „ | Telia gurjun, . HIND.

Several articles met with in commerce are known as wood-oils, but wood-oil proper, in Further India, is obtained for the most part in Assam, Arakan, Burma, and the Straits, by tapping certain trees of the order Dipterocarpeæ, Dipterocarpus alatus, D. costatus, D. incanus, D. lævis, and D. turbinatus, but D. incanus is supposed to yield the best sort, and in the greatest quantity. In Burma, the mode of extraction is as follows:—About the end of the dry season, that is in March or April, several deep incisions are made with an axe into the heart of the wood, and a good-sized piece scooped out; into the hole fire is placed, and kept burning until the oil begins to run, when it is received into a bamboo, and allowed to run slowly drop by drop. In Malacca, also, it is obtained from one of the Dipterocarpeæ, very common in the dense jungles of the Malay Peninsula, and which grows to a great height. When not tapped too soon, the base of the trunk is often of immense girth. The oil which flows from the wound is a mixture of balsam and volatile oil, and when applied as a varnish to wood or other substance, the oil evaporating deposits a hard and durable coat of resin. They are chiefly used as natural varnishes, either alone, or in combination with coloured pigments, also as a substitute for tar in paying the seams of shipping, and for preserving timber from the attacks of white ants. They are said also to be useful as an ingredient in lithographic inks. The oils generally receive the names of the localities from which they are imported. Some of them differ considerably in colour and consistence, but they all possess the same balsamic odour. Dipterocarpus lævis is one of the commonest forest trees of Burma, growing to an enormous size, and yielding as much as 30 gallons of oil each season, without injuring the tree. The oil, when permitted to remain at rest, divides itself into two layers, the upper consisting of a clear, chestnut-coloured liquid balsam, and the lower being in appearance like flakes of granulated sugar, and consisting probably of the surplus resin deposited by the action of the atmosphere. The Telia gurjun wood-oil, as found in the bazars, generally occurs as a brown, oily-looking, semi-transparent liquid, in odour strongly resembling a mixture of balsam of copaiba with a small portion of naphtha.

Mr. Lowe found that the filtered balsam of the gurjun oil formed a brown transparent liquid, which yielded by distillation in 100 parts,—essential oil, 65; hard resin, 34; acetic acid and water, 1. According to Mr. Lowe, the volatile oil possesses all the characters of that of copaiba,

and the hard resin (which he regards as pure copaivic acid, exempt from the soft resin, which, according to him, exists in the greater part of the copaiba of commerce) appears to him indicative of superiority as a medicine. Mr. Lowe recognised in the new resinous balsam the singular property of becoming solid when exposed in a closed vessel to a temperature of 230° F. Copaiba presents no similar phenomenon.

The new balsam, distilled with the addition of a small quantity of an oxidizing agent, as chlorine, hypo-chlorite of lime, or bichromate of potash, yields an essential oil of a fine blue, whilst ordinary copaiba, containing soft resin, affords hardly any coloured essential oil; and cold sulphuric acid produces with copaiba a purple coloration similar to that obtained with cod-liver oil.

Wood-oil from Moulmein, when filtered, is a transparent liquid, of a somewhat dark-brown when seen by transmitted light, but appearing opaque and of an obscure green if viewed by reflected light. It possesses, therefore, in a very marked degree, the dichroism observable in all resin oils obtained by the action of fire. This character determines the nature of wood-oil, and shows that it is not simply a natural product like copaiba, but that it is in part the result of a liquid modification of the Dipterocarpus resin, effected by the agency of heat. Moulmein wood-oil is of somewhat greater consistence than olive-oil; it has a sp. gr. of ·964, and possesses an odour and taste very analogous to those of copaiba. It dissolves in twice its weight of absolute alcohol, with the exception of a minute residue which is deposited upon repose.

The most curious property of the Dipterocarpus wood-oil is that of solidifying when heated in a closed vial to 266° F.; at this temperature the oil becomes turbid, and so gelatinous that it is not displaced upon the inversion of the phial. After cooling, the solidification is yet more perfect; but a gentle warmth, assisted by slight agitation, restores its former liquidity. The resin of Vateria Indica is insoluble in alcohol, and very imperfectly so in ether; whilst the green resin of wood-oil is easily soluble in either of these menstrua.

Camphor wood-oil, from the Dryobalanops camphora, belongs to the class of volatile oils. It is used largely in Singapore as a substitute for turpentine, and sells at from 15 to 20 cents a bottle.

Wood-oil of China, the T'ung-tsze-yu of commerce, is obtained from the seeds of the Elæococcus verrucosa, which grows plentifully in the valley of the Yang-tse. In China, the cold-drawn wood-oil, Peh-t'ung-yu, is pale, and is used for lamps and for varnishing furniture and the better class of umbrellas. A darker thick oil, called Siu-yu, is obtained by heat and pressure from the seeds and fruits of the Elæococcus and Jatropha. It is used in making putty, and in caulking and painting ships and boats. There is a reddish kind called Hung-t'ung-yu. The best wood-oil of China comes to Hankow from Shin-chau-fu, one of the substances of which the well-known and much-prized China lacquer is made.

Deodar or shemanatahu oil, from the Erythroxylon areolatum, and *Sissoo wood-oil*, from Dalbergia sissoo, are empyreumatic medicinal products.

Teak wood-oil is a dull ash-coloured oil, procurable in most of the large bazars of India; when allowed to rest for some time, it separates into two layers, the upper one a dark-coloured clear stratum, and the lower a more solid deposit. Its chief use is for applying to wood-work of all sorts, either alone as a natural varnish, or in combination with certain resins.

Wood-oil from the species of Dipterocarpus is used for painting the beams and wood-work of native houses, and may also be mixed with paint when not exposed to the sun. It is an excellent solvent of caoutchouc; it has been used as a substitute for fish-oil in curing leather, and found to answer. It makes an excellent house varnish, and the Burmese employ it extensively in the manufacture of torches. It is a good substitute for copaiba balsam in the treatment of gonorrhœa, given diffused through almond mixture or gum water. Dose, 10 to 15 minims, repeated thrice daily, or as often as necessary. A compound tincture of gurjun is an efficient substitute for Frank's well-known specific for the treatment of gonorrhœa. Dose, 20 to 30 minims, in a little milk or sugared water.

Wood-oil is decomposed by nitric acid into a black spongy substance, hard and brittle, heavier than the liquid part of the oil into which it sinks; the liquid part assumes a colour nearly like that of port wine, and is about as fluid as water, much more liquid than the natural wood-oil. A thin coating of that liquid part applied to a board of deal wood formed in 24 hours a transparent varnish perfectly even and bright. The spongy matter above alluded to seems to possess the same properties as a mixture of resin and annotto. Two identical substances are obtained by dissolving with nitric acid the common asphalte used for pavements. A small quantity of sulphuric acid poured incautiously on the second day into the wood-oil which had been in contact with nitric acid, caused it to rush out of the glass with a violent effervescence and disengagement of smoke, aromatic fumes, and a heat of about 200° Fahr.; the aromatic smell was very sweet, and much like benjamin.—*Smith; Roxb.; Journal de Pharmacie*, 1856; *Pharmaceutical Journal*, xiv. xv.; *O'Sh.*; *Rohde, MSS.*

WOODPECKER, birds of the tribe Scansores, family Picidæ, of the genera Picus, Leiopicus, Hypopicus, Yungipicus, Vivia, Sasia, etc., of Eastern and Southern Asia, are numerous. See Birds, p. 375.

WOOL.

Suf, Wabr, Taftik, ARAB.	Pashm, Put, Pam, PERS.
Yangmau, . . . CHIN.	Welna, ... POL.
Uld, ... DAN.	La, Laa, ... PORT.
Wol, ... DUT.	Wolna, Seherst, . RUS.
Laine, ... FR.	Lena, ... SANSK.
Wolle, ... GER.	Oo, Woo, . . . SCOTCH.
Oonn, . . GUJ., HIND.	Ull, ... SW.
Lana, . . IT., LAT., SP.	Bochu, ... TEL.
Bulu, ... MALAY.	

Wool is largely imported into India, and quantities of the imports as well as the fleece of Indian sheep are exported, but while the former are increasing in quantity and value, the exports are falling off.

Imported—	Lbs.	Rs.	Exported—	Lbs.	Rs.
1874-75,	1,542,767	4,27,717	1874-75,	21,290,782	95,99,009
1876-77,	2,145,584	5,32,116	1876-77,	24,056,767	1,07,73,720
1879-80,	3,564,939	8,72,729	1879-80,	26,368,794	1,09,59,723
1880-81,	2,775,554	7,23,434	1880-81,	22,602,690	1,01,41,371
1882-83,	2,781,257	6,89,313	1882-83,	21,561,079	79,03,968

The table-land of the Peninsula, commencing

with the Neilgherries, and proceeding along Mysore to the Dekhan, Kandesh, and Gujerat, presents large tracts of country affording a favourable climate and abundant pastures for numerous flocks of sheep. If from thence we proceed in a north-east direction, passing Berar, Malwa, Rajputana, to the district of Hurriana and the province of Dehli, we shall see, supported on the natural pastures of the country, immense herds of cattle, and numerous flocks of sheep, the latter affording wool utilized by the natives for making blankets (kumlee or cumblee) of different degrees of fineness, which form a considerable article of the commerce of these provinces, and one is possessed by every labourer and artisan. Again, the Himalaya, on their southern face, present a European-like climate, remarkable, however, for being influenced by the periodical rains. The temperature varies according to the elevation; but they afford everywhere rich pastures, and support a fine breed of sheep, of which the wool is employed by the mountaineers to form their clothing. The northern face of these mountains is as remarkable for its dryness as the southern is for its moisture; the cold is excessive, and the animals which are pastured there are covered with shaggy hair or with long wool, and a fine down. It is here that the shawl-wool goat finds its most congenial climate.

Sir A. Burnes says,—(1) The wool of Turkestan is obtained chiefly in the neighbourhood of Bokhara and Samarcand, and is more celebrated than that of Kābul. This is sent to Amritsar in the Panjab, where it is used to mix with the shawl-wool of Tibet in making what are called Kashmir shawls. It is the produce of the goat of Bokhara, and not of the sheep of Turkestan, and is called 'put,' in contradistinction to 'pashm,' which is used to express the fleece of the sheep. (2) The wool or put of the goat of Kābul was not then exported, being entirely consumed in the native manufactures. It is procured from goats, and chiefly from the hill country of the Hazara to the west of Kābul, and between that city and Herat, which has an elevation of about 6000 or 8000 feet above the level of the sea. (3) The countless flocks of fat-tailed sheep in Kābul produce an abundance of wool. The fleece is of a glossy white colour, and is in Kābul called 'pashm-i-burrak,' and the fabrics prepared from it 'burrak,' in contradistinction to 'puttu.' It sold at from 2 to 2½ Kābul rupees the seer, or sixteen pounds. It is brought in from all directions for sale in Kābul; and Sir A. Burnes states that he 'can scarcely put a limit to the supply, since the extent of pasture land in those countries is not overrated at four-fifths of the whole surface of the country, and a very large portion of the population, such as the Lohani and Ghilji, are shepherds, who remove from pasture to pasture, and rear their flocks with great care and attention. Nature, however, does as much as the people; for aromatic plants, in which sheep delight, are exceedingly abundant, and it is universally believed that they have considerable effect on the quality of the wool.'

Wool obtained from the fat-tailed variety of sheep is used in the manufacture of cloths and carpets, and is also exported to India. It is of wide distribution; the sheep abound at Peshawur, Kābul, Kandahar, Herat, and other places. Kelat and the surrounding country produces sheep's wool in great abundance. This sheep is apparently indigenous also to the Salt Range.

Kirman is a tract of country close by the Persian Gulf, to the south of Persia. Its wool finds its way into the Panjab in considerable quantities. It is a soft, delicate wool, but its principal use at present unfortunately appears to be the adulteration of genuine pashm. The Kirmani wool from the Persian Gulf finds its way to Amritsar pretty largely from both Kurachee and Bombay, and is one of the staples used in adulterating the pashm or genuine shawl-wool.

The *Lena* shawl-wool is the produce of the goats of the Tibetan Himalaya. It used to be a prevalent opinion that these goats were found in Kashmir, but that celebrated valley is far too warm and damp for them.

The best *shawl-wool* is produced in the vicinity of Garo, Manasarowara, and the elevated lands to the eastward. The shawl-wool is the fleece of the goat next the skin only; the outer coat is coarse hair, and the two colours are white and light brown. The dogs of Tartary have also a soft down below the hair, very little inferior to that of the goats.

Goat's hair is very commonly produced in almost every district of the Panjab, and called 'jat.' It is used for making ropes, also for matting, and for the strong bags wherein grain, etc., is carried on the backs of oxen. Grain dealers use rugs made of it in the shops in which the grain is poured out when being winnowed or weighed. At Dala and Gyani, in Hundes, four or five fleeces of wool, according to size, sold for one rupee, which averages 1½ to 2 annas or 3d. the pound. Shawl-wool is produced in a variety of districts in Tibet.

The wool of Eastern Turkestan is known as *Turfani* wool, so called from the city of Turfan. It is this exquisitely fine wool from which the finest shawls and other fabrics of Kashmir are made.

The following are the wools used in the Panjab:—

(*a*) *Pashm*, or shawl-wool properly so called, being a downy substance found next the skin and below the thick hair of the Tibetan goat. It is of three colours,—white, drab, and dark lavender (tusha). The best kind is produced in the semi-Chinese provinces of Turfan, Kichar, and exported via Yarkand to Kashmir. All the finest shawls are made of this wool; but as the maharaja of Kashmir keeps a strict monopoly of the article, the Panjab shawl-weavers cannot procure it, and have to be content with an inferior kind of pashm produced at Chathan, and exported via Leh to Amritsar, Nurpur, Ludhiana, Jalalpur, and other shawl-weaving towns of the Panjab. The price of white pashm in Kashmir is, for uncleaned, Rs. 3 to 4 per lb.; ditto, cleaned, Rs. 6 to 7 per lb.; of tusha, uncleaned, Rs. 2 to 3 per lb.; cleaned, from Rs. 5 to 7.

(*b*) The *fleece of the Dumba sheep* of Kābul and Peshawur is sometimes called the Kābuli pashm. It is used in the manufacture of the finer sorts of choga, an outer robe or cloak with sleeves worn by Afghans and other Muhammadans of the western frontier.

(*c*) *Wahab Shahi*, or *Kirmani wool*, the soft white wool of a sheep found in Kirman, a tract

of country in the south of Persia, by the Persian Gulf. It is used for the manufacture of spurious kinds of shawl-cloth, and for adulterating the texture of Kashmir shawls.

(*d*) The *hair of a goat* common in Kābul and Peshawur, called pat, from which a texture called pattu is made. (Qu. put?)

(*e*) *The woolly hair of the camel.* From this a coarser kind of choga is made.

(*f*) *The wool of the country sheep of the plains.*

A considerable and increasing quantity of wool is exported from India, mostly all of it, latterly, from Bombay, and chiefly to Great Britain, France, and America. Wool of Afghanistan from the white sheep has been increasing as an export, via Kurachee to Britain. The white and the rufous-coloured sheep are shorn twice a year. Sind is not a wool-producing country, though it is to be obtained in its western confines to a great extent, particularly in Cutchi and the Jalawan mountains of the Brahui. The Hindus of the country carry on the trade, and thus much of the article coming into the Bombay market through Sind is misnamed Sindian wool. Many districts, however, accessible through Sind and the Indus, yield this important article abundantly; that furnished by the Kelat territories finds its way to Bombay via the mountainous road to Sonmiani.

Mr. Powell mentions that all or most of the mammalia of the Himalayan regions and other similarly situated localities, at an elevation of 11,000 to 13,000 and 14,000 feet, which are consequently subject to severe winters and a high rarity of atmosphere, whether domesticated or wild, such as the dog, yak, karghan, etc., possess a wintry inner coat of 'pam,' of different degrees of fineness. The pashm of the goat is alone the marketable commodity; but the hair of the yak and Kirghiz camel is in parts cropped, and both in a cleaned and coarse state is made into cloth of different degrees of fineness, for Kirghiz (nomadic) tents, clothing, bedding, saddle-bags, ropes, etc. etc. The hair picked from marketable pam at Kashmir supplies material for a different branch of manufacture, viz. of ropes, saddle-bags, and haircloth of different kinds, qualities, and uses.

Antelope wool of Lahoul, called in Tibetan Tsodky-i-lena, or properly b-Rtsodky-i-lena, is very precious.

Ibex hair, or wool of the teringole or kin, the ibex, is the wool that makes the famous and rare ibex shawls.

Sheep's wool, black and white, of Lahoul, called luggi-bal, was selling in 1866 for 6 Cutchi seers per rupee; it is exported to Kullu and Kanawar.

Yak's wool of Rupshu and Zanskar, called Kullu, is the soft under-hair of the yak, used to make bags for sheep loads, and the felt soles of shoes.

The *Rampur chadr* is a soft wool fabric manufactured from the wool of the sheep of Rampur and Spiti, which are there the beasts of burden. The wool of the Dumba or large-tailed sheep of Peshawur and Kābul is called Kābuli pashm, and is manufactured into the choga or sleeved cloaks worn by the Afghans.

Pattu fabrics are made from the pat wool of Kābul.

The *pashm of Changtan and Turfan* are of the first class, and are monopolized by Kashmir.

The *pashms of Rodakh*, Ladakh, Spiti, Rampur, Bashahir are a second-class wool, and form the staple export to the shawl manufacturing cities of the Panjab.

Pasture.—The nature of the soil on which the sheep and goats are fed, has most influence on the texture and quality of their wool. There can be no doubt that the valleys of the Sutlej, Ravi, Chandrabaga (or Chenab), and other tributaries of the Indus, supply grazing grounds not to be surpassed in richness and suitableness in any part of the world. The population inhabiting them are chiefly pastoral, but, owing to sloth and ignorance, the wool they produce is but small in quantity, full of dirt, and ill cared for in every way. The Government of the Panjab have made efforts to improve the breed by the importation of Merino rams, but hitherto with little success. However, a truss of Merino wool produced in the Hazara Hill district, to the north-west of the Panjab, and sent to England in 1860, was there valued at 1s. 6d. per lb. Sheep whose pasture grows on calcareous poor soil have short, harsh wool, while those on rich loamy argillaceous soils have longer and softer hair. The same animal produces different kinds of wool. On a sheep the finest wool is on the spine from the neck to near the tail, including one-third of the breadth of the back. Rampur is a great mart for the reception and forwarding of wool.

Pashm is the chief article of trade in Khotan and Ladakh. It is cut once a year; the wool picked out is sent to Kashmir, but the hair is made into ropes, coarse sacks, and blankets. After the hair of the goat has been cut short with a knife in the direction of its growth, or from the head towards the tail, a sort of comb is passed in the reverse direction, and brings away the finer wool almost unmixed with the coarse hair. If not shorn as the summer commences, the animals themselves rub off the wool.

The goats are found domesticated all over the mountainous country of Western Tibet, particularly in the provinces of Ladakh, Rodakh, and Garo. Changthan is the name given to the elevated plateaux where innumerable flocks are pastured. Merchants bring down large quantities from Ghar-garo or Gurdokh in Changthan, where a large commercial fair is held annually in August (Bhadon). The Lahoul traders bring Changthan wool through Ladakh. In Changthan, at the Arghils cattle-sheds and Yaitaaks pasture-grounds, the usual price of the raw article or coarse pam is about 2 vuttees 14 seers pucka, or 8 lbs. (English) for Rs. 3, or about 6 annas the pound weight; and tobacco is bartered for about double its weight of coarse Changthan pam. So also green and red dyed goat-skins of Panjab manufacture, with shoes and boots of the same article (the latter made in Turki fashion) are bartered at Yarkand, Aksu, Ilchi, Turfan, etc., for treble and quadruple their weight of raw pam. In the same manner, not many years since, the glass beads and buttons of Birmingham were wont to be bartered for an equal weight of gold-dust or reg-i-zar throughout the entire country of Gilgit, Yarkand, Mazzhuji, Chitral, and along the south base of the Mustagh and Kara-korum.

The mountain paths between Rampur and Spiti are so precipitous, that sheep, more surefooted than larger beasts, are commonly used to carry burdens of from 16 to 20 lbs. The sheep are driven from village to village with the wool on, and as the required quantity is cut from their backs, they are laden with the grain which is received in exchange, and which, when the fleece is all disposed of, is carried into Chinese Tartary, and sold at a profitable rate. It is the custom for the shepherds of Chumurti to give an order, while the crops are yet green and on the ground, for any amount of grain they may require, which, when the crop is ripe, is stored up by the cultivator until the summer of the ensuing year. When the shepherd arrives with his flock, he gives the wool in exchange, and receives his grain, which he puts into small bags, and drives back his flock thus laden. About 2000 maunds of wool are annually brought to Rampur, and about half that quantity of pashm. The price of the wool averages about 4 lbs. for the rupee, and pashm, Rs. 2 to 4 for 2 lbs.

The beautiful pashms of Changthan and Turfan, and the soft white fleeces of Kirman, embrace three distinct kinds of wool, distinguished not only by the climate and soil where they are produced, but also by the fact that they are the produce of different animals.

These classes are—1st. The genuine pashms of Changthan, Turfan, etc., which are monopolized by Kashmir, and those second-class pashms, the produce of Rodakh, Ladakh, and even Spiti, Rampur, and Bashahir, which form the staple export to the shawl manufacturing cities of the Panjab, Amritsar, Ludhiana, Jalalpur, Nurpur. Included by analogy of locality only, are the wools of the ibex, so rarely seen, and the yak, the thick tails of which animals are prized for chauries (fly-flaps).

2d. The wools produced beyond the N.W. frontier, including those of Peshawur, comprise the Dumba sheep wool, the wools of Kābul, Bokhara, and that imported from Kirman; in fact, all classes of wool produced on or beyond the N.W. frontier. The trade in these wools is now extensive, both by the Peshawur and other routes. Second class of wools, produced at or about Peshawur, Kābul, Kandahar, and Persia or Kirman.

British Wools.—Since the middle of the 18th century there have been many fluctuations in the price of wool in Great Britain, from 14s. 6d. the tod about the year 1780, to 65s. in 1864 and 22s. 2⅝d. in 1883. Taking the wool produce of England at 5,500,000 tods per annum, the value of this produce in the year 1864 was £17,554,166, whereas the same quantity in the year 1883 would represent a value of £6,104,427,—that is, taking the mean average price of wool in 1864 at 63s. 10d. per tod, and in 1883 at 22s. 2⅝d. per tod. The difference in value between the produce of these two years is thus no less than £11,449,739.

Thull.—The wool produced in the Thull is shipped at Bukkur or Leia, and sent down to Bombay, and averages Rs. 10 a maund. In Ludhiana district pashmina is prepared from pashm, the fine hair of the Tartar goat. The hair is brought down on mules through Ladakh, Rampur, and Bashahir, and, in exchange, cotton piece-goods, brass, and iron are taken back. The price of pashm varies from Rs. 2 a seer. On receiving the pashm, the manufacturer's first business is to separate the coarser from the finer or underneath hair; out of each seer about 6 chitaks of the latter are taken. It is then washed in rice water, and made into thread. This sells at from 4 to 12 rupees per seer, according to quality. The thread made of the finest hair is woven into the well-known Rampur chadr, which are extensively manufactured. From the coarser thread are made shawls of sorts, and the cloth known as pashmina.

Woollen manufactures are largely produced in High Asia, in India, and in China; vast quantities of wool are woven into blankets of various degrees of fineness, for the use of the people, called kumlee or cumblee, also chadr. The numda or felts, both white and coloured, are used for tents, floorcloths, and quilts. The woven fabrics are made into shawls, choghas, and barani or overcoats, and the fine blankets known as Rampur chadr are prized, and Central Asia is famed for its carpets. The burruk fabric, the abra and looi blankets, are made of sheep's wool; the pattu and pattu malida (dressed pattu) fabrics are largely worn in Afghanistan, and at Herat kuruk is manufactured from goat's hair.

The jute carpet is indigenous to Persia and Turkestan, where the best are still made. In India, the foundation for the carpet is a warp of strong cotton or hempen threads; and the peculiarity of the process consists in dexterously twisting short lengths of coloured wool into each of the threads of the warp, so that the two ends of the twist of wool stick out in front. The projecting ends are then clipped to a uniform level, and the lines of work are compacted together by striking them with a blunt instrument (Birdwood). The historical seats of the industry are in Kashmir, the Panjab, and Sind, and at Agra, Mirzapur, Jubbulpur, Warangal in the Dekhan, Malabar, and Masulipatam. Velvet carpets are also made at Benares and Murshidabad, and silk carpets at Tanjore and Salem. At the Exhibition of 1851, the finest Indian rugs came from Warangal, the ancient capital of the Andhra dynasty, about 80 miles east of Hyderabad. Their characteristic feature was the exceedingly numerous count of the stitches, about 12,000 to the square foot. 'They were also perfectly harmonious in colour, and the only examples in which silk was used with an entirely satisfactory effect' (Birdwood). The price was not less than £10 per square yard. The common rugs, produced in enormous quantities from the jails at Lahore, Jubbulpur, Mirzapur, Benares, and Bangalore, sell in England at 7s. 6d. each.

The woollen fabrics produced by the Chinese are felts for the soles of shoes and winter hats, and a sort of rug or carpet. It is not woven in looms from the yarn, but is made in small pieces by a fulling process which mats the fibres together. The consumption of it by shoemakers is very great, and nearly as large for winter hats among the common people. The rugs are woven with coloured threads in rude imitation of figures, and are extensively used in the northern provinces; the pieces are a few feet square, and sewn together for carpets or bedding. Hair and wool are both employed in their construction.

Great Britain in 1883 exported woollen fabrics

to the value of £18,320,016, of which there was cleared for India, £370,545 value; to China, £242,456; to Japan, £62,455. India in 1882-1883 imported to the value of Rs. 77,52,049.—*MacGregor*, p. 50; *Powell, Handbook; Econ. Prod. Panjab*, 183; *Ann. Ind. Adm.* xii. 108; *Imp. Gaz.*

WOON. BURM. A Burmese governor or minister. This word literally signifies burden, as woon-gye, great woon; woon-douk, prop of the woon.—*Yule*, p. 3.

WOO-PEI-TZE. BURM. Galls imported from China, which are said to be produced by an aphis; they are more bulky than common galls, of very irregular shape, and hollow.

WOO-TAI-SHAN, a city of China to which the Mongols make pilgrimages, prostrating themselves all the way.

WOOTZ, or Indian Steel. Wootz is a term applied by Dr. Heyne to the steel ingots manufactured in the south of the Peninsula of India. It is supposed to be his variation of the word Ucha, meaning superior, high; Ucha kabbina, superior iron. The name in Mysore is Ukku tundu, also Ukkina tundu, also Ukku gatti, lumps of steel. See Steel.

WORAGALLI, a name of the town in maps called Warangal.

WORM. Several creatures receive this common name; a tailless batrachian, the Ichthyophis glutinosus, is an immense earth-worm, common in Sikkim. It is a native of the Khassya mountains, Singapore, Ceylon, and Java.

Amphitrite, or sea-worm of Java, lives in holes of the great solid madrepores. The gills of these lovely creatures are in the form of spiral ribbons of brilliant orange, green, and blue. These gaudy plumes are alternately extruded and retracted, and, seen through the pellucid water, present a very singular and beautiful appearance.—*Adams' Travels*, p. 51; *Hooker's H. J.* ii. p. 25.

WORMIA BRACTEATA. *W. Ic.* Dillenia bracteata, *W. Ic.* A very handsome tree of the Coimbatore Hills, in the Bolamputty valley, on hills near Coimbatore, and the Animallays, in Mysore, and on the North Arcot and Cuddapah Hills. It is well deserving of cultivation for ornamental planting, etc.—*Beddome.*

WORMIA TRIQUETRA. *Rottl.* Diyapara, SINGH. A moderate-sized tree, common in the moist, warmer parts of Ceylon, up to an elevation of 2000 feet.—*Thw. En. Pl. Zeyl.* p. 4.

WORMWOOD.

Afsuntin, . . . ARAB.	Artemisia absinthum, LAT.
Yin ch'in hau, . CHIN.	Bubuk, ... MALAY.
Dhowna, Mustaru, HIND.	Buranjasif kohi, . PERS.
Murwa, ... ,,	Dona, ... SANSK.
Domolo, . . . JAV.	Mashipattiri, . . TAM.
Gund-mar, . . . KASH.	

This European plant is found in the Indian bazars. The wormwood of the Old Testament is the Artemisia abrotanum.—*O'Sh. Disp.* p. 414.

WOTAY KOROSHANUM. TAM.

Wotay koroshenam, TAM. | Wontay koroshnam, TEL.

This is a bright yellow biliary concretion, found in the gall-bladder of certain camels. It is highly prized as a beautiful yellow paint, but is very expensive.—*Ainslie.*

WRESTLING in India is a favourite amusement for the rich, who keep largely overfed men for the purpose of being pitted against each other. These are so full of flesh, that their distinctive forms are almost hidden, though this is more owing to the development of muscle than to deposit of fat. On one occasion, to add to the interest of a mela, wrestlers of reputation from Agra, Muttra, Cawnpur, and other places were sent for, and for three mornings successively the rajas and others were entertained with some splendid wrestling-matches. There was no cruelty or brutality exhibited, but fair, manly trials of strength and dexterity, which elicited applause, and which attracted on the last day a crowd of at least 50,000 people. Wrestlers of Japan, before engaging, challenge by placing a hand on each thigh, just above the knee; then stooping slightly, lifting each leg in turn, at the same time slap the thigh as the foot comes sharply to the ground.—*Dehli Gazette.*

WRIGHT, EDWARD, an eminent mathematician and engineer, who accompanied the Earl of Cumberland on his first voyage to the Azores. In 1616 he was appointed by the East India Company, on a salary of £50 a-year, to compile their charts.—*E. I. Marine Surveys.*

WRIGHTIA, a genus of plants belonging to the natural order Apocynaceæ, of which Wrightia coccinea is a large tree; flowers externally green, internally deep orange-red, having something of the perfume of the pine-apple. Wrightia Wallichii is found in the Tenasserim Provinces, and on the slope of the Neilgherries, from about the middle of the ascent to an elevation of between 4000 and 5000 feet.—*Mason; W. Ic.*

WRIGHTIA ANTIDYSENTERICA. *R. Br.*

Nerium antidysentericum, *Linn.*

La-thou, . . . BURM.	Veppala, ... TAM.
Conessi bark tree, ENG.	Kodaga pala, . . . TEL.
Inderjau, . . . HIND.	Pala chettu, . . . ,,
Cheeri, ... SANSK.	Kodisa pala, . . . ,,

A small tree of Malabar, Ceylon, the Isle of France, common in many parts of India, also in Tavoy. The bark was formerly in request under the name of Conessi, and is still esteemed by the natives in dysentery and bowel complaints. It appears to have lost its value in commerce, by not being distinguished from the bark of Wrightia tinctoria, which grows in the same places. The very bitter seeds are boiled in milk, and given in hemorrhoids and dysentery, and in decoction in fever and gout; also as an anthelmintic. The bark of the root is astringent and febrifuge, and is used as a specific in dysentery and bowel complaints. Its milky juice is also used as a vulnerary. The tree has peculiarly-scented flowers, with a form resembling those of the jasmine. The wood is white, of a fine grain, and susceptible of polish, and is used by the turner and cabinet-maker. The seeds are covered with a kind of downy tuft, somewhat resembling the down of the thistle. Two kinds of inderjau seeds are distinguished in Hindu medicine, the sweet and bitter. The former has a pleasant taste, not unlike that of oats, which they also resemble somewhat in appearance, but are longer and more slender. An infusion of this roasted seed is given as a safe and gentle restrainer in bowel complaints; the decoction is employed in fever cases. The latter, from W. antidysenterica, are intensely bitter, and used as a vermifuge. The bark was greatly lauded in the 18th century by Geoffroy, and it appears to be a remedy of no mean value. A new vegetable alkaloid ex-

tracted from the bark is resinous and uncrystallizable, of a powerfully bitter and somewhat acrid taste, insoluble in water, but very soluble in alcohol, ether, and chloroform; only one part procurable from one thousand parts of dry bark. It is supposed that the seeds contain it in much larger quantities.—*Cat. Ex.*, 1862; *Voigt; M. E. J. R.; O'Sh.; Ind. Ann. Med. Sci.*, Aug. 1856.

WRIGHTIA MOLLISSIMA. *Wall.*

Khilawa, . . . HIND. | Dudhia, . . . HIND.

Grows in the Nagari Hills, in Kamaon, Bijnour, and Garhwal, and is abundant in some moist forests. It grows in the Siwalik tract, near the Indus, up to 3500 feet. It grows to the height of 15 feet. Its wood is light yellow, soft, and white, not very durable, fine-grained, polishes well; used chiefly for combs.—*Drs. Cleghorn, Stewart; Mr. Thomson; M. E. J. R.*

WRIGHTIA TINCTORIA. *R. Br.*

Nerium tinctorium, *Roxb.* | W. Rothii, *D. C.*

Bhur-kuri, . . BOMBAY. | Pallay maram, . TAM.
Kala-kudu, HIND., MAHR. | Palava-ranu, . . ,,
Hya maraka, . . SANSK. | Chitti ankudu, . . TEL.

A small, pretty tree, found in the Coimbatore, Godavery, and other forests of the Madras Presidency, and very common in all the forests of Bombay. It affords a very beautiful wood, white, hard, and close-grained; coming nearer to ivory than any Dr. Roxburgh knew, and valuable for turning. Pale-green soft leaves; deciduous in the cold weather; flowers in March and April; white follicles in pairs, from 12 to 18 inches long, of which as they ripen the ends of each pair curiously join. It is a common tree in the Coimbatore jungles. The leaves afford an inferior kind of indigo, hence the Mahratta name. It is extracted by scalding.—*Wight; Roxb.; Gibson; Riddell; Cleghorn; Captain Beddome.*

WRIGHTIA TOMENTOSA. *Rom. et Sch.*

Nerium tomentosum, *Roxb.*

Nelam-pala, . . MALEAL. | Koyila mokiri, . . TEL.
Pedda pala, . . . TEL. | Putta, Puta, Jilledu, ,,

A small tree, not very uncommon in the Central Province of Ceylon, grows in the Circars and Lower Godavery jungles. Wood appears close-grained, not used. The juice is a permanent yellow dye. Bark given internally for scorpion bites.—*Thw. Pl.* p. 193; *Beddome; Voigt.*

WRIGHTIA ZEYLANICA. *R. Br.*

W. antidysenterica, *R. Br.* | Sudduidda, . . SINGH.

Common in the south of the island of Ceylon. —*Thw.* p. 193.

WRITING.

Haraf (s.), Haruf (pl.), AR. | Scriptura, ... LAT.
Raqm, Irqam, ... ,, | Navasht, . . . PERS.
Tahrir, ... ,, | Lipi, ... SANSK.
Ecriture, ... FR. | Escritura, ... SP.
Schrift, ... GER. | Ayuthu, Ezhuttu, . TAM.
Likhawat, . . . HIND. | Rashathee, ... TEL.
Scritura, ... IT.

All Asiatic races regard writing characters with a respect amounting to veneration. This feeling is earnest with Muhammadans, influenced by the possibility of the words representing the sacred name of God; and the Chinese in their towns employ people to collect expended manuscripts from houses, to secure them from desecration. Amongst Muhammadans of India, a holy man, to cure sickness, writes an invocation on a board or slate or paper, which is washed off and given to the sick person to drink. Writing has been brought to its present perfection by much labour. It has been in use from prehistoric times, and throughout 5000 years, at least, learned men have been inventing and improving alphabets.

The most recent writer is Dr. Isaac Taylor, in 1883, on the alphabet. He tells us that two kinds of writing are in use by the natives of the world,—alphabetic and non-alphabetic; that the Egyptian hieroglyphic writing is believed to have been the source of all existing alphabets; that every system of writing has begun with rude pictures of objects, and such pictures, more or less conventionalized, were gradually accepted as the representatives of words, and afterwards became the symbols of more or less elementary sounds. Learned men describe this process in saying that writing began with ideograms, pictures, or pictorial symbols, which afterwards developed into phonograms or symbols of sounds, either verbal signs, syllabic signs, or alphabetic signs.

There are known five great systems of picture-writing, which have been independently invented. These are (1) the Egyptian, which developed into the monumental hieroglyphic; (2) the cuneiform, which branched into nine forms; (3) the Chinese, of five forms; (4) the Mexican, with its two branches; and (5) the Hittite, which developed into the Carchemish hieroglyphics, the Asia Minor syllabary, the Lycian alphabet, and the Cypriote syllabary. The Chinese characters illustrate a graphic system which has never advanced beyond the most rudimentary stage of conventionalized picture-writing. It is a language of roots, and is monosyllabic. The people of Japan use the Chinese characters, but their language is polysyllabic; and the Chinese characters, which are verbal phonograms, have been used by the Japanese for the expression of the polysyllabic Japanese words by being treated as syllabic signs.

The diffusion of alphabets has been largely effected by trade routes, by conquests, colonization, and religion. In the 5th century B.C., Darius Hystaspes recorded in the Behistun inscription his restoration of the forgotten text and commentary of the Zendavesta. Also Hermippus of Smyrna, who lived in the middle of the 3d century B.C., quoted and summarized the contents of the twenty books, each consisting of 100,000 lines, which, he says, had been composed by Zoroaster; and Masudi, an Arab historian of the 10th century A.D., says the Zendavesta was written on 12,000 cow-hides, in a character invented by Zertusht. It is believed that the character used by Zertusht was a variety of the Aramean.

Buddhism, a missionary religion, has eagerly availed itself of the art of writing for the propagation of its doctrines; but Aryan Hindus have preferred the oral transmission of the Vedas; and Kumarila Bhatta, of the 8th century A.D., mentions writing only to condemn its use. The sons of the three higher castes of Hindus were required to learn by heart the sacred text; and to the present day youths in some of the Brahmanic families can repeat the whole of the Rig Veda, learned, as their ancestors acquired it thousands of years ago, from the mouth of a teacher, so that the 'Vedic succession' should never be broken.

The Arabic letters and the Arabic numerals are, with some modifications, in use amongst the Muhammadans of Arabia, Persia, Turkey, Turkestan, Afghanistan, Baluchistan, and India, and the

writing forms receive the names of Toghra, Nashk, Talik, Nashk-Talik, Shafia, Raqm, and Shakastah. The Cufic alphabet is not now in use.

The Christian missionaries, also, have effected great things in establishing the best of the many dialects current amongst the tribes, as among the Malay of the Archipelago and the Hindi-speaking nations of Hindustan and the Panjab.

Pahlavi group.—The primitive Semitic alphabet has had three branches,—the Phœnician, the Joktanite, and the Aramean. From the Phœnician came the alphabets of Europe; those of India were from the Joktanite; while the Aramean became the source of the alphabets employed by the various non-Semitic races in the provinces of the Persian empire, and it exterminated the other Semitic scripts of Western Asia. This group is usually called the Pahlavi.

Iranian.—The four alphabets of the Iranian group have been designated the Indo-Bactrian, the Pahlavi, the Armenian, and the Georgian. The three Pahlavi alphabets are the Arsacidan, Sassanian, and Parsee.

The Arsacidan type was developed in Persia during the period of the Parthian empire, B.C. 256 to A.D. 226. The Sassanian or Pahlavi proper was formed during the Sassanian dynasty, A.D. 226 to 651.

The Parsee or Indian Pahlavi, often called the Zend alphabet, is that which was used by the Parsee fugitives after their flight to India. The Armenian and Georgian alphabets are the only living representatives of the Iranian alphabet, the Parsee being understood and used only by an ecclesiastical class. St. Mesrob, A.D. 400 (for he was canonized), had been a secretary at the court of the Armenian kings Varazdates and Arsaces IV., but resigned in order to follow a religious life. Moses of Chorene gives Mesrob the credit of constructing the Armenian alphabet, and Moses used it in his translation of the New Testament into the Armenian.

India.—The distinct alphabets employed in India outnumber all the other alphabets used in the remainder of the world. But the vernacular scripts divide themselves into four or five great classes, essentially coincident with divisions of race, language, or religion; and besides, there are in use the alphabets of Annam, Arabia, Armenia, Baluchistan, China, Afghanistan, and Syria (Karshuni), with peculiar local varieties of the Nashki alphabet, which have arisen in Bombay, Malabar, Sind, and Singapore.

There are nearly twenty alphabets descended from the Devanagari script, in which the Sanskrit literature is mostly conserved. Others have been derived from the Pali, the old alphabet of the Buddhist scriptures; about twelve belong to the Dravidian family of alphabets, nearly as many to the Gujerati or Western type, and others to the Eastern or Bengali class.

Mr. H. T. Prinsep gave the following list of transitions of the Indian alphabet from the time of Asoka, with some of the most marked local varieties at present in use, viz. those used in the sculptures of

Asoka's edicts of the 3d century B.C.	Valabhi plates from Gujerat.
Western caves.	Kutila inscription of the 10th century A.D., at Bareilly.
Sah inscription at Girnar.	
Gupta inscription at Allahabad.	
Nerbadda.	Gujerati.
Kistna.	Panjabi.
Telinga, modern.	Kashmiri.
Tibetan, modern.	Bengali.
Square Pali.	Devanagari.

And he gave the following ten modifications of the Sanskrit alphabet from B.C. 543 to A.D. 1200, viz.—

Fifth century B.C., rise of Buddhism.
Western caves.
Third century B.C., Sanskrit inscriptions of Asoka, Junagarh.
Second century A.D., Gujerat dated plates.
Fifth century A.D., Allahabad inscriptions of the Gupta dynasty.
Seventh century A.D., Tibetan alphabet formed from Sanskrit.
Ninth century A.D., Kutila inscriptions from Bareilly, A.D. 992.
Eleventh century A.D., Bengali alphabet as now modified. Adisur, A.D. 1065.
Modern Devanagari alphabet.
Old Pali alphabet of the Burmese, compared with A.D. 200.

Dr. Isaac Taylor, however, has since arranged the alphabets of India into two classes,—the ancient and the modern or vernacular.

From the 3d century B.C. to the 10th century A.D., thirteen *ancient* alphabets were in use in India. They comprise—(1) Maurya from the inscription of Asoka at Girnar; (2) the Andhra of the western cave temples; (3) that of the Sah or Kshatrapa at Girnar; (4) the Gupta on the Allahabad pillar; (5) the Valabhi from the Gujerat plates; (6) the Chalukya or Kistna from the Amaravati plates; (7) the Nerbadda from the Seoni plates; (8) that of the Assam inscription; (9) the Kutila alphabet of Bareilly; (10) the Kiousa or lapidary Pali; (11) the Tibetan; (12) the Passepa; and (13) the Devanagari.

The *vernacular* alphabets of the Peninsula of India are those of Assam, the Kutila, Gurumukhi, Nagari, Bengali, Orissa, Gujerati, Sindi, Multani, Telugu, Canarese, Grantha (Tulu), and Tamil.

The vernacular alphabets of Further India and the islands are the Kiousa, Burmese, square Pali, Singhalese, Pegu, Ahom, Battak (old), Battak (new), Rejang, Lampong, Tagala, Bisaya, Macassar, and Bugi. All these have originated from one single source, the alphabet used in the edicts of Asoka, the Buddhist king. He was zealous for his faith, and in the years 253 to 250 B.C. he promulgated edicts enjoining obedience to its ordinances. Between Peshawur and Ceylon seventeen versions of these edicts, engraved on rocks and pillars, have been discovered, and likewise several dedicatory inscriptions on caves or rock-cut temples constructed by him; and there are also six pillar inscriptions, of which the best known are those at Dehli and Allahabad. In the 2d and 13th edicts, Asoka mentions as his ally and contemporary the Yona-raja or Ionian king Antiyoke, and also refers to the Chatura rajane, or four rajas, Turamye, Antikini, Maka, and Alikasandare, who are known to be Ptolemy II. of Egypt, Antigonus of Macedonia, Magas of Cyrene, and Alexander II. of Epirus.

These inscriptions of Asoka are written in three local Pali or Prakrit dialects, and two wholly distinct alphabets are employed. An inscription at Kapurdigiri is in the Indo-Bactrian alphabet, an alphabet of Iranian origin; while that used in the other versions of the edicts was at first named the Lat or pillar character, but latterly the Indo-

Pali, and it is this one which is the source of the existing Indian scripts.

The Kapurdigiri alphabet is an isolated monument of a great Bactrian alphabet, in which the Zoroastrian books and an extensive literature had been in all probability conserved. The Kapurdigiri form was put aside during the time of Alexander of Macedon and his officers, but later on, in the time of Asoka, it was again utilized for this inscription. It has, however, been in use in Ariana (Herat), Margiana (Merv), Bactriana (Bokhara), Alexandria, Arachosia (Kandahar), and in India throughout the Panjab. The alphabet of the Kapurdigiri inscription has had several names,—Aryan, Bactrian, etc. It is now called the Indo-Bactrian. It is slanting, cursive, and irregular, singularly free from looped forms, and written from right to left. The Indo-Pali or Lat is written from left to right; it is regular, upright, and rigid, with numerous looped forms. The source of the Lat alphabet has been variously suggested.

In the 12 centuries between Asoka, B.C. 250, and the 10th century A.D., various vernacular scripts of India were formed. In three inscriptions of this epoch, namely, the Kutila or Bareilly inscription of A.D. 992, the Chalukya or Kistna inscription of 945, and a Kawi inscription of 919, the characteristic features of the three great alphabetic types of India, the Nagari, the Dravidian, and the Pali, can unmistakeably be recognised.

The Nagari or Devanagari group of alphabets are employed in Kashmir, the Panjab, the N.W. Provinces, Oudh, Rajputana, Gujerat, Central Provinces, Maharashtra, Behar, Bengal, and Orissa, and the Tibetan alphabets belong essentially to this group.

The Devanagari is the chief character employed for writing the ancient Sanskrit language. Devanagari is of comparatively modern origin.

The Gurumukhi character is used by the Sikhs.

Kashmir has two alphabets,—the Sarada, nearly identical with the Devanagari, and the Thakuri, inclining to the Gurumukhi type.

Mahrati is written in two characters; that used for books is called Bal-bodh, 'intelligible to a child,' and is nearly the same as the Devanagari; the other, called Modi, is cursive of the Gurumukhi type.

The Bengali prototype is to be seen in old Gauri inscriptions.

Uria of Orissa belongs to the same class, but has many archaic forms; it is now written on palm leaves with an iron style.

Nepal uses four scripts,—the Newari, which is nearly the same as the Devanagari; the Banjin Mola, belonging to the Bengali type; with the Kaiti-Nagari and the Ranja of intermediate character.

The Sindi and Multani alphabets have some old letters from the Indian, several characters borrowed from the Gurumukhi or Gujerati alphabets, overlaid by the Devanagari.

Three alphabets are used in Tibet, namely, the ecclesiastical Utshen or Dvoujam, primitive forms which are said to have been cut on wooden blocks for printing in the 7th century; the Umin, from the northern alphabet of India, is a cursive form; and the Khyugagi is still more so.

The Kchab or Passepa is said to have been invented by the Grand Lama Bachspa (Pa-sse-pa) in A.D. 1259, during the reign of Kublai Khan. Five of the letters added to the Mongol Galik alphabet are still used by the Kalmuks on the Lower Volga.

The *Dravidian* alphabets of Southern India were derived from the character of the western cave temples, and as early as the 4th century A.D. This gave birth to separate types. The first of these, represented by the inscriptions of the Vengi and Chalukya dynasties of the Dekhan, was the source of the Telugu and Canarese alphabets; while from the other, represented by the Cera inscriptions, proceeded the Tamil alphabet, the Tulu, the Malealam, and the Grantha or book alphabet, used by the Tamil Brahmans for the Sanskrit transcriptions of their sacred books. From it are derived two vernacular alphabets in use on the Malabar coast; one is the Tulu Grantha and the other the Malealam, from which several characters were borrowed by the Christians of St. Thomas in order to supplement the Syria (Karshuni) alphabet which they obtained from the Nestorian missionaries.

Several of the Tamil letters are supposed to have been obtained from the ancient Vatteluttu or Vattezbattu, which is still in use by the Moplah of S. Malabar.

Maldive alphabets are two. The old Dewehi Hakura is derived from the Dravidian alphabets of the mainland. It is written from left to right, and is still in use in the Southern Atolls. The newer alphabet of the Northern Atolls is called the Gabali Tana, and is written from right to left like the Nashki alphabets. Nine of its 18 letters are merely Gobar or Arabic ciphers with phonetic values assigned to them; the other 9 seem to be Telugu-Canarese numerals.

Singhalese has an isolated alphabet of the Pali class, but modified by early Grantha influences. It is confined to the southern half of Ceylon, Tamil occupying the northern.

Burma, Siam, Pegu, and Cambodia employ the Pali alphabet in conjunction with another character apparently of somewhat different origin.

There are three Burmese forms. These are essentially identical, but are very dissimilar in appearance. They are the Kyouk-tsa or stone writing. The square Pali is used in their sacred books; and the Tsa-lonh or round is their ordinary writing, and is scratched on palm leaves.

The Siamese use the square Pali for their sacred books, but have an elegant cursory character for ordinary use.

The Lao, a Siamese race, as also the Cambodians, have two alphabets,—an ecclesiastical and a secular.

The Lepcha or Rong alphabet, used by the people of Sikkim, is supposed to belong to the Ahom group.

The Annamese possess a script which has been adopted from the Chinese phonograms.

The Eastern Archipelago languages are very numerous. Mr. A. R. Wallace names 59 of them, but the writing characters are only eight or at most nine in number. The Javanese alphabet, like all others in the Archipelago, is written from left to right, each letter is distinct and unconnected, and the writing is perpendicular and not slanting. It is the character used for the Javanese proper, the Sunda, the Bali, and it is believed the Lombok, and including Palembang

in Sumatra; it is current among twelve millions of population.

In Sumatra, beginning from the west, the first evidence of a native written character is among the Battak, and it is singular that a nation of cannibals should possess the knowledge of letters. There was assuredly nothing of the kind in Europe or continental Asia until long after men had ceased to eat each other. The form of the Battak letters is horizontal.

The Korinchi alphabet, among the people of this name in Sumatra who border on Menangkabau, has 29 characters, and consists of horizontal or slightly raised scratchings.

The Rejang is the alphabet of Lemba and Pasummah on the western side of Sumatra. It consists of 23 substantive characters, formed of upright strokes.

The Lampung nation, which occupies that portion of the south-western side of Sumatra which lies opposite to Java, divided from it only by the Straits of Sunda, has an alphabet of 19 substantive letters with double or treble consonants, making them up to 44.

The Acheen and Malay of Sumatra are written in the Arabic character.

The Bima alphabet, formerly in use amongst the Bima people in the island of Sumbawa, east of Sumatra and Java, has now given way to the alphabets of the Celebes.

In Celebes are two distinct alphabets,—Bugi and Macassar. The Bugi, at present in use over the whole island, extends to Bouton and Sumbawa, and wherever the Bugi nation have settled or colonized. The modern Bugi has 23 substantive characters, consisting mostly of small segments of circles running horizontally. The Bugi letters have no resemblance to those of Sumatra or Java, or even to the obsolete alphabet of Sumbawa. The other alphabet of Celebes is now obsolete.

The last alphabet of the Archipelago is the Philippine, that of the Tagala nation of the great island of Luçon or Luçonia, and consists of 13 characters. It is the only one existing in the whole of this group, and seems at one time to have been used among the civilised tribes of the neighbouring islands, having spread even to Magindanao and Sulu. The forms of the letters are rather bold and more complex than that of the Sumatran alphabets.

Thus in the Archipelago are nine distinct alphabets, but Dr. Taylor says the Sumatra alphabets are degraded types of the old Kawi. He also says that the prototype of the Eastern Malay alphabets seems to be the Eastern cursive alphabet, which is represented by the Vengi and Chalukya inscriptions in the south, and by the Assam inscriptions in the north. The Tagala is a type of the Eastern Malay alphabets, and is the prototype from which the alphabets of Celebes and Macassar have been derived. The Tagala alphabet must have been conveyed by mariners from the Indian shores.

Javanese letters, also, are based on an alphabet of the Pali type, obtained through the old Kawi, known from copperplate grants of the 9th and 10th centuries. The ancient Kawi of Java is called there the Buddha's alphabet, Akchara Buddha. The modern Javanese has additional letters derived from an earlier alphabet, and is also used in Borneo.

The Corean is a primitive form of the Indian alphabet, supposed to be introduced by Buddhist teachers. It is from an ancient Pali or Tibetan type.

At present, in the south and east of Asia, the Roman and Italic characters, with slight diacritic points, are used everywhere by the British, French, Dutch, Portuguese, and Spaniards, alike in writing, printing, and engraving, and the simplicity and the facility of these forms commend them. The plan of transcribing oriental languages by Roman letters was first used in India and Japan by the Jesuits of the 16th century. Books printed by them at Goa about A.D. 1586, and at Amacosa (Japan), still exist.

Throughout all the south and east of Asia there are many races and numerous broken tribes who remain unlettered, though dwelling in the midst of civilisation. Such tribes affix their marks to documents, the implement or weapon in use with them, a dagger, a staff, a balance, a trowel, etc.; those of them who do write with letters have adopted one of the alphabets of the more advanced nations around them. The helot or predial slave races, known in the Peninsula as the Pariah, the Holar, the Mhang, the Mhar, have for two thousand years been dwelling as the village labourers, in hourly contact with people following the Buddhist and Brahmanical teachings, but they have not acquired either the religion or the learning of their masters. The Gujar and Chamar of N. India are all illiterate. The great Gond nation, now partly under Muhammadan rule, partly under British sway, have no written character of their own, and very few of them know how to read or write; the same remark is applicable to the Bhil, the Mundah, Ho or Kol, the Kond or Ku,—perhaps all the Kolarian races. The Ahir, the Med, Mer or Meena, the Gonds in Bustar, the forest or mountain races, the Chaura, Saura, Suar, Chensuar, the Yanadi, and the Korawa of the eastern side peninsula, the Toda, Kotah, Badaga, or Irular of the Neilgherry Hills, do not know how to read or write, nor is it known that any of the Kurb or Kurumbar race of the Peninsula of India can do either. This is remarkable, because with their great flocks they must have numerous sales, the written record of which would be useful to them; but this remark is equally applicable to many other races engaged in trading transactions, such as the Binjara or Lambara, who till recently were the chief carriers throughout India, the Chakili or Chamar, leather-workers; the Mali or gardener races; the Upuravar; the Beldar or Waddara, labourers, road-makers, tank-diggers, who take great contracts for roads and other public works; and the smaller broken tribes of Beder or Veddah of the Peninsula and Ceylon; the Rhodia of that island, the Yerkala, the Kaikara, the Baura, the Makwa, and many others.

The Mongol and Manchu of Central Asia have characters which they use in writing. It is not known whether the tribes near the Chinese frontier and Tibet, the Gyami, Gyarung, Tak-pa, Man-yak, Thochu, Sok-pa, Horpa, have any knowledge of letters; and the same remark is applicable to the broken tribes in Nepal, particularly to the languages of the Kiranti group in East Nepal. It is not known that any of the tribes near the valley of Assam, the Aka, Dofla, Abor, Bodo, Dhimal, Koch'h, Garo. Naga, Mishmi, Miri, Mikir, Singpo, Shendu, or Khassya have any written

tongue. The Rev. Dr. Mason and Mrs. Mason taught letters to the Karen, but the Ku-ki, Ku-mi, Ka-mi, Pwo, Khampa, Kam-*ti*, Shan, and other tribes in the north-east of Burma are not known to have any scriptory means of intercommunication.

The nations of Europe write and print from left to right.

The Chinese, Japanese, and Mongol write in perpendicular lines.

Some of the ancient Greeks used the double mode, called the boustrophedon or plough-wise, running from the right to left, and left to right in the alternate lines.

Machines called type-writers have been invented for printing Roman and Italic characters, and for figures.—*Dr. Isaac Taylor, M.A., LL.D., on the Alphabet; Professor Max Muller, Ancient Sanskrit Literature; Thomas' Prinsep's Antiquities; Professor A. H. Sayce; Lubbock's Origin of Civilisation; Crawfurd's Dictionary; A. R. Wallace, Malay Archipelago; Layard's Nineveh*, ii. p. 184; *Weber*, p. 15; *G. Rawlinson*, ii. p. 376; *Renan, Histoire des Langues Semitique.* See Languages.

WULUR, a lake 12 miles long, in Kashmir, through which the Jhelum flows; on its little island are the remains of one of the ancient temples of Martund.—*Adams.*

WUN, chief town of Wun district, Berar, in lat. 20° 3′ N., and long. 79° E.; pop. (1876-77), 4233. The greater part of the district consists of a wild and hilly country, formed by offshoots from the Ajunta chain, which runs from west to east across the south of Berar. The mass of the Hindu population consist of Kunbi, Bari, Mali, Dher, Kolam, etc. The Banjara number 36,948; while the hill tribes consist chiefly of 37,348 Gonds. In Wun district the Banjara form two distinct tribes, the Charans and the Mathura, while the mendicants are called Dhari. The women distinguish themselves by their deer-horn ornaments, and by the beautiful embroidery worked with their own needles on their skirts and bodices. They do not permit their daughters to marry before puberty. When grown up, the young girl is not allowed to sleep on a bed, and for a month after marriage the bride appears veiled before the rest of the community. Evidence of the occurrence of coal has been obtained throughout 13 miles of country, from Wun to Papur, and for 10 miles, from Junara to Chicholi, opposite Nokora.—*Imp. Gaz.*

WUNT. SANSK. The second titular honour given to a Hindu in India, as Raja Eshwara Doss, Dyawunt Bahadur, also Raja Indrawunt Bahadur. Wunt, maharaja, raja, raja-raian, rai-raian, bahadur, and rae are the titles granted by rulers to their Hindu civil officers; wunt being the highest, and rae the lowest in grade.

WURNA SANKRA. SANSK. Mixed castes, said to be employed in Northern India to include new castes admitted into the Hindu religion. The only mixed castes to be found in Southern India consist of illegitimate children, the offspring of the dancing girls attached to the temples, of whom the girls are brought up to their mothers' occupations, and the boys as temple florists and musicians.

WU-TSAU. CHIN. Tiger poison. This is a well-prepared extract from a root grown in the interior of China, which presents all the appearance of Aconitum ferox. A very minute quantity of the Wu-tsau, when put on the tongue, produces intense tingling and numbness in the tongue and lips after it is chewed. The Wu-tsau is the name of the plant from the root of which the poison is prepared. It is used by certain tribes in the interior of China.

WUTTAN. ARAB. A native country, a patrimony, a property. Wuttundar is a class of hereditary officers in Central India, and means there a holder of native or home rights. Properly Watn.—*Malcolm's Central India*, i. p. 176.

WUTTU, a Rajput race in the tracts along the Sutlej, about Pak-pattan.

WUZAET. ARAB. A daily performance of duty.

WUZAR. PUKHTU. Lamentation.

WUZEEREE, one of the largest and most important tribes in Afghanistan, brave, warlike, but predatory. They hold the rugged and lofty hills adjoining the south-west portion of the Kohat district (that is, the western part of the Miranzai valley and the hills round Bahadur Khel), and the north-western border of the Dehra Ismail Khan (that is, the valley of Bannu, and the plains of Murwut and Tank). These hills run down to the point where the great Sulaiman range commences; near this point the Gomal pass debouches from the hills almost opposite Tank. The valley of the Gomal forms the Golari pass, through which a large portion of the traffic to and from Afghanistan and Central Asia enters into India, and scarcely inferior to the Khaibar pass of Peshawur or the Bolan pass of Sind. The hills on either side of this pass are held by Wuzeeree; the Wuzeeree Hills form the western limit of the Joorduk pass, which is the main line of communication between Bannu and Kohat. Just to the east of this pass lies Bahadur Khel, and also the villages of Kharra and Lutumur, at which three places the Trans-Indus mines are situated. The Wuzeeree Hills also command the outlets of the Kuram and Goombeli rivers into the Bannu valley. The Wuzeeree tribe are numerous, and subdivided into various sections. The birthplace of this race would seem to be the snowy range which runs to the south-east of Jalalabad and Kābul. From this range they appear to have moved downwards towards the Dehrajat border. They are noble savages, of pure blood, pastoral habits, fierce disposition, and wild aspect. They can muster, probably, 20,000 or 30,000 fighting men. But though they are less addicted to internecine contests than other hill tribes, they are yet not apt to join all these forces together against an external foe. As soldiers, they are not equal to the most martial tribes. Many of them live in tents, or in temporary dwellings resembling tents; in the winter frequenting the more genial clime of the lower ranges, and in summer retreating to feed their flocks in higher altitudes. Some of them have engaged in cultivation, and have encroached on the weaker tribes of the plains; of these, again, many will only cultivate during the cold months, and as the heat approaches will reap their crops and retire to the mountains. Some members of the clan who have taken up their abode as cultivators in the Bannu valley, have become British subjects.

WYNAD, the highland division of the Malabar district, Madras, lying between lat. 11° 27′ and 11° 58′ N., and between long. 75° 50′ 45″ and 76° 41′ E.; containing (in 1881) 16 amshoms or parishes, and 88,091 inhabitants, and covering an area of 1180 square miles. The Wynad consists of a table-land amid the Western Ghats, 60 miles long by 30 broad; average height above sea-level, 3000 feet. Bounded on the north by Coorg, on the east by Mysore (Maisur), on the south by the Neilgherries and Ernad taluk, and on the west by Calicut, Kurumbranad, and Kottayam taluks of Malabar. Gold seems to be almost universally distributed throughout the soils and quartz veins of the Wynad. Gold has always been washed for in the beds of the Wynad rivers, and from 1877 to 1881 there arose the wildest speculation in the form of 21 gold mining companies, with capital to the amount of about three millions; but in 1882 the bubble burst. The forests contain much valuable timber. In the teak belt are several bands of Kurumbar, some of the Jani, and others of Mooly caste. They amount to about—Kurumbar, 200; Gurchea, 50; Panniar and Pooliar, 100; Chetty and squatters, 50. The former live entirely in the forest. They are the only axemen, and without them it would be difficult to work a forest. The Kurumbar, through their headmen, are held responsible, and the Chetty are also responsible for their Panniar or farm slaves. The Kurumbar has no lack of labour. His services are constantly called for by the wood contractor and the planter. They will not leave their haunts in the forest for any time.—*Rep. Con. For.* p. 26, and 1861-62, p. 1.

X

X is the 24th letter of the English alphabet, and has been borrowed from the Greek; there is no such letter in any Asiatic language. At the beginning of words it has the sound of z; at the end of words and in the middle and end of some, it takes the sound of ks, as in lax, axis; but in the middle of other words it has the sound of gs, as in example, exhaust. It has been sometimes the practice to represent the Sanskrit ksh by the letter x, but ksh is an acknowledged compound of k and sh, and its representation therefore by a single letter is not advisable, nor is it necessary.

XAGANOS. Gr. The Khakan or Khan of the Tartar races.

XANADU, the seat of Chengiz Khan in China.

XANTHIUM ORIENTALE. *L.*

X. Indicum, *Kon.*

Bun-okra, . . .	Beng.	Paraswapu chettu,	Tel.
Arishta, . . .	Sansk.	Tala noppi chettu, .	,,

The Indian xanthium is of all India; its leaves are used as a yellow dye, and its prickly fruit as a demulcent. The prickly involucre is tied to the ear-ring to cure headache. The name means headache tree.

XANTHIUM STRUMARIUM.

Si-rh, Ts'ang-rh, .	Chin.	Khagarwal, . .	Hind.
Gokru, Kalan, .	Hind.	Lane-tsuru, . .	,,
Tsur, ...	,,	Wangan-tsuru, .	,,

This plant was formerly used in medicine in Europe, and its burs and the prickles on them are still employed in India and China; its seeds yield a lamp oil, and are made into a flour. An extract is prepared from the roots, and in China applied to ulcers.—*Smith.*

XANTHOCERAS SORBIFOLIA. Wan-kwang-kwo, Chin. A beautiful flowering tree, common in Pekin, the N. of China, at King-chau or Peh-chi-li.—*Smith.*

XANTHOCHYMUS PICTORIUS. *Roxb.*

Stalagmitis pictorius, *G. Don.*

Dampel, .	Beng., Hind.	Chikati mraku, . .	Tel.
Rata, .	Ghorka, Singh.	Tamalamu, . . .	,,
Iswaramamadi,	Sing., Tel.		

This beautiful tree is remarkable for its black flowers. It grows in the mountainous districts of S. India, and is very plentiful in the Rangoon, Pegu, and Tounghoo districts. It was formerly supposed to be one of the trees yielding gamboge, but the product is found not to possess the elements of gamboge. It is very abundant in the woods in Coorg, is also met with in Wynad, below Sisparah on the Neilgherries, S. Canara, the western slopes of Neilgherries, and other localities in the western side of the Madras Presidency and on the Bombay Ghats; and it is cultivated in gardens.—*Roxb.* ii. p. 633; *Rohde, MSS.; Hind. Theat.* ii. p. 101.

XANTHOPHYLLUM FLAVESCENS. *Roxb.* A large tree, a native of the hilly parts of the province of Chittagong.—*Roxb.* ii. p. 222.

XANTHOPHYLLUM VIRENS. *Roxb.* Gundi, Beng. A large timber tree of the forests of Sylhet; wood remarkably hard and useful.—*Roxb.* ii. p. 221.

XANTHORRHŒA, *sp.*, the yellow gum tree or grass tree of N. S. Wales. The natives produce fire by rubbing two pieces of the trunk together.—*Bennett*, i. p. 62.

XANTHOXYLACEÆ. *Lindl.* A natural order of plants, comprising the genera Brucea, Xanthoxylum, Blackburnia, Lacuris, Toddalia, Ailantus, Eurycoma, and Ptelea. All this order, to a greater or less extent, possess aromatic and pungent properties. The Ailantus are large trees, and their timber is used for various purposes in the countries in which they grow. A. glandulosa is a native of China and the Moluccas, where it is called Ailanto. It attains a height of 60 feet. When the bark is wounded, it gives out a resinous juice, which hardens in a few days. The wood is hard and heavy, and is susceptible of a very fine polish. A. Malabarica is a large tree, a native of Malabar. The wood is used for making sheaths for spears, etc. A resinous juice flows from the bark when wounded. The fruit is triturated with maize, and mixed with rice in decoction, and used as an application in ophthalmia. The cosmetic wood of Mergui is from one of the Xanthoxylaceæ, and is a useful, fragrant wood, sold in the bazar, which is said to come from Mergui, but Mr. Mason never saw the tree; and Brucea antidysenterica, the Woginos of Bruce, was long supposed to yield the false Angustura bark, and from which the alkali Brucia was obtained; but the former is ascertained to be the bark of Strychnos nux vomica. —*Eng. Cyc.; Mason; Royle.*

XANTHOXYLON, a genus of plants belonging to the Xanthoxylaceæ, of which the following are S. Asia species:—

X. alanthoides, *S. and Z.*, Japan.
X. alatum, *Roxb.*, Nepal, N. India.
X. Avicenniæ, *D. C.*, China.
X. budrunga, *D. C.*, Assam.
X. hostile, *Wall.*, Himalaya.
X. limonifolium, *Wall.*, Khassya.
X. nitidum, *D. C.*, China.
X. obovatum, *Wall.*, Khassya.
X. ovalifolium, *W.*, Shevagherry Hills.
X. piperitum, *D. C.*, Japan.
X. planispinum, *S. and Z.*, Japan.
X. rhetsa, *D. C.*, Peninsula of India.
X. schinifolium, *S. and Z.*, Japan.
X. sepiarium, *W.*, Pulicat Hills.
X. triphyllum.
X. violaceum, *Wall.*, Nepal.

Species of this genus occur in China and Japan; extend in India to Simla, in lat. 31° N., where X. hostile, differing little from X. alatum, is found. Species run southwards along the Himalaya to Nepal and Sylhet, then to the Malay and Indian Peninsulas, and to the islands on the east of the African continent. In India, X. budrunga, rhetsa, alatum, and hostile, are used wherever they are indigenous, for the warm, spicy, pepper-like pungency of their capsules, a property which is participated in by their bark and other parts. The capsules and seeds of X. hostile, called tejbul by the natives, are employed in Northern India for intoxicating fish, and chewed as a remedy for toothache; they are also given as the Faghureh of Avicenna, as X. piperitum and Avicenniæ are in China and Japan, and are considered an antidote against all poisons. Dr. Royle thought that in many cases they would be of considerable use as a stimulant remedy. The bark of Xanthoxylon ochroxylon and the pods of Acacia tortuosa are used for tanning in the West Indies.—*Roxb.*; *Royle*, *Ill. Him. Bot.* p. 157; *Murray.*

XANTHOXYLON ALATUM. *Roxb.*

Shuh-tsiau, . .	CHIN.	Hwa-tsiau, . . .	CHIN.
Ch'uen-tsiau, . .	,,	Pepper-wort, . .	ENG.
T'sin-tsiau, . . .	,,	Durmur, . . .	HIND.

A native of Nepal and the hilly countries north of Bengal, Rohilkhand, and Oudh, eastward to China; flowering in Calcutta in the hot and rainy seasons. Every part of the plant possesses a peculiar aromatic pungency, and the jet-black seeds are used medicinally by the natives.—*Roxb.*; *Smith.*

XANTHOXYLON AVICENNIÆ, Fagara Avicenniæ, *Roxb.*, a native of China, a powerful stimulant, and used as an antidote against poisons.—*Roxb.*

XANTHOXYLON BUDRUNGA. *D.C.*

Fagara budranga, *Roxb.*

Toung-than, . .	BURM.	Young-tha-ji, . .	BURM.

A small thorny tree of Assam, and in Sylhet is called budhrung. The seeds have a warm, spicy flavour, and the natives use them medicinally. The dry capsules are found in the bazars under the name of Kek-ka-la. The bark and large thorns of the trunk are used. The seeds abound in a rich aromatic oil, and are sold in the bazars under the term tejbul or tezbul. The tree is about 20 feet high in the Pegu and southern parts of the Tounghoo districts, where it grows upon the banks of streams. The fruit is about the size of a pea, and the outer coat contains an exceedingly fragrant balsam.—*Roxb.*; *M'Clelland.*

XANTHOXYLON HOSTILE. *Wall.*

Tirmal, Tezmal,	CHENAB.	Timboor, Timbar,	JHELUM.
Tezbul;	HIND.	Timbroo, . .	KANGRA.

This scandent shrub is common in N.W. India and the N.W. Himalaya up to near the Indus, also in Kaghan, in Kashmir, and Kamaon. It is strongly armed with prickles, hence its name hostile. Its twigs serve the natives as tooth-brushes. Thicker branches are useful in carving and turnery, are made into walking-sticks and clubs, and are used by fakirs to triturate the hemp plant in preparing their beverage. In using a triturator possessing pepper-like aromatic qualities, they save the pepper, which is usually added to hemp compounds. The capsules and seeds are chewed as a remedy in toothache, also the sharp prickles which are attached to the bark by large bases. The aromatic fruit is used as a condiment. The capsules and seeds are used for intoxicating fish, and are supposed to be the Faghureh of Avicenna.—*Honig.*; *Mr. Thompson*; *Stewart*; *Cleghorn.*

XANTHOXYLON PIPERITUM. *D.C.*

Fagara piperita. | Wu-chu-yu, . . CHIN.

It grows in India, in Japan, and in China. It furnishes a powerful aromatic, used by the Chinese in the room of ginger and pepper. The active principle resides chiefly in the fresh leaves, the dry bark, and the pericarp. Physicians, in sore throats, apply a poultice made of the bruised leaves and rice flour, and its powdered leaves are mixed with camphor, and applied to the Porrigo decalvans of children. X. budrunga, rhetsa, alatum, and hostile are used, wherever indigenous, for the warm, spicy, pepper-like pungency of their capsules.—*Roxb.*; *O'Sh.*; *Lindley's Fl. Med.* p. 215; *Royle*, p. 157; *Smith.*

XANTHOXYLON RHETSA. *D.C.*

Fagara rhetsa, *Roxb.*

Mulila, . . .	MALEAL.	Rhetsa maram, .	TAM.
Kattoo-keena-gass,	SINGH.	Rachcha manu, .	TEL.

Grows in the Central Province of Ceylon, and near Colombo, also on the coast hills of Peninsular India, the Circars, the Animallays, the western forests generally. It is a large tree, armed with sharp prickles; capsules have a strong aromatic taste; the seeds are used instead of pepper. In the Tamil language, Rhetsa maram means council tree, as it is under the branches of this tree that the hill people assemble to discuss all matters of public interest.—*Roxb.*; *Thw.* i. p. 69; *Voigt*; *Riddell.*

XANTHOXYLON TRIPHYLLUM. *Juss.*

X. Zeylanicum, *D.C.*
Evodia triphylla, *D.C.*
Fagara triphylla.
| Loonoo-ankenda-gass, ... SINGH.

Very abundant in Ceylon up to an elevation of 5000 feet; a var. β occurs near Ratnapura. A resin is obtained from this tree, but in too small quantities to be useful in a commercial point of view.—*Thw.* i. p. 69.

XAVIER. Francis Xavier was born 7th April 1506, in Castle Xavier, at the foot of the Pyrennees, about 21 miles from Pampeluna, and derived his pedigree from the kings of Navarre. At college he became acquainted with Ignatius Loyola; and, as Father Francisco Xavier, he was a joint founder, with Loyola, of the order of Jesuits, and after his death was canonized by the Romish Church. Jesuit Christians have been the most politic of all proselyte makers. Everywhere [redacted] has been a career at least of temporary triumph, in China, India, and the regions of the South Pacific. He sailed for the east on the 7th April 1541, and, after a stay of six months at Mozam-

bique, he landed at Goa on the 6th May 1542. In April 1549 he embarked at Goa for Japan, sailing to the region of the further east with his Bible, to preach the gospel in the name of the Supreme Church. Xavier quitted Japan for China in 1551, and on the 14th April 1552 he again sailed from Goa for Malacca. He died on the 2d of December 1552, at Shan-Shan, on the Canton river, not far from Macao. The coffin was afterwards taken to Malacca, and then to Goa.

In 1547, the salvation of Malacca from the Achinese was ascribed to the sudden appearance of Saint Francis Xavier, who was then on his pilgrimage through the east, and had recently made 600 or 700 converts among the pearl fishers of Manaar. At the period of his arrival, Malacca was threatened by a formidable invasion from the opposite island of Sumatra, which was delayed, though not abandoned. He visited Ternate in 1546. He afterwards returned to Malacca, and visited Japan between the years 1547 and 1549, and by his efforts the Christian religion was fairly established in Japan by 1550; but in the year 1597 their persecutions began, and numbers, variously stated at from 300,000 to 1,000,000, were massacred and hurled from rocks.

He was successful in his mission among the Paravar fishermen of the Tinnevelly coast. They had received protection from the Portuguese against the oppression of the Muhammadans, and many of them had already become Christians, but Xavier completed the work, and they acknowledge themselves his children or disciples. — *MacFarlane's Japan; St. John's Ind. Arch.; Hough, Christianity in India; Abbé du Bois; Bik.*

Padre Geronimo Xavier, author of a work, The Mirror of Holiness, a Life of the Messiah, written at the request of the emperor Akbar. He was a relative of St. Francis Xavier.

XENOPHON, with 10,000 Greeks, conducted by the younger Cyrus, marched from Sardis to the neighbourhood of Babylon. The object of Cyrus was to place himself on the Persian throne, in the place of his elder brother, Artaxerxes Mnemon; but as Cyrus fell at the battle of Kunaxa, within six months of the commencement of the expedition,—it set out in March or April B.C. 401, — after his death they commenced their retreat. This occupied them one year, and in October or November B.C. 400 they recrossed the Bosphorus of Thrace to Byzantium. The ferries of rivers in India and the south of Asia are crossed in various ways, but on the Tigris and Euphrates, the Upper Indus and its affluents, the practice of 3000 years still continues. Xenophon's 10,000 were ferried over on inflated skins, and three slabs in the British Museum show the representation of the king of Assyria crossing the Euphrates in this mode.

XERXES I., the Great, the Ahasuerus of Scripture, B.C. 485-465. Xerxes II., B.C. 424.—*Bun.*

XIMENIA ÆGYPTIACA. *Roxb., Juss.*

Balanites Ægyptiaca.

[illegible]n-lay-hsee, . . BURM.	Garee, ... TEL.
[illegible]l, Hingot, . . HIND.	

[illegible] grows in the Kotah district. The shell of the [illegible] is used to make crackers in fireworks. Wight gives Ximenia olacioides, 1861.—*Roxb.*

XIMENIA AMERICANA. *Linn.*

Pen-lay-hsee, . . BURM.	Nakkera, . . . TEL.
Konda nakkera, . TEL.	Ura nakera, . . . ,,

This tree grows in the Godavery forests. Its fruit is used in medicine, and the powder of its yellow-coloured wood is used by the Coromandel Brahmans in their religious ceremonials. The fruit resembles the flavour of the peach, as does the kernel of the nut; the leaves also smell like the common laurel. In Masulipatam and Guntur the ryots distinguish two kinds,—this and a small stunted kind, which grows in their fields, and which they say never attains a larger size. They use the bark medicinally for their cattle. It is X. Russelliana, *Wall.—Roxb.; Elliot; Beddome.*

XIPHIAS GLADIUS, the sword-fish, has been renowned since the times of Ælian and Pliny for its courage in attacking whales, and even ships. Like the tunny and bonito, it is an inhabitant of the deeper seas, and, though known in the Mediterranean, is chiefly confined to the tropics. The dangerous weapon with which nature has equipped it, is formed by the prolongation and intertexture of the bones of the upper jaw into an exceedingly compact cylindrical protuberance, somewhat flattened at the base, but tapering to a sharp point. Its assaults upon the whale have been incontestably established.

Xiphias platypterus, the Indian sword-fish, is about 6 feet long. It swims swiftly, and makes rapid darts amongst a shoal of fish, and, after transfixing as many as possible on the beak or sword, it shakes them off by a retrograde movement, or by moving the sword violently from side to side, and eats them.

In the seas around Ceylon, sword-fishes sometimes attain to the length of 20 feet, and are distinguished by the unusual height of the dorsal fin. Those both of the Atlantic and Mediterranean possess this fin in its full proportions only during the earlier stages of their growth. The Indian species are provided with two long and filamentous ventral fins, and have been formed into the genus Histiophorus. Histiophorus immaculatus was previously known only by a single specimen, captured in the Red Sea by Ruppell.—*Tennent's Ceylon*, p. 328; *Bennett, Whaling Voyage*, i. p. 270.

XYLIA DOLABRIFORMIS. *Benth.*

Inga xylocarpa, *D. C.*	Acacia xylocarpa, *Willd.*
Mimosa xylocarpa, *Roxb.*	
Pyn-ka-do, . . . BURM.	Boja, . . . GODAVERY.
Tirwa, ... CAN.	Irool, ... TAM.
Iron-wood, . . . ENG.	Konda tangadu, . TEL.

This large tree, the iron-wood or irool, is widely distributed in the forests of the Madras Presidency, in the forests at the foot of the South Canara and Malabar Ghats; it is often very gregarious, forming forests of itself to the exclusion of almost all other trees, but it is seldom of fine growth when found in this state. It flowers in March and April when destitute of leaves, and ripens its seed in August and September. The wood is of a very dark-red colour, fading to dark-brown, heavy, hard, close-grained, and not easily worked; when planed up, the surface has an unctuous feel and not very agreeable smell. A cubic foot unseasoned weighs 68 to 74 lbs., and 58 lbs. when seasoned, and its specific gravity is ·928. It is excellent for posts, railway sleepers, naves of wheels, and all purposes demanding great strength, and is in use for building purposes, for knees in ship-building, house and bridge posts, ploughs, boat anchors, the construction of carts, and other purposes.—*Beddome, Fl. Sylv.*

XYLOBALSAMUM of the ancients is the wood of Balsamodendron Gileadense, *Kunth.* M. Fee ascribes to B. Berryanum three distinct products, —balsam of Mecca, a wood called xylobalsamum, and fruits termed carpobalsamum. Tradition is rich in anecdotes relative to the origin of this balsam. The Muhammadans relate that it sprang from the blood of the slain in Mahomed's conflict with the tribe of Harb? and that the prophet used the balsam for the resuscitation of the dead. It is much used in medicine by the hakims as a stimulant, tonic, and somewhat astringent remedy, and as an external application to indolent sores. It is also employed as a perfume and cosmetic.—*Faulkner; Fee.*

XYLOCARPUS GRANATUM. *Kæn.*

Carapa Moluccensis, *Lam.*	Granatum littoreum, *Will.*
Pussoor, ... BENG.	Sea cocoanut, . . ENG.
Pen-lay-pyoun, . BURM.	Madahul, . . MALAY.
Pen-lai-ung, . . ,,	Kadul-gaha, . . SINGH.
Pen-lay-ung, . . ,,	Kandalanga, . . TAM.

This xylocarpus tree (from ξυλον, wood, and καρπος, fruit) grows in the south of Ceylon, in the Sunderbans, and in the forests of the delta of British Burma. Very abundant all along the seashore from Amherst to Mergui. It is used by the Burmese for all parts of houses, posts, flooring, walls, etc.; is strong, and splits with difficulty. A cubic foot weighs 47 lbs. Is recommended for handspikes, helves, spokes, and handles of tools, also for shot-boxes and packing-cases. Fruit ripens in June and July. This is not the cocos-de-mer of the Seychelles, but is common in the mangrove swamps; and, growing near the shore, its fruit falls into the water and floats out upon the sea, which gives rise to its name. The fruit is not edible, but is exceedingly astringent, and is regarded by the natives as a specific in cholera.—*Roxb.; O'Sh.; Mason; Brandis; Thw.; Captain Dance.*

XYLOCOPA TENUISCAPA. *Westw.*

X. latipes, *Drury.* | Carpenter bee, . ENG.

A hymenopterous insect which perforates large beams of timber, as also living trees, by boring holes through them. On one occasion, at Kurnool in the Ceded Districts, one of them was seen to kill a sparrow by a single thrust of its sting. Any intruder within the precincts of their nests instantly becomes an object of suspicion and attack, and as the unlucky sparrow was flying towards the corner of the hospital, the bee assailed it, struck it with its sting, and the bird fell dead. On raising the skin from the bone, a small reddened spot on the fore part of the skull indicated the point at which the fatal weapon had entered.—*Drury; Tennent's Ceylon.*

XYLOMELUM PYRIFORME, the wooden pear tree of Australia, grows 15 to 20 feet high, and 6 to 8 feet in circumference. Its wood is of a dark colour, prettily marked, and suited for veneering.—*G. Bennett,* p. 322.

XYLOPHYLLA ANGUSTIFOLIA, one of the small Euphorbiaceæ, shrubs growing to the height of three feet; the colour of the flower is yellow and red.—*Riddell.*

XYLOPIA PARVIFOLIA. *L.* Nattou, SINGH. This lofty, straight tree grows in the southern parts of Ceylon at no great elevation, and abundant in the moist forests about the foot of the Travancore Ghats in the vicinity of Colatoor-palay; flowering in August. Flowers and bark are used by the Singhalese for chewing with their betel. X. aromatica is the Ethiopian pepper.—*Thwaites; Beddome, Fl. Sylv.*

XYLOTRECHUS QUADRIPES. *Chevrolat.* In the Peninsula of India, Borer is a name given to the larvæ of certain coleopterous beetles, which injure coffee trees. There are two, the white and red borer, and the chief of these is the X. quadripes. The large and rapid introduction of coffee-growing into Ceylon and India has shown that the plant is liable to be attacked by many enemies, and ignorance of that has been the cause of much loss. Coffee trees in Coorg have also been injured by the rot, a disease resulting from improper pruning. The rot attacks and decays the centre of the stem. In Coorg, when the tree is attacked by the borer, the leaves become yellow and droop. The insects are generally about the diameter of a small quill, are always confined to the wood, and never enter the bark until the larva has done its work, passed through the pupa stage, and is about to escape in the form of a beetle. The eggs are deposited by the females near the root of the tree, and the pupa bores a tunnel up the heart of the plant.—*Bidie on Coffee Planting.*

XYRIDACEÆ. *Lindley.* An order of plants with six species of Xyris in the E. Indies, viz. Indica, of all India; lappacea, of Coromandel; pauciflora, of both Peninsulas; robusta, of Sylhet; schœnoides, of Nepal. Properties unimportant.

XYRIS INDICA. *Linn.*

Dali doob, . . . BENG. | Kotsjelliti pullu, MALEAL.

A plant of China and India, with conspicuous yellow flowers on imbricated scaly heads, often seen in the Tenasserim paddy fields. It is said by Agardh to be used as a remedy in itch and leprosy. In Bengal it is valued for ringworm.—*Mason; Roxb.*

Y

Y is the 25th letter of the English alphabet; it derives its form from the Greek y, hence it is called in Spanish and French the Greek i. At the beginning of words and syllables it is a consonantal element; in the middle and end of words it is a vowel, being precisely the same sound as i. It is sounded as the English i long when accented, as in defy, rely; and as i short when unaccented, as in vanity, glory, synonymous. In a great number of English words derived from the Saxon, the Saxon letter g has become y, as gear into year; daeg into day; gealew into yellow. In Bengali, when uncompounded, its power is that of j, the reverse of the sound in the German alphabet, where j has the sound of y.

According to the laws which determine the change of sounds in the Turkish language, the change of y into t when it occurs at the end of a word is very frequent. Andkhoi, or Andakhud, or Andakhut is a Mongolian word meaning united happiness.—*Vambery, Bokhara,* p. 307.

YA. ARAB. The Oh! interjection of the Muhammadans, as Ya Karim, Oh Merciful! Ya Allah, Oh Lord! Ya Kabir, Oh Almighty!

YABOO, a small horse of the mountains near Kābul.

YADAVA, descendants of Yadu, the eldest son of Yayat and Devayani, a nomade pastoral

race of ancient India. The date of their arrival in India is unknown. At the time of Krishna's birth they were in the neighbourhood of Mathura, now called Muttra, a town on the banks of the river Jumna, and about 120 miles south of the site of the ancient city of Hastinapur. They dwelt on both sides of the river, on the western bank in the village of Vrindavana, and in the Gokula country on the opposite shore. They afterwards migrated to Dwaraka, on the western coast of the peninsula of Gujerat. Krishna belonged to this tribe, and he induced them to abandon the worship of Indra, and substitute the mountain Govardhana. Violence and disorder prevailed wherever the Yadava settled. Nearly all the tribe was destroyed at Prabhasa during a drunken affray, and others perished in Dwaraka when it was overwhelmed by a tidal wave.

Some of their branches have taken a prominent part in the history of Central Asia, in the valley of the Indus, in the countries now styled the Panjab, Rajputana, and Sind, known in ancient times as the Gete, the Yuti, and now represented by the Jat, Jut, Jet, or J'hut, and by the Yadu Bhatti of Jeysulmir, all dwelling along the valley of the Indus and to the east in Rajputana. A multiplicity of scattered facts and geographical distinctions warrant the belief that the Yadava race had dominion in Central Asia, and were again, as other races advanced, repelled upon India. Budh was an ancestor of a branch of the great Hindu people of a time prior to authentic history. He is traced up to Brahma, from whom he descends through Atri, Samudra, Chandra or Soma, and Vrihaspati. Budh is said to have married Ila, daughter of Ikshwaku, with whom, therefore, he was a contemporary, and the descendants of this union were, in succession, Pururava, Ayu or Yaou, Nohas or Nohus, and Yayat. Ayu or Yaou is claimed by the Tartar and Chinese genealogists as their great progenitor; from Yayat sprang three great lines, the Yadu, Puru, and Ura or Urvasa, from each of whom came many dynasties ruling on the Indus, in Hindustan, Assam, Ava, and China. The great Hya was a branch of the Yadu; and five members of it formed Panchalika or Panchaldesa, and the seed of Bajaswa at one time occupied all the countries on the Indus. Of the three lines, the Yadu, Puru, and Ura, the Yadu became the most illustrious. The descendants of Budh and Ila were known as the Chandravansa, Somavansa, or Induvansa, all of these terms meaning the Lunar race; but the fame of the Yadu eclipsed the prior designations, and throughout India the Lunar race came to be styled Yaduvansa. The Yadu held territories in Hindustan about Allahabad, but seemingly in small republican states, some of which were staked and lost at play. The relatives then fought for dominion, for 18 days, on the field of Kuru Khet. There was no battle of armies, but a series of single combats, with treacherous, cruel surprises, during which nearly all of the Yadu fell, and at the close, of those remaining, several, amongst whom Krishna was one, emigrated. The story is told in the Mahabharata. After the combats, the Yadu seem to have left the Ganges, to have been expelled from Dwaraka, to have crossed the Indus, passed Zabulisthan, and founded Ghazni and Samarcand, but to have swept back on the Indus into Gujerat and the Indian desert, from which they expelled the Langaha, Johya, Mohila, etc., and founded successfully Tannote, Derrawul, and Jeysulmir, in S. 1212, the present capital of the Bhatti, the lineal successors of Krishna. They are now known as the Bhatti of Jeysulmir, the Jharijah of Cutch Bhooj, the tribes occupying Kerrowlee and Subbulghur on the Chambal, and the Sumaitcha on the Chambal. The great Tuar tribe are also said to have been of Yadu origin. The Bhatti and Jharijah trace their descent from Budh and Krishna, and they may be said to occupy the Indian desert from the Sutlej to the ocean. Budh seems to have been a descendant of the first man, Brahma, and to have been the first emigrant from Sakadwipa or Scythia, into Hindustan, viz. about B.C. 2400. Between Budh and Krishna was a period of 1200 years. But Budh was deified by his descendants; and in Hindu mythology he is described as of Lunar origin, the son of Soma or Chandra or Indu, the moon, by Rohini. The date of the apotheosis of Budh is not known.

There seem to have been 56 clans of the Indu or Lunar race, but the Yadu was at one time the most illustrious of all the tribes of India, and became the patronymic of the descendants of Budh.

The annals of the Bhatti of Jeysulmir, which give the early history of their founder, mix up in a confused manner the cause of their being again driven back into India. Bhatti was the exile from Zabulisthan, and, as usual with the Rajput races on any such event in their annals, his name set aside the more ancient patronymic Yadu. In the Further Doab of the Panjab is a cluster of hills called Yadu-ka-dang. The Bhatti subdued all the tracts south of the Garrah, but their power has been greatly circumscribed since the arrival of the Rahtor. The Jharijah is the most important tribe of the Yadu race next to the Bhatti. Its history is similar.

The most common epithet of Krishna, or Heri, was Shama or Sama, from his dark complexion. Hence the Jharijah bore it as a patronymic, and the whole race were Sama-putia (children of Sama), whence the titular name, Sambus, of its princes. The modern Jharijah, who from circumstances has so mixed with the Muhammadans of Sind as to have forfeited all pretensions to purity of blood, partly in ignorance and partly to cover disgrace, say that the origin is from Sham or Syria, and of the stock of the Persian Jamshid; consequently Sham has been converted into Jam; which epithet designates one of the Jharijah petty governments, the Jam Raj. The Bhatti and the Jharijah are the most conspicuous of the Yadu race; but there are others who still bear the original title, of which the head is the prince of the petty state of Kerrowlee on the Chambal. This portion of the Yadu stock would appear never to have strayed far beyond the ancient limits of the Suraseni, around Mathura, their ancestral abode. They held the celebrated Biana; whence expelled, they established Kerrowlee west, and Subbulghur east of the Chambal. The tract under the latter, called Yaduvati, has been wrested from the family by Sindia. Sri Mathura is an independent fief of Kerrowlee, held by a junior branch.

The Yadu are scattered over Northern India; many chiefs of consequence amongst the Mahrattas are of this tribe, and there are eight saca of the race, four of whom are,—the Yadu chief of Kerrowlee;

the Bhatti chief of Jeysulmir; the Jharijah chief of Cutch Bhooj; and the Sumaitcha Muhammadans in Sind. The rajas of Vijayanagar claimed to be of the Yadu tribe.

The Tuar, though acknowledged as a subdivision of the Yadu, is placed by the best genealogists as one of the 'thirty-six' royal Rajputs, a rank to which its celebrity justly entitles it. Colonel Tod supposes the Yadu to have been of Indo-Getic origin, as their habits of polyandrism would almost demonstrate, and as the best informed of the Jain sect assure us that Nemnath, the twenty-second Budha, was not only a Yadu, but the near kinsman of Krishna. He regards the Yadu to be the Yu-te, or ancient Gete of the Jaxartes, amongst whom, according to Professor Neumann, from Chinese authorities, one of the Shamanean sages sprang, 800 years before Christ. The term Nemeswar probably means the founder of this race, from Nema, foundation, and Iswara, lord. The traditions of the Jat claim the regions west of the Indus as the cradle of the race, and make them of Yadu extraction, thus corroborating the annals of the Yadu, which relate their migration from Zabulisthan. The Yadu of Jeysulmir, who ruled Zabulisthan and founded Ghazni, claim the Chaghtai as of their own Indu stock, a claim which Colonel Tod deems worthy of credit.—*Tod's Rajasthan*, i. pp. 85, 163.

YADAVA. SANSK. Jadon, HIND. A tribe of Rajput landlords and cultivators dwelling in considerable numbers about Agra and Mathura, in the Central Doab, and in Eastern Malwa. The raja of Kerrowlee is of this tribe. They profess to be descendants of Krishna. Some of their subdivisions are held in little esteem, and are termed Bagri by their neighbours; but they are spirited farmers, and rising in wealth and consideration.—*Wilson, Glossary.*

YADU, founder of the fifty-six tribes (Cha-pan-kula-Yadu) who obtained the universal sovereignty of India, and was descended from Yayat, the third son of Swayambhuma Manu, also called Vaivasvata Manu, or the man, lord of the earth, whose daughter Ella (Terra) was espoused by Budha (Mercury), son of Chandra (the Moon), whence the Yadu are styled Chandravansi, or children of the moon. Budha was therefore worshipped as the great ancestor, Pitriswara, of the Lunar race, and previous to the apotheosis of Krishna was adored by all the Yadu race. The principal shrine of Budha was at Dwaraka, where he still receives adoration as Budha Trivikrama, the triple energy, like the Hermes Triplex of Egypt.

YAFFA, a district of Yemen, surrounded by the Lahej, Sanaa, and the Hadramaut provinces, and reaching inland to the Jabl Yaffai mountains, which rise 6500 feet above the sea-level. The Yaffai tribe is the most powerful in Yemen.

YAGHI. TURK. Rebellious; a term applied to such chiefs as refuse their obedience and homage to government, even though they accompany this refusal with no violent act of rebellion. It is best rendered, perhaps, by the English word refractory. It is the corruption of the Arabic word baghi. Yaghistan is a term applied by General Sir C. M. MacGregor to all the country on the N.W. frontier of British India, which owns no chief. All the tribes from the Ushtarana on the south to the Chagharzai on the north are independent. He says there is not one who ever obeyed any one.—*Fraser's Khorasan; Lieut.-Col. MacGregor*, iii. p. 279.

YAHIA-bin-AHMAD-bin-ABDULLAH SIRHINDI or Sibrindi was the author of the Tarikh-i-Mubarak Shahi, which embraces the period from the time of Muhammad Sam, founder of the Ghori dynasty, till A.H. 852 (A.D. 1448). It contains all that is known of the Syud dynasty, and is copied verbatim by Nizam-ud-Din Ahmad in the Tabakat-i-Akbari.—*Elliot, Hist. of India.*

YAHIA - bin - SERAPION - bin - IBRAHIM was an eminent Syrian physician, said to have been born at Damascus, and supposed to have lived between A.D. 870? and 932. He finished in Syriac a complete view of the Greek system of medicine, particularly that of Galen, incorporating with it the principles and practice of the Arabs. Two works bearing his name were translated into Latin, and published in Venice in A.D. 1497, and again in 1550. He is often mentioned by the physician Rhazes, and Ali Abbas notices his brief account of the small-pox.

YA-HU. AR. Jehovah; Yo-hu, O He, God; He who is, He who exists.—*Catafago.*

YAHYA-bin-ABD-ul-LATIF-al-HASAINI of Kazwin, author of the Lubb-ut-Tawarikh, the Marrow of History, a General Asiatic Chronicle. He composed it A.D. 1541. He was a theologian and philosopher. He was patronized by Shah Tahmasp Saffavi. He died at Sikri A.H. 971. His eldest son, Mir Ghias-ud-Din Ali, held a command under the emperor Akbar, and his grandson, Nakib Khan, compiled the first portion of the Tarikh-i-Alfi and translated the Mahabharata.

YAIBANE, of the teak forests of Pegu, cultivate the mulberry tree, Morus Indicus, for feeding silkworms, which they rear, the hills being better adapted for the growth of the plant than the plains, besides which their plantations are not exposed to the trespass of cattle. The silk they produce appears to be of a coarse kind, more owing to the imperfect way in which it is wound off than to any fault of the cocoon. They are a most industrious people, young and old of both sexes being employed without interruption in some part of the process. The cocoons seem to be large and very fine, and are produced at the rate of 2000 for one rupee, and the silk when wound off is valued at five rupees per viss. The Yaibane are prosperous, with the reputation of being possessed of considerable hidden wealth, which for security they bury in the forest.—*Selec. Records, Govt. of India, Foreign Dept.*, No. ix. p. 13.

YAILA. TURK. Pasture lands.

YAILM WANLOO, Teling hawkers. These people follow the trade of clerks, painters, and indeed any but an occupation involving manual labour.

YAJANA. SANSK. A sacrifice, or its performance, as the offering of libations of soma juice or of butter. The five great sacrifices are named Brahma-yajna, sacred study; Pitri-yajna, libations to the manes; Deva-yajna, burnt-offerings to the gods; Bali-yajna, offerings to all creatures; Nri-yajna, hospitality. Later additions are Prajapati-yajna, propagation of offspring, and Satya-yajna, observance of truth. Yajana, from the Sanskrit Yaga, a burnt-offering, formerly made on a grand scale by kings. Yagna, from Yaja, worship of burnt sacrifices. Yagnaha, from Yagna, a sacrifice, and Han, to destroy.

Yajana Yajana, corruptly Jajan Jajan, offering prayers.

Yajna pasu, an animal offered in sacrifice.

Yajna pavita, the sacred cord or zonar worn by the Brahman, Kshatriya, Vaisya, and artisan Hindus.

Yajna-sala, the sacrificial hall of a Hindu temple.

YAJNA WALKYA, surnamed Vajasaneya, a Hindu learned man who is supposed to have written the White Yajur Veda, the Sathapatha Brahmana, the Brihad Aranyaka, and the Law Code called Yajna Walkya Smriti, which is later than Menu. He was a disciple of Bashkali and of Vaisampayana. He was at the court of Janika, king of Videha and father of Sita. He was a religious reformer, and the schism he effected gave rise to the writing of the White Yajur Veda, which he compiled. His authorship of the other books is very doubtful, but the Smriti, with its commentary by Mitakshara, is in authority inferior only to that of Menu, and is in force all over India except Bengal. Its date is supposed to be the 2d century A.D. He is described as an ascetic pupil of Vaisampayana, who officiated as one of the Hotri, and cooked the sacrifice at the great rajasaya of Yudishtra. He arranged the ancient Mantra and Brahmana, the Vajasaneya Sanhita, and the Satapatha Brahmana in their present form.—*Dowson.*

YAJUJ and Majuj of the Arab geographers is Gog and Magog of Ezekiel. See Gog.

YAJUR. SANSK. The name of one of the Vedas, religious books of the Hindus. It is the second of the four scriptural authorities of the Hindus, and is the sacrificial Veda. The Taittiriya, or the Black Yajur Veda, contains more of prayers to serpents and serpent-worship than the Rig Veda. In the Sanhita of this Veda are prayers to the Sarpa, who are addressed as inhabiting the heavens, the skies, the rays of the sun, the waters, the vegetables, etc. See Veda.

YAK, Bos poephagus, or B. grunniens, or Peophagus grunniens, is still in a wild state, but has been largely domesticated. The general aspect of the yak is distinctly bisontine, and it carries its head low, like the rest of the subgroup. The yak is indigenous to High Tibet, and especially to Eastern Tibet, where they are still tolerably numerous in the wild state. It is extensively domesticated, and is the ordinary tame cattle of that elevated portion of the globe. The wild animal is known as the Dong or Ban chour. In the Western Himalayas, the wild yak is called Brong or Dong, and the female hBrong-hBri, which is commonly pronounced Dond-di.

Vigne was informed that the yak is found wild on the northern slopes of the Himalaya, where they descend on Yarkand. The Messrs. Schlagentweit state that in Western Tibet, particularly in Ladakh, there are no more of the yak in a wild state at present.

Amongst all quadruped animals the yak is found at the greatest height; it stands best the cold of the Snowy Mountains, and is least affected by the rarefied air. But at the same time the range of temperature in which a yak can live is very limited; the real yak can scarcely exist in summer at heights of 8000 feet. The Schlagentweits found large herds of wild yak, from 30 to 40, on heights of 18,600 to 18,900 English feet; and on one occasion they traced them even as high as 19,300 feet,—a remarkable elevation, as it is very considerably above the limits of vegetation, and even more than 1000 feet above the snow line. Hermann and Robert Schlagentweit frequently found wild yak on both sides of the range which separates the Indus from the Sutlej, near the origin of the Indus and near the environs of Gaarto, but the greatest number of them was at the foot of the Kara-korum range, as well as at the foot of the Kouen Lun in Turkestan. It is the largest native animal of Tibet. It is, when wild, horridly fierce, falling on the hunter with horns and chest, and if he rasp with his tongue it is so rough as to scrape the flesh from the bones. It is hunted by large dogs, and shot with a blunderbuss. The wild yak does not come so far south as Rupshu, but a few are met with during winter and early spring on the Nubra ranges; they migrate, however, to the loftier slopes of the Kara-korum before the end of April. The yak wanders about singly or in small herds, preferring secluded valleys to open hillsides, passing the day among the snow, where, like deer and bears, it may often be seen at mid-day stretched out at full length asleep. The prevailing colour of the wild yak is black, with a greyish tinge on the head. In its native state it is shy and timid, and the same to some degree when domesticated. In winter flocks graze below 8000 feet, on account of the great quantity of snow above that height; in summer they find pasturage as high as 17,000 feet, consisting of grass and small tufted carices, on which they browse with avidity.

Its favourite pasturages are ascertained, and in the midst of these the hunters throw up circular stone enclosures a few yards apart, the hunter taking up his position in one of them. When a yak is within shot, the hunter fires, and instantly quits his enclosure for another; for so soon as the animal hears the shot, he, whether he has been hit or not, guided by the smoke of the discharge, rushes furiously on the enclosure, and commences knocking it to pieces. When the hunter gets another shot at him he retires again from his shelter to a fresh enclosure, and so on till he has killed his game. The ordinary size of the dong is four times that of the domestic yak; it is black all over, having occasionally a white streak in the forehead. The horns of a full-grown bull are said to be three feet long. It is used by grandees of Tibet at marriages and other feasts, when it is filled with strong drink, and handed round to the company. Nothing more commendatory of the host's joviality can be said, than that 'he regaled his guest out of the dong's horn.' The horns so used are finely polished, and mounted with silver or gold and precious stones.

It is common in Tibetan gumpas (Lamaserais) to see a stuffed dong standing in front of the image of Maha Kali, at whose shrine the animal is thus figuratively sacrificed; axes and other instruments of sacrifice are ranged around the image. Strange that Buddhists should preserve this feature of Hinduism in their places of worship.

The *domesticated yak* now takes the place of its half-breed, called zho. It is the chief beast of burden in Rupshu. It is often handsome, and a true bison in appearance. It is invaluable to the mountaineers of Northern India from its strength

and hardiness, accomplishing at a slow pace 20 miles a day, bearing either two bags of salt or rice, or four to six planks of pine wood slung in pairs along either flank. Their ears are generally pierced and ornamented with a tuft of scarlet worsted; they have large and beautiful eyes, long, silky black hair, and bushy tails. Black is their prevailing colour, but red, dun, party-coloured, and white are common.

Much of the wealth of the people in East Nepal consists in its rich milk curd, eaten either fresh or dried, or powdered into a kind of meal. The hair is spun into ropes, and woven into a covering for their tents, which is quite pervious to wind and rain, though in the dry climate of Tibet this is of little consequence. The bushy tail forms the well-known chauri standard or fly-flapper of the plains of India, and its hair is greatly esteemed by the women of the plains to add to their back hair. The female drops one calf in April, and the young yak are very full of gambols, tearing up and down the steep grassy and rocky slopes. Their flesh is delicious, much richer and more juicy than common meat; that of the older yak is sliced and dried in the sun, to form jerked meat, called schat-t-chew, dried meat, which is eaten raw, and is a palatable food. The yak loves steep places, delighting to scramble among rocks, and to sun its black hide perched on the glacial boulders which strew the Wallanchoo flat, and on which these animals always sleep. Their average value is from twenty to thirty rupees. The yak, though indifferent to ice and snow, cannot endure hunger so long as the sheep. Neither can it bear damp heat. The yak is ridden, and its pace is easy.

Yak are bred in Bussahir, whence they are sent for sale. In Spiti the people plough with it and carry loads; it furnishes their milk, and hair to make ropes. In the severest weather this animal appears to enjoy itself in the snow, and is often to be seen with icicles of several inches in length hanging to its nose, and a foot or more of ice hanging to the hair of its neck and shoulders. Long hairs hang over the eyes, and prevent their freezing. In Spiti they have also the ghoont, asses, sheep, goats, dogs, and cats. The Tibetan dzo, called chubu in the Himalaya, also zho and zo, is a mixed breed or hybrid from the bull yak or Bos grunniens and the Indian zebu cow. In Tibet, the Sauh is a cross between cow and yak; Sauh yak, produce of cow by yak bull; Ba sauh, produce of female yak by bull. Ya-niu, CHIN.; Sura-gai, HIND.; Yakmo, TIB., the female. The hybrid between the yak and the Indian cow is very fertile. The brothers Schlagentweit had occasion to see and examine the offspring of the hybrid as far as to the seventh generation, neither much altered nor deteriorated; and were informed that there was never found any limit as to the number of generations.

The yak even in the valley of Kashmir rapidly degenerates. The heat and insects are evidently its greatest enemies in the tame as well as wild state; and none of these animals, not even the goats, seem to care for the luxuriant vegetation of the lowlands, preferring whatever resembles their Tartaric furze and bent to the rich clover and grasses of Kashmir.

Steady and sure-footed, moving with a slow, easy, wriggling gait, rising over or descending obstructions with very little jar. They are led by a rope attached to a wood ring which passes through the nostrils.—*Adams; Vigne's Travels; Cunningham's Ladakh; Hook. Him. Journ.; Schlagentweit.*

YAKKA. BENG., HIND. A carriage drawn by one bullock, from Ek, one.

YAKKA. The malignant spirits of Ceylon are the Yakka, who are the authors of indefinite evil; and the Singhalese have a demon or Sanne for each form of disease, who is supposed to be its direct agent and inflicter, and who is accordingly invoked for its removal; and others, who delight in the miseries of mankind, are to be propitiated before the arrival of any event over which their pernicious influence might otherwise prevail. Hence, on every domestic occurrence, as well as every domestic calamity, the services of the Kattadia or devil-priests are to be sought, and their ceremonies performed, generally with observances so barbarous as to be the most revolting evidence still extant of the uncivilised habits of the Singhalese. Especially in cases of sickness and danger, the assistance of the devil-dancer is implicitly relied on; an altar, decorated with garlands, is erected within sight of the patient, and on this an animal, frequently a cock, is to be sacrificed for his recovery. Another kind of demon-worship in Ceylon is a debased form of Hinduism, where the priest or kapua is the performer.—*Tennent's Christianity in Ceylon*, p. 232; *Wheeler's History of India*, i. p. 30.

YAKKA, a race formerly occupying the interior of Ceylon. The Yakka, previous to the arrival of Gautama, were demon-worshippers; neither was their conversion general.—*Forbes' Ceylon*, ii. 82.

YAKONIN, in Japan, generally an officer with two swords; a Government officer of the police or customhouse; a paid officer of the Japanese Government.—*Hodgson's Nagasaki*, p. 21.

YAKSHA, in Hindu mythology, a kind of demigods, attendants on Kuvera, the god of wealth, and employed by him in the care of his gardens, etc., situated on Mount Kailasa. The Yaksha demigods were supposed to be much courted by the Apsarasas nymphs of Indra's heaven, but that they had wives of their own is clear from the Meghaduta. Their name is said to be derived from Yaksha, to worship, either because they worship Kuvera, or are themselves worshipped by men. The Yakshini female attends on Kuvera and Durga, but often holds intercourse with mortals. As with the brownies of Scotland, they are called Punya jana, good people, but they are sometimes imps of evil.—*Williams' Nala*, p. 203; *Dowson.*

YAKSHYO, in Ceylon, is a class of demigods who are supposed to inhabit the waters and dwell on the sides of Mount Meru, and who are distinguished not only for gentleness and benevolence, but even by a veneration for Buddha, who, in one of his earlier transmigrations, was himself born under the form of a Yakshyo.

YALE, ELIHU, became Governor of Madras about 1682. He was the father of the founder of Yale College, U.S.

YALI. TAM. In Sanskrit, Sarab'ha, a fabulous animal with the body of a lion, the trunk and tusks of an elephant, a sword or mace over its back, and a cross or flower under its feet. A monster of the lion type trampling on an elephant,

an architectural feature in the sacred buildings of Southern India.

YALKAMA, a name of Balkees, queen of Sheba. See Balkees.

YAM, Kan-chu and Chu-yu, CHIN., are the tubers of various species of Dioscorea, cultivated in nearly all tropical countries as important esculents. The tubers abound in farinaceous matter, and often reach a large size, weighing from 30 to 40 lbs. Their culture is considered to have spread from S.E. Asia and the East Indian Islands, where at present Dioscorea globosa and Dioscorea alata, *L.*, hold the first and second places, D. purpurea and D. rubella the third and fourth. Other edible species are—D. aculeata, atropurpurea, acutangula, anguina, bulbifera, belophylla, cirrhosa, fasciculata, lucida, pentaphylla, pulchella, sativa, sagittata, triphylla, tomentosa, transversa, verticillata, versicolor.

In the West Indies there are several varieties having distinctive names, according to quality, colour, etc. Their Indian yam is considered the most farinaceous and delicate in its texture, resembling in size the potato; most of the other sorts are coarse, but still very nutritive and useful. Common yam, D. sativa, is indigenous to the Eastern Islands and West Indies. The Guinea yam, D. aculeata, is a native of the east. The Barbadoes or winged yam, D. alata? has a widely-extended range, being common to India, Java, and Brazil. The yam species are climbing plants with handsome foliage, of the simplest culture; they succeed well in any light, rich, or sandy soil, and are readily increased by dividing the tuberous roots. If not bruised, they will keep, well packed in ashes, for nine and twelve months. From yams of all sorts, and particularly the buck yam, starch is easily prepared and of excellent quality.

Yams and sweet potatoes thrive well in the northern parts of Australia; the former constitute the chief article of vegetable food used by the natives. Dressed in milk or mashed, they are a delicacy. An acre of land is capable of producing 4½ tons of yams and the same quantity of sweet potatoes within the twelve months, or 9 tons per acre for both, being nearly as much as the return obtained in the cultivation of potatoes. The kidney-rooted yam, D. pentaphylla, is indigenous to the Polynesian Islands, and is sometimes cultivated for its roots. It is called Kawan in the Fiji Islands. D. bulbifera, a native of the Archipelago, is also abundantly naturalized in the Polynesian Islands, but is not considered edible. Two kinds in the Tartar country are of a remarkably fine flavour, one weighing as much as 18 lbs., the other 3 lbs. In the Fiji Islands, some of the yams, of which there are upwards of 50 varieties, grow to the enormous size of 50 to 80 lbs. in weight. Their general average, however, is from 2 to 8 lbs. Captain Hill states that the New Zealand yam, if boiled, is heavy and wet; cut into slices after boiling, and then fried with a little butter nearly dry, decidedly good, not exactly mealy, but nearly so.—*Smith; Voigt; Simmonds.*

YAM. CHIN. A post house. In the time of the embassy sent by Shah Rukh, every yam was situated opposite to a city or town, and in the intervals between the yam were many kargu and kidifu. The word kargu is applied to a tower of [illegible] 60 cubits in height, where two men are constantly on duty. The tower was so placed that the next kargu was in sight from it, and when any event of importance occurred, like the approach of an enemy's army, the men on watch immediately lighted a fire, and this being seen from the next kargu, they made haste to light another. A double system of horse and foot posts was also found by Ibn Batuta established in India in A.D. 1333. The posts of Timur are noticed by Clavijo (p. 105); and Baber describes his own post between Agra and Kābul, using the word yam, but adding that it was called in India dak-choki, the term in use in all India to this day. Pautheir thinks yam to have been taken from the Chinese yi-ma, horse-post. Burnes was told of the continued existence of both post and fire beacons between Yarkand and Pekin. The distance is more than five months' journey as usually travelled, but an express went in thirty-five days, and under very great emergency in fifteen. —*Marc. Pol.* p. 335; *Erskine's Baber*, p. 393; *Yule, Cathay*, i. p. 138.

YAMA. SANSK. He who is free from the influence of the passions, moral duties, five acts of restraint or self-government, viz. Ahinsa, freedom from any wish to injure others; Satya, truth in words and deeds; Asteya, honesty and integrity; Brahmacharya, chastity; and Apara-griha, disinterestedness.

YAMA. JAP. A hill, as Fusi Yama, O'Yama. Yama-taka and san or zan are the terms for the different classes of mountains.—*Sir J. E. Reed.*

YAMA, in Hindu mythology son of Vaivasvata and Saranyu, is called in the Persian legend Yima, and later Jamshid. Yama or Dharma-raja resembles both the Grecian Pluto, the king of the lower regions, and Minos, judge of departed souls, and in Hindu mythology he is the regent of the south or lower division of the world, mythologically called Patala. Yama is described as of a green colour, with red garments, having a crown on his head, his eyes inflamed, and sitting on a buffalo, with a club and pasha or noose in his hands; but as Dharma-raja he is described as of a divine countenance, mild and benevolent. The virtuous only see the latter; the wicked are judged by Yama. If the dead have been virtuous, they ascend to a place of happiness; if wicked, they are sent to a particular hell, to undergo the punishment appointed for their especial crimes. Yama is called Srad'ha deva, or lord of the obsequies, and presides over the ceremonies of the Srad'ha. At the time of offering the oblations to the manes of deceased ancestors, he is invoked by the priest under several names, of which Mr. Colebrooke has enumerated fourteen. The priest thus addresses him: 'Salutation to Yama! salutation to Dharma-raja! to Antaka, the Destroyer! to Vaivaswata, or Child of the Sun! to Kala, Time! to the Slayer of all Beings! to Andhambara or Yama,' etc. etc. Hindus make daily oblations of water to Yama. The second day of the month Kartik is sacred to him and his sister, the river goddess Yamuna or Jumna, who entertained him on that day; in consequence of which an annual festival is held, in which sisters entertain their brothers. On this occasion an image of him of clay is made and worshipped, and then thrown into the river. He is also worshipped on the 14th day of the dark part of the month Aswina. Some of the other names of

Yama are Pitripati, or lord of the Pitri; Andhambara, from a wood from which fire is produced by attrition; and Dandadhara, he who has the rod of punishment. The name of Yama occurs frequently in the sacrificial ceremonies of the Hindus, oblations and invocations to him forming a portion of several of those ceremonies. Minos of the Greeks has been supposed the same with Menu; with whom, especially with the 7th, Satyavrata, Yama also agrees in character as well as in name; both being called Vaivaswata, or offspring of the sun, and Srad'ha deva, or lord of the Srad'ha. Srad'ha is the ceremonial oblation in honour of deceased ancestors, which obsequies to the dii manes are attended with feasting and various observances. Mr. Wilford believes Yama or Pluto to be the same with Serapis; deriving the latter name from a compound Sanskrit word implying thirst of blood. The sun, in Bhadra, had the title of Yama; but the Egyptians gave that of Pluto, says Porphyry, to the great luminary near the winter solstice. Yama, the regent of hell, according to the Puranas, has two dogs; one of them named Cerbura, or varied; the other Syama, or black; the first is also called Trisiras, or with three heads, and has several other epithets signifying stained or spotted. Cerbura is indubitably the Cerberus of the Greeks. The dragon of Serapis is supposed to be the Seshnaga, which is described as in the infernal regions by the author of the Bhagavat. Yama, as the god of justice, presides over the different Naraka or hells. He is son of Surya, the sun. As the judge of departed souls, he is identified with death. His abode is in the infernal city of Yamapura, whither the Hindus believe that a departed soul repairs, and, receiving a just sentence from Yama, ascends to Swarga, or descends to Naraka, or assumes on earth the form of some animal, according to its deserts. Yama rides upon a buffalo as his vahan, and is armed with a ponderous mace.—*Oriental Linguistic Studies; As. Res.* iii. p. 409; *Moor*, p. 309; *Williams' Nala*, p. 205; *Hind. Theat.* ii. p. 62.

YAMADANSHTRA, SANSK., is literally Yama's teeth; the last eight days of Aswin and the whole of Kartik, considered a period of general sickness. Yama-dula, Yama's messengers.

YAMADWITYA, the second of the light half of Kartik, when brothers and sisters exchange gifts in honour of the attachment between Yama and his sister Yami. See Yama.

YAMALAYA. SANSK. From Yama, and Alaya, a dwelling. Yama-locum; the distance from the world to the Yama-locum is 99,000 yojna, or 1,485,000 miles.

YAMAPURI, of the Hindus, is the general rendezvous of the souls of the departed, from which they proceed to Dharmapuri in a body, with a proper guard composed of the Yama-dula, servants of Yama. The depot for the souls after death in Malacca or Maha Lanca.—*As. Res.* x. p. 142. See Dip-dan.

YAMBRE, also called Kuru, silver ingots used in trade in Central Asia.—*Caley.*

YAMBU or Yambu-ul-Bahr, the seaport of Medina, the entrance of the harbour being in lat. 24° 4′ 30″ N., and long. 38° 1′ E. It is the Zambia of Ptolemy. Here the sultan of Turkey's dominion is supposed to begin, while that of the pasha of Egypt terminates. The population is the most bigoted and quarrelsome in Hejaz.—*Findlay.*

YAMMAMBO, in Japan, austere hermits; literally, mountain soldiers.

YAMUN, generally called 'offices' of the mandarins; the official residence of all Chinese officials. The residence and public office of a mandarin.

YAMUNA or the Jumna river of Hindustan, in Hindu mythology is personified as the daughter of Surya or the sun, and sister of Yama; its other name being Kalindi, the sun, from the Kalindi mountain. To Yama, who is the son of the sun, the second day following the Amavus or ides of Kartika is held sacred; it is called the Bhratri divitya or the brothers, because the river goddess Yamuna on this day entertained her brother (bhratri) Yama, and is therefore consecrated to fraternal affection. At the hour of curfew, 'gaodaluk,' when the cattle return from the fields, the cow is worshipped, the herd having been previously tended. From this ceremony no rank is exempted; on the preceding day, dedicated to Krishna, prince and peasant all become pastoral attendants on the cow, as the form of Prithivi, or the earth. The Bhagavat relates that Krishna's mortal parents were Vasudeva (meaning the giver of wealth) and Devaki; mentions a miraculous escape of the infant over the Yamuna conveyed by his father, and protected by Sesha or immortality; the guards placed by Kansa over his pregnant sister having failed in their vigilance, Kansa, enraged, ordered all newly-born infants to be slain; but Krishna escaped his various snares, one of which was sending a woman named Patnia with a poisoned nipple to nurse him, and he was fostered by an honest herdsman named Ananda or happy.

YAMUT, a Turkoman race settled beyond the river Attrak, near the shores of the Caspian Sea, and between this and Khiva, consisting of 25,000 families. They are the least ugly of the Turkoman tribes. The Goklan, on the banks of the Gurghan and the Attrak, between Astrabad and the Attrak, consist of 12,000 families.

The Tekke, who are separated from the Kurd by a chain of mountains which extend from the sources of the Gurghan and the Attrak, near Sharaks, consist of 35,000 families. They migrate between the sources of the Attrak and the town of Merv.

YANADI, a race who dwell in the forests of the Sriharikottah muttah of the Chingleput collectorate. They are in a low state of civilisation, and hold little or no intercourse with their more civilised neighbours. Until the middle of the 19th century, their ordinary avocations were the gathering of the wild products of the forest, which the officers of the Madras Government bought from them at rates lower than the ordinary market prices, and paid them in kind with grain and clothes. Latterly, however, a few on the outskirts have taken to charcoal-burning and wood-felling, and they are now also paid partly in money, changes which all bring them more in contact with settled people around them. An effort was made in 1855 to induce them to engage in agriculture. In 1857, Government established a school for their children, for each of whom an allowance in grain is given. Government paid to them about Rs. 1800 a year. They are about 500 in number. Their ordinary locality was in the very depths of the forests,

beneath the shade of pending branches. A few are of a dark bamboo colour, but ordinarily they are black. The men are not good-looking, but the women are positively ugly, though decently clad. The men wear only the langoti. They have clear skins, but are largely troubled with elephantiasis, for they suffer much from fever. They seem to use warm earth baths in fever. Their food consists of wild fruits and roots, particularly those of the Kanduri, HIND. (Bryonia grandis, *Linn.*), a few wild varieties of yams, and the leaves of Capparis horrida, rice, the wild bean, Canavalia virosa, molluscs, fish and flesh of every kind. They hunt with the bow and fish by torch-light. They are polygamists, have up to four or even seven children. They bury or burn their dead, and pour libations on the grave. The men average 5 feet 4¾ inches in height and 100 lbs. in weight. The women average 4 feet 6 inches in height and 82 lbs. in weight. They have little intelligence, cannot reckon up to ten, converse but little with each other, and are more taciturn with strangers, whose very presence even alarms them. The language they speak is said to be Tamil; and a similar race, it is stated, occupy the neighbouring forests on the hills at Naglawaram, and others are spread through Nellore, N. Arcot, and Cuddapah. Indeed, the Yanadi in 1867, in the Nellore district, were estimated by Dr. Lloyd at 20,000; and the residents inland are more robust than those of the Sriharikottah jungles. The Collector of Chingleput, writing in 1835 to the Madras Board of Revenue, mentioned their numbers then were — adult men 49, boys 41; adult women 69, girls 40; total, 199. The Madras Government has continuously endeavoured to improve their condition, and to this end Dr. Shortt made large exertions, between 1860 and 1870, and in the latter year about 40 of the Yanadi were employed at Vasarapad, near the snake temples, of which they are the priests.— *Proc. Madr. Govt.*, 1867; *Dr. Shortt.*

YANAON or Yanam, a town in lat. 16° 44′ 10″ N., and long. 82° 15′ 5″ E., 24 miles S.E. of Rajamundry, built on the spot where the river of Coringa and the Godavery separate. It is a French territory of 8147 acres, surrounded by British lands.

YANDABU or Yendaboo, a town in Independent Burma, situated on the right bank of the Irawadi (Irrawaddy) river, lat. 21° 38′ N., and long. 95° 4′ E., about 40 miles west of Mandalay. The treaty of peace which concluded the first Burmese war was signed here on the 26th February 1826.—*Imp. Gaz.*

YANG. The Shan word for Karen is Yang, softened into the Burmese Yen; hence several Karen tribes with Yen as their tribal appellation.

YANG. In Chinese mythological history, the male creative power, from which and the female Yin the universe primeval sprang. See Yin and Yang.

YANG-CHEN, a great scholar of the time of the Han dynasty. He was an officer of high rank, but lived and died in poverty, a spotless official. The Yang family proudly worship in his ancestral hall.—*Giles*, p. 40.

YANGI-HISSAR, a district of Kashgar, along the river Shah-naz, N.W. of Yarkand.

YANGMAI. CHIN. A scarlet fruit, not unlike an arbutus or strawberry, but having a stone like a plum in the centre.

YANG-TZE-KIANG is the largest of the Chinese rivers. The entrance is very wide, but divided into two channels by the large island of Tsung-Min on the north. On the shore of its southern entrance is the town of Wosung. The Yang-tze-kiang river is called by the Chinese the Great River, also the Girdle of China; it traverses the whole of the centre of the empire, rolling its flood of water to the sea through the richest and most fertile part of the country. There is no river in the world which has on its banks so numerous a population, amounting at least to 100,000,000 of people, who are sustained by its waters in the pursuits of commerce and agriculture. There are more than 100 cities of the first, second, and third classes, and 200 towns and villages, which could be approached directly from its water-way. From its origin in Tibet to its outlet at the sea, its course is about 3000 miles, the points being distant in a direct line 1850 miles, and the basin drained by its channel nearly 800,000 square miles. Persons engaged in every variety of trade resort to Hankow, from Mongolia to Tibet and Sze-chuen, bring their wheat, rice, dried and salted vegetables of every kind, bamboo sprouts, horses, sheep, furs, skins, coal, lead, jade or nephrite, gold in large quantities, rhubarb, musk, wax, and various drugs of northern growth. Unlike the Ganges, the whole volume of water does not lose itself in tidal creeks, but pours out into the Pacific in one vast stream 60 miles wide. By a ship which has once made the trip pilots are not required. Rising in the snows of Kouen Lun, it enters China proper not 300 miles from Saddiya in the province of Assam. Up to this point it is believed to be navigable by boats, for vast rafts of timber laden with hill produce pass down. Down the 1100 miles from I-Chang to Shanghai, the river rolls through provinces of virgin fertility, whence proceed teas and silks, which find their way to Canton and Shanghai. The plain of the Yang-tze-kiang was the garden of China. From it there runs north to Tien-tsin the Grand Canal, up which used to float the whole supplies of Northern China. At a point higher up, the great trunk road from Pekin to Canton crosses the river. Where the Yang-tze-kiang flows past the Poyang Lake it receives several navigable streams which run through the Black Tea districts to the west, while those from the eastward open up the Green Tea districts. The Poyang Lake and Kiu-kiang, the chief town, are the centre of an extensive network of river and canal communication. What Kiu-kiang is at this point, Hankow is still more 200 miles farther up. It stands on high banks at the junction of the Han and Yang-tze rivers, a little below the Tungting Lake. The rise and fall in the Yang-tze-kiang averages about 10 feet. The Tibetan district, the great plateau of Mid Asia, is centrical ethnically as well as geographically to all S.E. Asia and to Asianesia, abuts on the west on the eastern extremity of the primitive Iranian region, and is connected with China and all the sea basins on the east of Asia by means of the Yang-tze-kiang and the Hoang-ho.

The Yang-tze-kiang forms, with the Hoang-ho, a twin basin, to which the most advanced and powerful eastern civilisation owes its development. The Yang-tze-kiang is connected on the

west with the twin basins of the Salwin and Irawadi, which are themselves connected inland with the Tibetan district, and on the S. and E. to the Indian oceanic basin. It is undoubtedly one of the finest rivers in the world. It takes its rise in the mountains of Tibet, and, after traversing the Koko-Nor region, enters China at the province of Kan-su ; it then leaves it again to water the sandy plains at the foot of the Alechan mountains, surrounds the country of Ortous, and, after having watered China from south to north, and then from west so east, goes on to throw itself into the Yellow Sea. The waters are pure and beautiful at their source, and only assume their yellow tint after passing the Alechan and the Ortous. The river rises almost always to the level of the country through which it flows; and to this is to be attributed the disastrous inundations which it occasions. These floods are very fatal to China, but they are of little consequence to the nomadic Tartars, who have only to strike their tents and move off elsewhere. — *American Expedition to Japan*, p. 166; *Local Newspapers.*

YANTRA, Yantri, or Jantri, a Hindu almanac, a dial, altitude and azimuth instruments.

Raj Yantra is used for ascertaining the altitude of the heavenly bodies and the longitude of places, referred to Lucknow (secular capital) and to Ajodhya (religious capital) as circles of first meridian. If the longitude of places, having Lucknow as a first meridian, are to be ascertained, then the circle marked 26° 51′, being the altitude of Lucknow, must be uppermost, and so for Ajodhya.

Dhruba Yantra is used to find the direction of the poles. The instrument consists of a pointer, whose length is equal to the radius of the circle through whose centre it passes at right angles. The circle is divided into 60 equal parts. It is so placed at noon that the shadow of the pointer may fall at the 45th part.

Pratod Yantra is used to measure time. This is an hour rod, whose horizontal section is a regular octagon, and the breadth of whose base is to the breadth of its top as 3 to 2. The rod is about 27 inches long, having near the top a groove on each of its sides to receive a stick attached to it, which is about 9 inches long. The length of the day varies from 26 to 33 dunda. The instrument is used thus: The length of the day being known, the little stick is made to pass through the groove marked with the length in dunda. The rod is then made to stand perpendicular to the horizon, facing the sun, so that the shadow may fall on the side which marks the length of the day. Before noon the shadows show the hours past, and after noon the hours remaining to sunset.

Khapra Kidhup-ghari, a universal sun-dial. The wire from south to north, representing the axis of the earth, is in the place of the gnomon of the common sun-dial; and the shadow cast by this wire on the concave semi-cylindrical surface, gives the time of day to within 5 minutes for a day of 12 hours. The graduated arc to the north is the brass meridian upon which the dial is elevated according to the latitude of the place. The shadow cast from the transverse wire in the plane of the equator tells the declination of the sun, and hence the month of the year. The vertical slip of brass to the south will give the time of day in a high latitude, where the sun rises at three and sets at nine. The dial is graduated for 12 hours, according to the European system, and likewise for 30 ghurees (equal to 12 hours), according to the Hindu system. The instrument is levelled by turning the foot screws until the threads of the two plummets respectively touch the edge of lines which are marked in the adjacent bars. This sun-dial is known as the Khapru kidhup-ghari, or tile sun time, from its resemblance to the shape of a tile.

Maun Yantra.—Equatorial altitude and azimuth instrument, used by Hindu astronomers. The mode of using it is described in Herschel's Astronomy, para. 182.—*Government of Oudh.*

YANYSHAHR, a town of 8000 houses, lies at about 47 miles S. of Kashgar. It is surrounded by a stone wall, has two gates, and two caravansaris. — *Russians in Central Asia, Capt. Valikhanof and M. Vemukof*, p. 154.

YAO. All the ancient traditions of the Chinese refer to their emigrations from the west. Their first settlement was in the northern portion of Chi-li, the province in which the present capital, Pekin, is situated. The first portion of authentic Chinese history tells us that Yao or Yaou, who reigned about B.C. 2330, had his capital at the new district city of Tsin-chow, situated about 100 miles only to the south of the present capital, Pekin. From this most ancient location the people spread gradually westward and southward, thus steadily increasing its territory. The usual course of the process was, first, colonization of the new regions and displacement from them of whatever aboriginal inhabitants were found; and afterwards political incorporation with the older territory. At times, however, the process was reversed, and military conquest of the aboriginals preceded their displacement by an industrial occupation of their lands.

YARKAND is the most populous and extensive of all the districts of Kashgaria, the souls numbering 40,000. Its capital, Yarkand, the largest town of Eastern Turkestan, has populous suburbs, its principal industry being the leather trade. Yarkand stands on an open plain between the branches of the Yarkand river. The foreigners in it from Badakhshan carry on a trade in Kashmir slaves, and the Balti tribes from Little Tibet carry on all the work of labourers, drivers, and carriers. Goitre is very frequently met with in Yarkand, the natives of which attribute its prevalence to the property of the water; and it is also met with in Khokand. Gold is washed out at the Karja settlements; the inhabitants pay their dues in this metal, and dispose of it to private individuals. Sulphur, sal-ammoniac, alum, and saltpetre occur. The volcanic soil around the town of Kuchi is particularly rich in these materials. Sulphur is obtained at Ush-Turfan, in the Yarkand district, and saltpetre at Ush-Turfan and at Sairam, 110 miles farther east. Salt mines are worked in the Yan-chi Shan mountains, east of Aksu. Among the more remarkable mineral productions of Turkestan must be included the jade, which is highly esteemed in China under the name of Yu. The nephrite found here is of two kinds; that from the mountains, called by the natives Loncha or Bishbargan, which is found in the mountains of Mirdjai and Sutash, 74 miles from Yarkand; and the second obtained in the river

Ulgunkash (pronounced Yurunkash by the Chinese), under the special supervision of a Chinese officer.

The Khokand people obtain gold by washing in the upper course of the Syr, which takes its rise in the Tian Shan; and lead, mixed with silver, is also procured in the hills to the east of Andijan. The Bolor is particularly rich in minerals. Gold in nuggets forms the staple of trade between Karatagin and Khokand; and slaves, lapis-lazuli, turquoises, and rubies constitute that between Badakhshan and Yarkand. The river Karia, which is worked for gold, rises out of these mountains, and the name of Zar-afshan (auriferous), which some rivers flowing out of it bear, together with the tradition throughout Central Asia to the effect that the ruler of the Gildits keeps concealed in his cavern bars of gold, tends to strengthen the foregoing inferences.—*Russians in Central Asia, Capt. Valikhanof and M. Vemukof*, p. 133.

YASA, ordinances which Chengiz laid down for the guidance of his successors. These are given more or less in Petis de la Croix, D'Ohsson, Deguignes, in Von Hammer's Golden Horde, and in Univers Pittoresque Tartarie, p. 313. The word is said to mean any kind of ordinance or regulation.—*Yule, Cathay*, p. ii. 507.

YASAWUL, a Turkish word, means a guard or armed attendant at a court; an officer of the household, who acts in the capacity of usher in the families of chiefs. It has been adopted into Russia, and is there used to denote a major of Cossacks. In India, a foot soldier; a member of the body guard in China, from Yasamak, to order, to make ready. — *P. Arminius Vambery, Bokhara*, p. 12; *Fraser's Journey into Khorasan*, p. 25.

YASHM. HIND. Jade, also plasma or green silica. The knife handles of Shahpur are made of it. The Messrs. Schlagentweit found quarries of the true jade at Gulbagashen in the valley of Karakash, in their journey from Ladakh to Khotan. Yashmi, a colour like that of jade-stone. To dye this colour, a little turmeric first, then asbarg and alum are used. — *Mag. Survey*, 1857.

YASHTS, according to Martin Haug, were written about B.C. 450–350.

YASIN, a chapter of the Koran, read to a Muhammadan when about to die.

YASODA, wife of Nanda the cowherd, and foster-mother of Krishna.

YASODHARA, cousin and wife of Sakya Buddha. She was the daughter of the Koliyan raja ruling in a tract of country amongst the spurs of the Himalayas, along the banks of the Rohini, the modern Rohana. She bore one son. She and his foster-mother Praja Puti became the first Buddhist nuns.—*Hardy*.

YATAGHAN, TURK., is a long dagger, intended for thrusting rather than cutting, and has a curve, which has been copied in the bayonet of the Chasseurs de Vincennes.—*Burton's Mecca*, ii. p. 264.

YATHRIB, the name of the town of Medina prior to Mahomed's retreat.—*Sale's Koran*.

YATI or Jati. SANSK. An ascetic, the fourth order of the Hindus; also a religious teacher of the Jains.

YATRA or Jatra. SANSK. A pilgrimage, a periodical festival in honour of some idol, to which its worshippers resort; dealers also congregate and make a fair. The Ras-Yatra is a Hindu festival held in many parts of India in the month Kartik (October), and the aboriginal Santal and the Oraon have the circular Rasa dances.

YAU, a tribe who inhabit the skirts of the Arakan mountains westward of Pagan, and who speak a peculiar dialect of Burmese. The Yau country is the tract between the Arakan mountains and the Kyendwen river, at its junction with the Irawadi, between lat. 21° and 22° N., and long. 94° and 95° E.

YAVAN or Javan, the seventh son of Japheth. Colonel Tod says the Hericula also claim from Yavan or Javan, the thirteenth in descent from Yayat, the third son of the primeval patriarch.

YAVANA, a term applied by the Aryan Brahmans to conquering races who approached and invaded India from the north-west. The Bactrian Greeks were certainly so called, and the term seems to have been applied to the Sakæ Scythians, and perhaps to other races. The Yavana invaded Orissa repeatedly between B.C. 538 to A.D. 526 from Persia, Kashmir.

Bunsen supposes the meaning of the word Yavana to be doubtful,—that it may be traceable to times after Alexander, or that it may be an ancient inaccurate name of a people who pushed on towards the Mediterranean. According to Dr. Caldwell, it was a term applied to the Greeks, and subsequently to any race approaching India from the west of Asia. The name was derived from Javan, whose descendants, the Ionians, were the first Greeks with whom the Indians became acquainted, but it came afterwards to signify the Arabs. The Bactrian Greeks are usually termed Yavana in Sanskrit literature; but Colonel Tod warns us not to mistake them for the Yavana descended from Yavana, fifth son of Yayat, third son of the patriarchal Nahus, though the Ionians may be of this race. According to Colonel Tod, the Yavana or Greek princes, who apparently continued to rule within the Indus after the Christian era, were either the remains of the Bactrian dynasty or the independent kingdom of Demetrius or Apollodotus, who ruled in the Panjab, having as their capital Sagala, changed by Demetrius to Euthymedia. The term Yavana is in modern times applied by Hindus of Northern India to Muhammadans of every description; but in works prior to the Muhammadan era, some other people must be intended. The interpretation of the word by Sir W. Jones is Ionians or Asiatic Greeks, and there are some considerations in favour of this, although the chief argument in its behalf is the difficulty of attaching it to any other people. Doubtless, however, Yavana is certainly a term not exclusively applied to the Greeks. According to Professor Lassen, it was used to designate only the Semitic nations. In the Bactrian Pali inscriptions of king Priyadarsi, the word is written Yona, and the term Yona-raja is associated with Antiochus, probably Antiochus the Great, the ally of the Indian prince Sophagasenes, about B.C. 210. The Puranas describe them as wise and eminently brave. Yavana are mentioned as occupying Orissa for 146 years, when they were expelled, A.D. 473, by Yayati Kesari. Dr. Buchanan mentions a dynasty of Yavana (iii. pp. 97, 112) at Anagundi on the Tumbudra river in the 8th and 9th centuries.

The corrupted form of Jonakan is applied on the S.W. coasts of the Peninsula as a title of the Labbai race.—*Bunsen, Egypt*, iii. 555; *Prin. Ind. Ant.; Rajasthan*, i. 233.

YAVANI, a female attendant in the women's apartments. Muhammadan princes had guards of African women in their harems, and female attendants also served in those of the Hindu sovereigns. The term Yavana has been applied by the later Hindus to the Muhammadans, and Yavani seems to have been a term used as distinction of a female servant. It is not likely that either Persian or Arabian women ever found their way into the inner apartments of Hindu princes as personal attendants or guards. Perhaps Tartarian or Bactrian women may have been so designated, as in Madras such women are, in 1872, all styled Mughulani.

YAYATI, fifth king of the Lunar race, was son of Nahusha. His wife Devayani was the mother of Yadu, who founded the Yadava line, and his wife Sarmishtha bore Puru, who founded the Paurava line. His other three sons were Druhyu, Turvasu, and Anu. The Mahabharata, Vishnu Padma, and Harivansa Puranas all tell of his senility, and exchanging it with the youthful vigour of Puru, to whom he again restored it, and made him his successor. Colonel Wilford in his Essays (As. Res. ix. pp. 91, 92) quotes a legend of Yayati dividing his empire among his five sons. To Puru, the youngest, he gave India, the middle part; to Yadu, the ancestor of Krishna, he gave the south or Dekhan; the north to Anu, and the west to Turvasu. The offspring of Turvasu, according to the Harivansa, settled in the south, and the tenth generation from him inclusive, consisting of four brothers—Pandya, Kerala, Chola, and Kola—divided the empire they inherited. Kola lived in the northern part of the Peninsula, and his descendants are called Kol or Koler to this day, and from them India was called Kolaria. —*Dalton, Eth. B.* p. 161.

YEAR.

San, Arab., Hind., Pers.	Annus, ... Lat.
An, Année, ... Fr.	Ano, ... Sp.
Jahr, ... Ger.	Varsha, ... Tam.
Baras, Sal, . . . Hind.	Samutsarum, . . Tel.
Anno, ... It.	

A year, as reckoned by Muhammadans, means the lunar year. Christians reckon the years of the Christian era from the birth of Jesus Christ, and call the Annus Domini, or year of the Lord, the year of Christ. Muhammadans reckon their Hijira year from the date of the hijira or flight of Mahomed from Mecca. The Hindus of India use the lunar year, with an intercalary month. They have various eras. The Hindu sidereal year, according to the Surya Siddhanta, is 365 days 6 hours 12 minutes 36·56 seconds, or 1·000045286 solar years, and is measured by the return of the sun to the same point in the zodiac, the beginning of the sign Mesha. Each month contains as many days as the sun continues in each sign, the civil only differing from the astronomical reckoning in rejecting fractions of a day. The civil year and month begin at sunrise instead of the instant of the sun's entrance into the respective signs. If the fractions exceed half a day, the civil year or month begins with the sunrise following. The months vary in length with the sun's angular motion.

The year of Christ 1867 corresponded to the year
6580 of the Julian period.
2642–43 of the Olympiads, or the 3d year of the 661st commenced July 1867.
2614 from the era of Nabonassar, which dates from Wednesday, 26th February 3967 Julian period, or 747 B.C.
2620 from the foundation of Rome, according to Varro.
From the Creation, 5871 according to the Hebrew text; 6172 according to the Samaritan; 7501 according to the Septuagint.
From the Deluge, 4215 according to the Hebrew text; 4865 according to the Samaritan; 5113 according to the Septuagint.
4968 of the Kaliyug, 1789 of the Saka, and 1274 of the Bengali San; in the sidereal account these three commenced Friday, 12th April.
1042–43 of the cycle of Parasu-Rama, which begins 15th September.
1923–24 of the (luni-solar) era of Vikramaditya, called Samvat, whereof the 1924th Maru year commenced on Friday, 5th April, and the Gujerat, Dekhan, and Konkan 1924th year on 24th August.
1788–89 of the Saka era of Salivahana, of which the 1789th year commenced on the 5th April.
1236–37 of the Parsee era of Yezdejird, of which the 1237th year of the Kadimi commenced 24th August, and of the Rasami on the 23d September.
1283–84 of the Hijira or Muhammadan era, the year 1284 commencing on 6th May.
1276–77 of the Fasli era, beginning 6th June.
1267–68 of the Shahur San, or Sanna Sitain-Miatin-o-alf, commencing on 6th June.
5627–28 of the modern Jewish era, of which the year 5628 commenced on 30th September 1867.

The year 1867 was the 1st year of the 22d cycle of Grahaparivritthi; the 1st of the 84th cycle of Vrihaspati, according to the Tamil account; and 13th of the 85th cycle, according to the Bengal account.

It was the year 2410 of the Buddhist era of India, Ceylon, Siam, etc.; and 1228 of the Burmese Vulgar era; and the 4th year of Chinese 77th cycle of 60 years, which begins about 14th February.

Ramadhan (the month of abstinence observed by the Muhammadans) commenced 8th January 1867; it is a moveable feast.

YEAST, Barm.

Kiau, Tsiu-kiau, . Chin.	Tari, Sendi, Nareli, Hind.
Tsiu-mu, Shin-kiuh, ,,	Spuma di cervogia, . It.
Yest, ... Fr., Sp.	Kallu, . . . Tam., Tel.
Hefen, ... Ger.	

Yeast is a product of the fermentation by which beer is made, upon the surface of which it swims from involving bubbles of carbonic acid gas. It may be obtained in the form of a firm paste. Mixed with moistened flour, it excites the panary fermentation, and is thus used for baking bread. Yeast is a plant belonging to the fungi in the state of sporules or thallus; or the true aerial tufts or heads of sporules, of a multitude of minute oval or circulating bodies or sporules, endowed, under certain favourable circumstances, with extraordinary powers of growth and multiplication. In Britain, three kinds, viz. brewer's, German, and patent yeast, are employed in the manufacture of bread. In the E. Indies, the yeast employed is the fermenting juice of the palms, known as toddy. The vitality of dry yeast is destroyed by falls, blows, bruises, or rough mechanical injuries, as also heat, cold, and chemical reagents. The presence of yeast in a substance containing sugar, or starch convertible into sugar and nitrogenized matter, induces certain chemical

changes comprehended under the term vinous or alcoholic fermentation. These changes in the making of bread consist in the conversion of sugar of flour into alcohol and carbonic acid gas; the latter, in its efforts to escape from the dough with which it is mixed, distends it, forming vesicular spaces in its interior, and so causing it to become porous and light. A genus and species have been constituted for the reception of this organism, under the name of Saccharomyces cerevisæ. This plant has been supposed to be the active cause of fermentation, and the carbonic acid given off during that process has been regarded as the result of the growth of the plant. In China yeast is used medicinally.—*Schleiden, Principles of Scientific Botany; Micrographic Dictionary; Smith; Poole, St. of Commerce.*

YEDDATURA, a town in Mysore, 18 miles N. of Yelwal. It has a pagoda on the banks of the Cauvery river, with a tank stocked with a species of carp so tame that they can be fed from the hand, and swim about among the natives when bathing.

YE DHARMA HETUH PRABHABAH, etc., a Buddhist formula, meaning whatever moral actions arise from cause, the cause of them has been explained by Tathagata. Thus what is the check to these actions is set forth by the great Sramana.

YELLAMALA or Yerramala, a range of mountains in the Kurnool and Cuddapah districts, Madras, lying between lat. 14° 31′ and 14° 57′ 40″ N., and between long. 78° 10′ and 78° 32′ 30″ E. The range runs north-west across the Jammalamadugu taluk in Cuddapah, and thence north through Kurnool, nearly to the Domal valley; in some parts covered with thick forest. They are inhabited by the Chenchwar and Koracha races. —*Imp. Gaz.*

YELLAVADU. TEL. A village servant who looks after the village boundaries.

YELLOW.

Asfar, ...	ARAB.	Zard, ...	PERS.
Jaune, ...	FR.	Amarillo, ...	SP.
Gelb, ...	GER.	Manja, ...	TAM.
Pila, ...	HIND.	Passapa-warnam, .	TEL.
Giallo, . . .	LAT., IT.	Sari, ...	TURK.

A colour largely obtained by Indian dyers for dyeing cloth, chiefly from the safflower plant.

YELLOW GUM TREE, a term applied in Australia to several species of Eucalyptus. They are called black boys, and their resin black boy gum, of which an average tree will yield 55 lbs.

YELLOW SEA, a gulf of the North Pacific Ocean, which extends north between the provinces of Chang-tong and Peh-chi-li, in China, on the west, and the peninsula of Corea on the east. The coasts in general are low, and the water of a dirty yellow or green colour. In the south-east part are an immense number of small islands, called the Corean Archipelago.

YELLOW WOOD TREE of Moreton Bay is the Oxleya xanthoxylon. It grows to a height of 60 to 70 feet.—*G. Bennett.*

YEMEN, a province in the southern part of Arabia, washed on the west by the Red Sea, and on the south by the Indian Ocean. It comprises nearly 70,000 square miles, and consists of two natural divisions, the upper or mountain district, and the lower country called Tehama. The lower country has many desert and sandy tracts, but there are several towns and hamlets on its coast, and along the shore are numerous small islands, interspersed with coral reefs; that of Tarsen is celebrated for its grotto of pearls. In this district the Beni-Halal Bedouins are the principal tribe. They are very poor, and are predatory. In the north of Tehama is Lohaya, an Arab settlement. The harbour is good, and the trade in coffee considerable. The island of Kamran, lying about 18 miles south of Lohaya, has a better harbour than the latter place. Farther south is the town of Hodaida, with an excellent port, fortified by a small citadel. The principal coffee mart in Arabia is Bait-el-Fakih, situated at a moderate distance from Mocha, and near the mountain regions where the berry grows. The capital of Tehama, Zebid, near one of the most beautiful and well-irrigated valleys in the country, possesses many mosques and other public buildings, with a handsome aqueduct, and an academy where the youth of Yemen and Tehama receive a liberal education, and is besides one of the chief meeting-places where the merchants of Egypt, Arabia, and Persia assemble. Farther south is the town of Mocha, second in importance only to Zebid. Azia is celebrated for the bravery of its people, and the valley of Nejran renowned for the beauty of its site. A principal town is Hamdan, about 30 days' journey from Mecca. Of these subdivisions of Yemen, that of Sana is the most southerly, stretching even to the Arabian Sea, where it touches Aden.

The level tract of country called Balad Aden commences at Bab-ul-Mandab, and runs easterly along the coast a distance of 132 miles. At about 90 miles from the western extremity is the town of Aden, in ancient times a city, the depot of the trade carried on between India and Egypt. This city was destroyed by the Romans in the first century of the Christian era, prompted by the desire of keeping the Indian trade exclusively in Roman hands. In the 11th century we find it again enjoying all the advantages which its position affords; but on the discovery of the Cape of Good Hope route, all traces of commercial prosperity departed, and the Turks became masters of Aden. In 1839 Aden became a British possession; and the population, which in 1839 amounted only to 1000, had in 1842 risen to nearly 20,000, indicative of the readiness with which many of the oriental races can settle down to peaceful avocations so soon as they can find for their protection a stable government. The little island of Sira, lying on the east side of the town, forms a bay opposite Aden, and from this point the peninsula extends three miles westward, forming a commodious and safe harbour. The great monarch, Suliman the Magnificent, constructed an aqueduct at Aden, which commenced at a distance of eight miles from the town. Two caravan routes lead from Aden into the interior, but diverge considerably to arrive at Lahej, the capital of the Abdali Arabs. In the S.W. the straits of Bab-ul-Mandab separate Arabia from Africa. These straits are between 20 and 30 miles in breadth, and are celebrated amongst ancient writers for the dangers encountered by navigators who ventured within these gates of tears.

Perim Island lies about three miles distant from the Asiatic coast, thus dividing the waters of the strait into two channels, that on the Asiatic side

being narrower but deeper, and also free from the impediments offered by small islands, which are rather numerous on the African side.

Yemen means safety, felicity; the term Al-Yemen, the district of safety, is therefore correctly translated in the words Arabia Felix.—*Wellsted's Travels; Playfair's Aden; Niebuhr's Travels*, ii. p. 105.

YEMMI GUDA, the hill of buffaloes, and Yennai Guda, the hill of butter, indicate pastoral stations of the Peninsula.

YEN-YANG, a Chinese emperor who began to reign B.C. 781. Confucius lived under successors of his dynasty, and recorded the observations of the solar eclipses from B.C. 720 to 481.

YERAVER, predial slaves of the Kodaga proprietors of Coorg; tempted by the wages offered by the coffee-planters, they have refused to work for their masters. The peasant masters on one occasion came down in force upon one of the coffee estates where a party of Yeraver were working, and carried them off. The same state of things existed in Santalistan, where the bonds-men—the nexi or addicti of the Romans—were called Kumea. The railroad offered them work and wages, and Mr. Yule, the commissioner, at once refused to give decrees on the debt-bonds which their masters filed in court. He went further, and abolished all imprisonment for debt. The origin of this predial slavery is probably the same. If the Yeraver are bond-debtors, the Coorg will produce the bonds, and the judge may decide as to their legality. Otherwise they are free men. Prior to the British occupation of Coorg (1833), the Yeraver were sold for less than cattle. The British discontinued this state of things, but up to the latter part of the 19th century, in those Coorg families amongst whom they are well treated, they remain much as usual, though able to leave when they like. They are fed, clothed, their marriage expenses paid, and they get small patches of land on the farms, and they are reconciled to their position. They often desert, however, and go to the plantations. When the Contract Act came into force, a few made an attempt to make legal bond slaves of them, but the courts protect them, and do not allow long contracts. Some Yeraver are a migratory race in Coorg, of middle size, with coarse features, black and straight hair. They are labourers, and are believed to have come from Malabar. Their language is said to resemble Malealam. They worship demons, and have no priests.—*Friend of India*, December 9.

YERCAUD, a settlement on the southern part of the Shevaroy Hills, in Mutunaad, in Salem district, Madras, lat. 11° 51′ 38″ N., long. 78° 13′ 5″ E. It is the principal and oldest station in the Shevaroy Hills, 4828 feet above the sea-level. The distance from Salem is 14 miles, and from Shevaroy Hills railway station 12 miles. This railway station is 3 miles from the foot of the hills. The climate is mild and pleasant, the temperature averaging about 14° F. less than on the plains.—*Imp. Gaz.*

YERKAL VADU or Yera-kedi.

Yerkulle var, . .	TEL.	Yerakedi, Yerukellu,	TEL.
Eri-kuvadu, . .	,,	Kurshi-wanlu, . .	,,

A homeless race. In communities they style themselves Yerkal, and they give the same appellation to the language in which they hold communication with each other. Some of them seem to have been converted to the Brahmanical faith, and are now of the Vaishnava sect. With the exception of the cow, almost all animals are used by them as food. Their dead are burned. The Eruku, also called Yerkal, Yerkalvadu, Kurshi-wanlu, Yera-kedi, Yera-kellu, and Eri-kuluvadu, in the Canarese part of the Peninsula of India, occupy themselves ostensibly as basket-makers, and in fortune-telling. But they are notoriously predatory, and steal girls, whom they devote to prostitution. They are to be found in mat huts on the outskirts of most towns. The Yerkala of the Nellore district are migratory mat and basket makers, using the midrib and leaflets of the date palm. They also make wooden combs, work as labourers, and a few have settled and engaged in cultivation. They rear pigs, poultry, donkeys, and dogs, and eat the flesh of most animals. They are usually of a dark-brown colour, the men are of spare and light make, but hardy, with low foreheads and eyes, short nose. They wear only a strip of cloth, and they tie their hair in a knot above their brow.

The Yerukala of Nellore are divided into many subdivisions, and the more wealthy of their number engage in agricultural pursuits, and hold lands from the Government. Some tell fortunes, others make baskets, collect herbs and jungle roots, eat game, and work as coolies to the better classes of ryots. They wear little or no clothing. When they can they commit dacoities, highway robberies, and such offences. The god they worship is sacred to the Triputti Hills. Marriage ceremonies are performed, polygamy is rife, but widow marriages are permitted. All wives are bought from the parents, and a wife is usually valued at twenty pagodas. Among the Yerukalas in Venkatagherry only, the first wife costs the above sum, but in other places less than two pagodas. The language of the people is a Telugu idiom, considerably mixed up with Tamil and Canarese.

Amongst the Yerkala of Southern India, a custom prevails by which the first two daughters of a family may be claimed by the maternal uncle as wives for his sons. The value of a wife is fixed at twenty pagodas. The maternal uncle's right to the first two daughters is valued at eight out of twenty pagodas, and is carried out thus,—if he urge his preferential claim, and marry his own sons to his nieces, he pays for each only twelve pagodas; and similarly, if he from not having sons, or any other cause, forego his claim, he receives eight pagodas of the twenty paid to the girl's parents by anybody else who may marry them.—*Shortt, Trans. Ethn. Soc. MS.* vii. p. 187; *Balfour in Madras Jour. Lit. and Science*, xviii. p. 4; *Lubbock, Orig. of Civil.* p. 103.

YERLA. MAHR. A pent-house worn by ploughmen in the field. It is made of the leaves of the palmyra.

YESKAR. KARN. A village servant, the porter or gate-keeper, usually a Mahratta.

YEVARU, in Coorg, a tribe of predial slaves.

YEVU and Baikuri, CAN., are fish traps adapted to falls. The yevu is a platform made of bamboo, somewhat bellied, so as to lead ladderwise from the top to the bottom of a waterfall at an angle of 45°. The kunjal, another trap, is a rude sort of kuri.

YEW TREE, Taxus baccata, *Linn.*, grows in the Mehra forest near Abbottabad, Hazara. At Choongtam, in Sikkim, the yew appears at 7000 feet, whilst on the outer ranges, as on Tonglo, it is only found at 9500 to 10,000 feet; and whereas on Tonglo it forms an immense tall tree with long sparse branches and slender drooping twigs, growing amongst gigantic magnolias and oaks, at Choongtam it is small and rigid, and much resembling in appearance the English churchyard yew. At 8000 feet, the Abies Brunoniana is found, a tree quite unknown farther south. But neither the larch nor the Abies Smithiana (Khutrow) accompanied it. The yew, it is said, spreads east from Kashmir to the Assam Himalaya and the Khassya mountains; and the Japan, Philippine Islands, Mexican, and other N. and S. American yews belong to the same widely-diffused genus. In the Khassya (its most southern district) it is found as low as 5000 feet above the sea-level.

YEZD town has 30,000 souls, of whom 4000 are fire-worshippers, and 1000 Jews. They are engaged in the manufacture of silk, and their merchants visit Bombay, China, Java, and the Mauritius. Yezd is mentioned by Barbaro as a most industrious place, flourishing by its silk and cotton manufactures, and supplying with these a large part of Asia. These manufactures still continue. Many important caravan routes converge at Yezd, whilst the desert has given it security, and thus it has become a considerable mart. Yezd is regarded as holy by the Muhammadans, a sanctity perhaps borrowed from the fire-worshippers, who still linger here in degradation. The district of Yezd, if included within the limits of Khorasan, occupies the south-west corner of that province, being encompassed on all sides by salt desert, which separates it from Kerman and Fars upon the south, and from Isfahan of Irak upon the west. The town of Yezd, an oasis in the great Persian desert, is built on a large sandy plain, encompassed on most sides by hills. It is situated on the edge of a sandy desert, produces little of itself, but with infinite labour a tract of gardens and orchards has been cultivated near the base of the hills, where very fine apricots and melons are grown.—*Fraser's Khorasan; Pottinger's Tr.* p. 421; *Ramusio*, ii. p. 106; *J. R. A. S.* viii. p. 349, *in Yule, Cathay*, i. p. 52; *MacGregor*, iv. p. 604.

YEZDEJIRD III., the last of the Persian kings, who was defeated by Abdullah, son of the khalif Omar. His lieutenant Rustam opposed the Arabs in an obstinate battle, A.D. 636, at Kadesiah on the Tigris. Rustam was slain, and the leathern apron of the mythical blacksmith Caveh, the ancient standard of the Sassanians, was captured by the Arabs. This victory gave the conquerors the province of Assyria, since called Irak-i-Arabi, and was followed by the sack of Ctesiphon. A second battle at Yalula drove Yezdejird as a fugitive into the hills of Fars; but 150,000 Persians made a final stand at Nehavend, among the hills south of Hamadan, the site of the old Medean capital Ecbatana, and their defeat (A.D. 641) was the final overthrow of the native Persian power, and of the religion of Zoroaster. The standard of the Muhammadans was rapidly carried over the tableland of Iran, and beyond the Oxus.

Isfandiar, brother of Rustam, joined the Arabs, but Yezdejird fled south to Isfahan, then on to Kerman and Balkh, finally taking refuge at Merv. Here he sought the aid of the Khakan of the Turks, and of the emperor of China. The Khakan espoused his cause, and for several years a desultory war was waged in the neighbourhood of Merv, but in the end Yezdejird and the Turks retired across the Oxus, about A.H. 31, A.D. 651. Yezdejird perished miserably, A.D. 652, in the hut of a miller, whither he had fled for refuge (Sir W. Muir's Caliphate, pp. 259-297). His death occurred in the eighth year of the khalifat of Usman.

The era of Yezdejird III., or the Persian era, began on the 16th June A.D. 632. The year consisted of 365 days only, and therefore its commencement, like that of the old Egyptian and Armenian year, anticipated the Julian year by one day in every four years. This difference amounted to nearly 112 days in the year 1075, when it was reformed by Jalal-ud-Din, who ordered that in future the Persian year should receive an additional day whenever it should appear necessary to postpone the commencement of the following year, that it might occur on the day of the sun's passing the same degree of the ecliptic.—*Gibbon*, i. 299; *Prinsep's Antiquities by Thomas; Yule, Cathay*, i. 85; *Muir's Caliphate.*

YEZIDI have a tradition that they originally came from Basrah, and from the country watered by the lower part of the Euphrates; and that, after their migration, they first settled in Syria, and subsequently took possession of the Sinjar Hill and the districts they now inhabit in Kurdistan. Their principal strongholds were visited by Mr. Layard, at the Jabal Sinjar, a solitary mountain rising in the centre of the Mesopotamian desert to the north of Mosul. Below the cluster of buildings assigned to the people of Semil is a small white spire, springing from a low edifice, neatly constructed, and, like all the sacred edifices of the Yezidi, kept as pure as repeated coats of whitewash can make it. It is called the sanctuary of Shaikh Shams, or the Sun, and is so built that the first rays of that luminary should as frequently as possible fall upon it. Near the door is carved on a slab an invocation to Shaikh Shams; and one or two votive tablets, raised by the father of Husain Bey, and other chiefs of the Yezidi, are built in the walls. The interior, which is a very holy place, is lighted up by a few small lamps. At sunset, as Mr. Layard sat in the alcove in front of the entrance, a herdsman led into a pen attached to the building, a drove of white oxen. He asked a Cawal, who was near, to whom the beasts belonged. 'They are dedicated,' he said, 'to Shaikh Shams, and are never slain except on great festivals, when their flesh is distributed amongst the poor.' The dedication of the bull to the sun, so generally recognised in the religious systems of the ancients, probably originated in Assyria, and the Yezidi may have unconsciously preserved a myth of their ancestors. So far from Shaikh Adi being the scene of the orgies attributed to the Yezidi, the whole valley is held sacred, and no acts, such as the Jewish law has declared to be impure, are permitted within the sacred precincts. No other than the high priest and the chiefs of the sect are buried near the tomb. Many pilgrims take off their shoes on approaching it, and go barefooted as long as they remain in its vicinity. The Yezidi

recognise one Supreme Being, but, so far as Layard could learn, they do not offer up any direct prayer or sacrifice to him. When they speak of the devil, they do so with reverence, as Malik Taos, King Peacock, or Malik-ul-Kuwat, the mighty angel. Shaikh Nasr distinctly admitted that they possess a bronze or copper figure of a bird, which, however, he was careful in explaining was only looked upon as a symbol, and not as an idol. They believe Satan to be the chief of the angelic host, now suffering punishment for his rebellion against the divine will, but still all-powerful. They frequently pass their hands through the flame, kiss them, and rub them over their right eyebrow, or sometimes over the whole face.

They dwell in black tents of cloth made of goat's hair, which they surround with hurdles of reeds and thorns closely twisted together. The tents are square, or of the form of a parallelogram, the Turkoman tent being round and turret-shaped at top. Like the Arabs, the Yezidi move about in tribes for greater safety, and pitch their tents in a circle when they encamp, leaving its interior open for their cattle and flocks. Part of them dwell on the banks of the Tigris, in the pashaliks of Mojul and Baghdad. One large tribe occupies the valleys in the Sinjar mountain, which rises directly S. of Mardin, in the middle of an immense plain, and stretching towards the S.E., nearly parallel with the river Khabour, the ancient Chaboras, terminates a little to the east of Sakkat-ul-Abbas. They are cruel and inhospitable. — *D'Anville, Geographie du Tigre et de l'Euphrate; Layard, Nineveh; Burton's Scinde; Macdonald Kinneir's Memoir; Latham, Nationalities of Europe.*

YEZO. The Aino are the aboriginal races of Yezo, but their severe treatment by the Japanese has led them to other countries. They occupy the southern part of the island of Saghalien, which is in possession of the Japanese. The Aino are of short stature, with broad faces of the Mongol type. They are a timid race; their limbs are hairy; they have bushy beards and long tangled hair, large heads, and clumsy figures; the expression of their face is that of good nature combined with stupidity. According to M. Rosney, their language is dissimilar to Japanese, and that spoken in the Kuriles and in the island of Yesso, is also different from Japanese.—*Adams*, p. 240.

YGDRASIL, in Norse mythology, the tree of knowledge. See Odin; Tree.

YIH-KING, an ancient Chinese book. The annotation of Confucius to the ancient work Yih-King, states that Fu-he got the idea of his diagrams from a figure on the back of a 'dragon horse' which issued from a river. The same annotation states that, before Fu-he invented the Eight Diagrams, he observed the configurations and appearances in the heavens and the earth, and the marks on birds and beasts; also that he derived information from his own person and from things around him. These terse passages of an ancient author are, when taken literally, apt to give a ridiculous air to the Eight Diagrams. But a little examination shows the meaning to be that Fuh-he constructed the Eight Diagrams only after a careful and extensive survey of nature and its varied phenomena, as exhibited in the departments which we call astronomy, meteorology, physical geography, and natural history, and after reflection on his own nature, physical and mental, and on the nature of men generally as manifested in the events of the social life around him. The Eight Diagrams formed, in fact, an illustrative figure intended to elucidate Fuh-he's theory of the universe, a theory adopted after careful reflection on all animate and inanimate nature without his ken. They are in so far undoubtedly the foundation of Chinese philosophy, but it must not be assumed that learned Chinese conceive any occult power to lie in them. Much in the same way we might say that the Literary Prince, having been imprisoned (while he was still a vassal of the dynasty he overthrew) by his jealous suzerain, during the years B.C. 1144, 1143, 1142, made in the seclusion a different arrangement of the Eight Diagrams; and he, with one of his sons, Chow-kung, who laboured after the establishment of the family in the sovereignty, gave permanency to their joint development of the national philosophy, by attaching a few words of explication to each of the sixty-four doubled diagrams. Fuh-he's diagrams, as re-arranged, together with the short explications of the first monarch of the Chow dynasty and his son, form the basis or text of the first of the Chinese Sacred Books, the Yih-king. After an interval of six centuries, Confucius seems to have used the Yih-king in framing his own philosophical views.

YIN and Yang, with the Chinese, the male and the female principle. These are represented above the entrance doors of dwelling-houses, as charms to ward off calamities. They are also represented on the flag flying at the mainmast of the imperial war junks.—*Gray*, ii. pp. 44, 247.

YING-BAU, a tribe supposed to belong to the Red Karen, whose dress and language they use. They dwell about 100 miles north of Tounghoo, north of the Karen-ne or Red Karen.

YOGA, a school of philosophy.

YOGA, in Hindu astronomy, the leading or principal star of a lunar mansion, the position of which is given in the Hindu astronomical tables. There are 28 yoga stars (including Abhijit) in the lunar zodiac; but, with the exception of 16 or 17 of these (on the identity of which there can be little doubt), it is very uncertain to which of the stars in the European catalogues the remainder correspond. Harshana (which no doubt is the same as Spica Virginis) seems to be the yoga which drew most the attention of the ancient Hindu astronomers, probably on account of its convenient magnitude and declination, which at the beginning of the 9th century was 9° 38′ 13″ S. To this star they referred the beginning of the 7th month of their solar sidereal year, from which they concluded its beginning; and there is every reason to suppose that it was on the result of observations of Harshana that they established their Cranti-Pata-Gati or precessional variation; a surmise which, if correct, offers a singular concurrence of circumstances, for it was by observations of the same star that Hipparchus first discovered (in the 2d century before Christ) the motion of the fixed stars from west to east.

Yogu, a term so pronounced by the Telugu astronomers, but yoga as spelt by the Carnatic Sastri, is an astrological element, containing the same number of accidents as there are yoga in

the 27 regular mansions of the lunar zodiac, bearing the same names, and arranged in the same order, but having no sort of astronomical reference to them. A yoga is the time during which the sum of the motions of the sun and moon amounts to one nacshatra, or 13° 20′. Its mean duration is 59g. 29v. 21p. 75 Indian time (23h. 47m. 44·24s. European time), 17 of which are nearly equal to 16 days; which occasions an equation somewhat similar to that of the Cshaya tithi.—*Captain Warren, Kala Sankalita.*

YOGA, in Sanskrit, means union, junction, but in Hindu philosophy, re-union with spirit, union of separated with universal soul. The yoga is one of the schools of Hindu philosophy teaching the eternity of matter and spirit as well as of God, and the obtaining of final liberation from life by ascetic practices. The Yoga is the third degree in the Saiva systems, and is the practice of abstraction of mind. As commonly understood, the term means abstract devotion, by observing which superhuman faculties are supposed to be acquired admitting the practice of magical rites.—*Bunsen*, iii. p. 562; *Hind. Th.* ii. p. 13; *Warren, Kala Sankalita.*

YOGHOURT. KURD. A preparation of sour clotted cream or milk.—*Rich's Kurd.* i. pp. 117, 235. See Youart.

YOGI, a follower of the Yoga philosophy, a practiser of ascetic devotions; one who, by the practice of the Yoga, has acquired supernatural powers. A devotee seeking the attainment of Yoga has to learn the rules of Yoga, to acquire perfect knowledge; to employ this knowledge practically, and overcome the material influence of the primary elements, and finally destroy all consciousness of personality and individuality (ahankara), and the soul thus becomes free from matter. In ordinary acceptation, a Yogi is a Hindu religious mendicant, of whom there are various orders.—*Wilson, Hind. Theat.* ii. p. 107.

YOGINI, a female devotee; also, in Hinduism, a female fiend, or a divinity of an inferior order, often associating with human beings, and usually working mischief. Eight of these demons, attendants on Durga, are named Bherunda, Marjani, Matali Nayaki, and Jaya or Subhachara, Malaya-gandheni, Kaumudika, Nayaki, Su-lakshana, and Su-Nanda.

YOGINI TANTRA, one of the books of the Hindu Tantra.

YOIDYU, the professed, though not the exclusive, medical men amongst the Bengali people. They study the Nidana, Rakshita, Drivya-goona, and other medical Shastra. Commonly known as the Bed or Ved.—*Ward on the Hindoos*, iii. 95.

YOJANA or Ved. SANSK. An astronomical and geographical measure, deduced from the ratio of the diameter of the earth to the circumference of its equatorial circle. The dimensions of the yojana, like those of any other measure, originate in an arbitrary division of extent, for which the Hindus have chosen a finger or angula as a standard to be found in nature. By that common measure they estimate not only distances and the dimensions of the earth, but even the distance of the planets, their parallaxes, and (when referred to particular points on the surface of the earth) the effects of their longitude and latitude as to time. The Hindu mathematicians divide the diameter of the earth into 1600 parts, whence they have this expression $\sqrt{10 \times 1600} = 50596$ yojana for the value of the equatorial circle. An angle of one minute of a degree is supposed to be subtended by 15 yojana, at the mean distance of the moon; so that, dividing the earth's semi-diameter (800 yojana) by 15, we have 53′ 20″ for the moon's mean horizontal parallax. It follows from this result that 53′ 20″ of the moon's orbit will measure 15 yojana, and that her whole orbit (360°) will measure 324000 yojana. Hence 5059 (the circumference of a great circle of the terrestrial globe in yojana) is to 800 yojana (its semi-diameter) as 324000 (the circumference of the moon's orbit in yojana) is to 51235 yojana, her mean distance from the earth, from which it follows that this distance (according to the estimate of Hindu astronomers) is about 64 semi-diameters of the earth. As the moon is supposed to complete 57753336000 sidereal revolutions in a calpa, this number drawn into 324000, gives 18712080864000000 yojana for her absolute motion during that time. It is a principle in Hindu astronomy that the absolute motion of each planet in a day, or any other time given, is equal to the absolute motion of the moon in the same time. Hence, if the absolute motion of the moon during a calpa be divided by the number of mean revolutions completed by any planet, during that period it will give the cacsha or circumference of the planet's orbit in yojana. To convert degrees of latitude and longitude into yojana, they use the following proportion: As 360 ° to the proposed number of degrees, so 5059 yojana (the circumference of the equatorial circle) to the number of yojana sought. The Hindus subdivide the yojana into a great number of parts, in the following manner:—The yojana ÷ 4 crosa ÷ 1000 dhanush or danda ÷ 4 resta or cubits ÷ 2 vitisti or spans ÷ 2 pada or foot-breadths ÷ 6 angula or finger-breadths ÷ 4 yara. Some make the crosa = 2000, danda or half a yojana, which agrees better with that in which the distances are usually computed. The yojana is regarded in Ceylon as being equal to 16 English miles.—*Hardy's Eastern Monachism*, p. 443; *Warren, Kala Sankalita.*

YOJNA-GANDA, the mother of Vyasa. She was a fisherman's daughter, and king Santanu was the father of Vyasa. The name means a sweet fragrance (ganda) whose odour extends a yojna (4 miles). The names given by Muhammadans to the women of the harem are of a similar character,—Yasmin, Sosun, Jasmine, Lily.

YOMA, in Burmese, a peak, a great ridge, a backbone, and is applied to two mountain ranges. The mountain chain of the Arakan Yoma runs from the eastern end of Cachar, parallel with the coast, at an average distance of 40 or 50 miles, down to Cape Negrais, lat. 16°, and is of an average height of 4000 or 5000 feet. Starting from the Blue Mountain, in lat. 22° 37′ N., and long. 93° 11′ E., this range runs southwards for a distance of over 700 miles, dividing Arakan from Independent Burma in the north, and from the British province of Pegu in the south. The Blue Mountain rises to 7100 feet. The last bluff at Cape Negrais is crowned by the Hmawdan pagoda. Pyramid Hill is 3000 feet. The crest of Aeng pass is 4517 feet. The pass from Podangmew to Ramree is 4000 feet. Cape Negrais is about 300 feet high.—*Dr. M'Clelland, Govt. Selections*, ix. 6.

YONI. SANSK. The place or elements of birth, from Sanskrit root Yu, to mix. In the physiological religion or philosophy of the Hindus, the lingam and the yoni represent organs of the human body, and the symbols are to be seen in almost every street of every town of British India. The yoni is the symbol of the bhaga, and the lingam, priapus, or phallus, is that of the bija. It is a cosmic philosophy based on the union of the sexes, and Hindu writers represent Narayana moving (as his name implies) on the waters, in the character of the first male, and the principle of all nature, which was wholly surrounded in the beginning by tamas, or darkness, the chaos, or primordial night of the Greek mythologists. The chaos is called prakriti, or crude nature; and the male deity has the name of Purusha, from whom proceeded sakti or power; that power, in its first state, was an aptitude, and lay dormant or inert until it was excited by the bija or vivifying principle. This power or aptitute of nature is represented under the symbol of the yoni or bhaga, while the bija or animating principle is expressed by the linga. The symbols of the lingam and yoni are constructed of stone or metal of some kind, the lingam surrounded by the yoni. At the very extremity of Malabar Point, on the island of Bombay, is a cleft rock, to which pilgrims resort for the purpose of regeneration by the efficacy of a passage through this sacred type. This aperture is of considerable elevation, situated among rocks of no easy access, and, in the stormy season, incessantly buffeted by the surf of the ocean. The devotee, leaving his clothes and his sins at one side, passes through cleansed and regenerated.—*Moor; Coleman; Colebrooke; Wilford; As. Res.* ii. p. 471, iii. p. 365, iv. p. 366, vii. p. 256, viii. p. 274.

YORA-BANGALA, from Yora or Jora, a pair, and Bangala, a one-storeyed house; an idol-temple, made like two thatched houses or bangala placed side by side, and has a double-pitched roof, generally covered with tiles or bricks. The front is open without doors. These temples are dedicated to different gods, but now are not frequently built in Bengal.

YOUART. PERS. Curds and whey, the principal delicacy to be found amongst the wandering tribes near Syria.—*Eothen's Travels*, p. 50. See Yoghourt; Kurut.

YOUNG, CAPTAIN JAMES, I.N., author of Memoir of the Maldive Islands, Bom. Geo. Trans., 1836-1838, Bombay reprint, i. p. 54; Account of Famine in the Laccadives in 1841, in Bombay Times, August 13, 1851, October 1, 1847.

YOUNG, CAPTAIN JOHN, younger brother of Captain James Young, author of Currents in the Arabian Sea. See Orlebar's Account of, in Athenæum, 1847; Rep. Brit. Ass., 1848. His ship, the *Cleopatra*, was lost in a cyclone.

YU the Great is the first Chinese monarch of whose reality there is no doubt, and his accession occurred about 2000 years before the Christian era. Systematic Chinese history hardly goes back so far as B.C. 2000, *i.e.* to the reign of Yu. Yu was the founder of the dominion of the kings or princes of Shen-si in S. China, as far as the great river. He diverted the course of the Yellow River to fertilize the lands between the two rivers.

YUAN CH'AO PI SHI, or Secret History of the Mongol Dynasty, a history of Chengiz Khan and his ancestors, written in the Mongol language about A.D. 1240.

YUCCA, a genus of plants belonging to the section Aloe, of the natural order Liliaceæ, and called Adam's needles; natives of the southern provinces of the United States. They are conspicuous for their lily-like white flowers, as well as for their long sword-shaped leaves terminated by a thorny point. All abound in fibre of a fine quality, and strong in Y. aloifolia, Y. angustifolia, and Y. filamentosa. The Yucca fibres are amongst those which have received the name of silk grass. Y. gloriosa, *L.*, common Adam's needle, is a native of Peru and North America, blossoms in July and August, its panicle of elegant flowers attaining a height of 10 or 12 feet. Y. aloifolia, *L.*, aloe-leaved Adam's needles, has leaves with the edges bordered by fine callous notches. It is a native of N. and S. America, but it is grown in all parts of India; it produces a white, pliant, and strong fibre, resembling that of the agave in all respects, but is apt to be discoloured by steeping, which the agave is not.

Yucca gloriosa, Adam's needle, is sometimes called an aloe; has a strong, fine, but rather stiff fibre, suited for the manufacture of cordage; it very soon becomes discoloured by steeping, but is not so liable to rot as some of the other fibres of this kind. The plant is not abundant in Southern India, but grows easily and might be propagated to a great extent.—*Royle; Riddell; Roxburgh; Voigt; Mad. Exhib. Jur. Rep.*

YUCHI or Yuti appear to be the tribe whom the Greeks called Tochari. They formed part of the Barbaric kings of Bactria.

B.C. 126 Hermæus—rules over Parop., Nyssa, Gand., Peuk. (The Su-saka race obtain Arya, Drangia, and Arach. from the Parthians.)
Mauas—has Taxila, Por., Reg., Cath., Pattalene, Syrastrene, Larice.
,, 105 Kadphises—(Yuchi) takes possession of Hermæus' kingdom, and Taxila from Mauas (Kozola Kadaphês).
Vonones. } Paropamisidæ.
Spalygis. }
Spalirises. }
,, 110 Aras—succeeds Mauas, obtaining also in B.C. 90 Nyssa, Gand., and Peuk.
,, 80 Azilas—succeeds Azas in the three latter, adding Taxila and the Paropamisidæ.
,, 80 The Soter Megas—obtains the dominions of Azas, and subsequently those of Azilas.
,, 60 The Yuchi again possess Parop., Nyssa, and Taxila, etc.
,, 26 Gondophares—reigns in Ariana. Abdagasses (and Sinnakes or Addinigaus), ditto in ditto, less the Parop.
A.D. 44 Arsaces (Ornospades or Orthomasdes)—ditto, ditto.
,, 107 Pakores Monnesses—ditto, ditto (Hiatheleh), in Bactriana.
,, 207 Artemon—in Arya, Drangia, Arachosia.

The Yuchi are believed to have been of a northern race, who became known in the west as Indo-Scythians, and at a later date as White Hun. They were driven from their seats somewhere between China and Khotan, by the great Turkish race of Hiong-nu. After some intermediate halts, they arrived first in Tawan or Farghana, and afterwards in Tahia or Bactriana, where they destroyed the Greek dynasty, and settled themselves. The Chinese emperor was desirous of opening communication with them in order to excite a diversion against the Hiong-nu, the constant disturbers of the Chinese frontier, and

about B.C. 135 he sent for this purpose a party under an officer called Chang-kian. On their way they were caught by the Hiong-nu, and kept prisoners for ten years. Chang-kian then escaped with some of his comrades, but, adhering to his mission, succeeded in reaching Tawan, where he was well received by the people, who were acquainted by fame with the power and riches of China, though they had never had any direct communication with that country. Finding that the Yuchi had gone south to Bactriana, he followed them thither, but failed to induce them to quit their new seats upon the Oxus to return to their eastern deserts and battle with the Hiong-nu.

During the first century, the power of China had decayed, and the Hiong-nu recovered their ascendency. In A.D. 83, however, Panchao, one of the most illustrious commanders in the Chinese annals, appeared in the field, and in a few years recovered the Uigur country and all Western Tartary to the empire.

The Yuchi and other kindred tribes invaded Sogdiana about B.C. 127-126, and finally, about B.C. 120, conquered the whole of Bactria. They subsequently conquered Kābul, and occupied the country between that city and the Indus. Before the Christian era, they were firmly seated on that river, and, under the great king Kanishka, had become an Indian power of very considerable importance. Kanishka is variously supposed to have reigned from about A.D. 20 to 40, while another account makes him the founder of the Saka era A.D. 79. The power of these Turushka kings spread over all the Panjab, southwards as far as Muttra on the Jumna, in the first century of the Christian era. At the same time, another body, the Sah, who also used the Saka era, crossed the Indus lower down, and occupied the province of Gujerat. From the time of Kanishka, a continuous succession of tribes of Scythian origin poured across the Upper Indus into India, each more Turanian than the one preceding it, till the Moghul conquest of India in the 15th century. The western races distinguished as Yavana, who may have been the Bactrians driven by the Yuchi from their homes B.C. 150 or 130, and who appeared in Orissa before and about the Christian era; the Camboja, who joined in the advancing races, seem to have come from a country between Kandahar and Kābul; and the Saka, the classic Sacæ or Scythians, pressed on with the rest, and were formidable during the first four centuries of the Christian era, till defeated by king Vikramaditya.

According to Chinese authorities, the Yuchi retained their hold in India certainly till A.D. 222 (J. A. S. B. vi. p. 63), and probably for some time longer, but their power seems to have been then on the wane.—*Fergusson*, pp. 27, 28; *Walter Elliot; M. L. S. J.*, 1858, p. 77; *Yule, Cathay*, i. pp. 54, 55; *Cunningham, Ancient Geography of India.*

YUDISHTHRA, a prince of great celebrity, who, according to Indian authors, reigned about the beginning of the Kaliyug; some, however, fix the epoch of his reign 653 years later, or in the year 2448 before Christ. He is also said to have been contemporary with the astronomers Parasara and Garga. As the commencement of the Kaliyug was B.C. 3101, the true date seems to have been about B.C. 1400. Yudishthra was the eldest of the five Pandu princes. He was educated by Drona, at the court of his uncle Dhrita Rashtra, and his uncle declared him Yuvaraja or heir-apparent; but the jealousy that the Paurava felt from this drove the Pandava into exile to the city of Varanavata. When there Duryodhana set fire to their house in the hope of destroying them; and as the bodies of a woman and her five sons were found in the ruins, the Pandava were believed to have perished.

They, however, returned, and settled at Indraprastha, where Yudishthra ruled wisely, and the people prospered; but, gambling with the Kaurava, he lost his all, kingdoms, brothers, himself, and wife. Dhrita Rashtra ordered the Pandava to be released and sent away, but they again gambled, and by the terms of the play they had to go into exile for 13 years. At its close, Yudishthra sent a messenger to Hastinapura to obtain restoration; but this being refused, the great battle recorded as the Mahabharata was fought, in which the Kaurava were all slain. Yudishthra became king, but he abdicated in favour of Arjuna's grandson. Yudishthra and Baladeva, after the Mahabharata, returned to Saurashtra, and after the death of Krishna they went northwards, and are supposed to have reached Greece.

YUEN, a dynasty of China, which succeeded the Sungh in A.D. 1271. They were Mongols, immediate descendants of Chengiz Khan, who adopted Chinese civilisation only in a very slight degree, and were soon expelled. The first emperor of the native dynasty, the Ming, which succeeded them in A.D. 1368, though a promoter of literature, was himself illiterate, having been a servant in a monastery. But the third sovereign of the line, who began to reign A.D. 1403, had a splendid library formed and several encyclopædic works compiled. He published an edition of the Sacred Books, which is known by the affix to their title of 'Tatreuen,' in full completeness.

YUG, Yuga, or Yoga signifies properly the conjunction, and sometimes the opposition of the planets. It is, however, more generally used, for signifying a long period of years, at the expiration of which certain phenomena or circumstances recur. The principal series of the yug made use of in present times in astronomical computations, are the Maha yug, Satya, Treta, Dwapara, and Kali yug. It is generally admitted that ancient Hindu astronomers invented their yug with reference to some of Jupiter and the Sun's conjunctions, in the beginning of the zodiac; and that more recent ones, with a view to lengthen their periods, have referred them to those of Saturn and the Sun. Modern European commentators have made great alterations in the epochs and durations of these yug, without changing their names. Yuga dina (sometimes written yugadia) means the anniversary of the day on which the current Maha yug, and any one of the four lesser yug, began, which anniversary is always noticed in the calendar. Telugu astronomers use sometimes the term yugadia for ahargana. Kala or cala, time, in its natural acceptation, is a term applied to a great variety of mathematical and astronomical subjects.—*Captain Warren, Kala Sankalita.*

YUGA, an age of the world. Hindus in their mythical cosmogony divide the age of the world into four yuga,—the Krita or Satya yuga, extending to

1,728,000 years; the Treta yuga, to 1,296,000 years; the Dwapara yuga, to 864,000; and the Kali yuga, in which we now live, and which they consider will last 432,000 years. The world in 1878 was in the year of the Kali yuga 4979. Hindu cosmogony reckons four yuga in every Maha yuga. A Maha yuga comprises 12,000 years of the gods, equal, according to the Vishnu Purana, to 4,320,000 years of mortals. One thousand of these periods is a calpa or day of Brahma = 4,320,000,000 of human years, comprising under it 14 Manwantara, or periods presided over by 14 successive Menu, after which there is a universal collapse (Maha pralaya) of all creation. In the present calpa or æon, six Menu have passed away, of whom the first was Svayambhuva, the present or seventh being Vaivasvata.

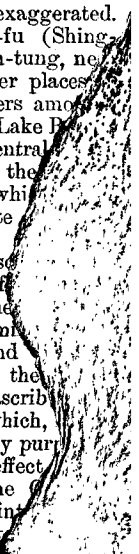
Bunsen regards the four ages of Menu as four states with successive interregna, which the Aryan Hindu race really passed through. The first age contains only general mythical representations of divine progenitors. The second period commences B.C. 2400 (2300) prior to the old settlement in the Panjab, on the Saraswati, ending B.C. 1900 (1800). The commencement of the third period was B.C. 1606 (1486), corresponding to the first year of the Kuru, and may have lasted 500 years, or down to B.C. 1107 (987). And he estimates the beginning of the Aryan settlement in the Saraswati district as not later than B.C. 2600 or 2500.

YUGAT-PRABHU. SANSK. Lord of the world.

YUG-SADDAN, or Yug-Prasht, or Yug-byasa, in Hindu belief are persons who, by extraordinary pious pains, obtain miraculous longevity, prolonging their lives to some hundreds of years. As far as can be gathered, it is regarded by them as the faculty of drawing, by degrees, all the breath (or perhapst he principle of life, or the soul) into the upper part of the head, and thus continue for any number of years the aspirant may have previously determined on, or, as others say, in proportion to his piety, in a state of insensible absorption, exempt from the destructive operations of earth or water, but not of fire. The sect called Byragi or Viragi are apparently the most frequent and successful pretenders to this extraordinary power. Perhaps the following tale in Wilford's Egypt and the Nile may allude to the practice. On the banks of the Kali dwelt a Brahman, whose name was Lechayanasa, a sage rigorously devout, skilled in the learning of the Vedas, and firmly attached to the worship of Hari; but, having no male issue, he was long disconsolate, and made certain oblations to the god, which proved acceptable, so that his wife Sankriti became pregnant, after she had tasted part of the Charu, or cake of rice, which had been offered. In due time she was delivered of a beautiful boy, whom the Brahmans, convened at the jatakarma or ceremony on his birth, unanimously agreed to name Haridata, or given by the divinity. When the Sanskara, or institution as a Brahman, was completed by his investiture with the sacerdotal string, and the term of his studentship in the Veda was past, his parents urged him to enter into the second order, or that of a married man; but he ran into the woods, and passed immediately into the fourth order. Disclaiming all worldly connections, and wholly devoting himself to Vishnu, he continually practised the Samadhi yoga, or union with the deity by contemplation, fixing his mind so intensely on God, that his vital soul seemed concentrated in the Brahma Randhra, or pineal gland; while his animal faculties were suspended, but his body still uncorrupted, till the reflux of the spirits put them again in motion. Hindus assert that some Yogi have remained in this state for years, and the fanciful gradations are minutely described in the Yoga Sastra, and even delineated in the figures called Shat-chakra, under the emblems of lotus flowers with different numbers of petals, according to the supposed stations of the soul in her mystical ascent.—*Coleman, Mythology of the Hindus*, p. 426; *As. Res.* iii. p. 456.

YUH. CHIN. Jade, nephrite.
Yashm, ... PERS. | Sutash, ... TURK.

This mineral is found in the long narrow valley of the Ooroo or Oru, a tributary of the Ningthe or Kyendwen, some 50 or 60 miles west of Mogoung. It is dug up by the Shan and Kakhyen races. It is found embedded in yellow clay. It is largely purchased by the Chinese in Burma for exportation to China, where it fetches an extravagant price, and is manufactured into cups, bracelets, etc. It is of the yuh stone that the Chinese form their waved emblem of longevity, specimens of which sometimes bring 100 dollars. Respectable Chinese at Amarapura represent this trade as amounting to from six to ten lakhs of tikals per annum. This is probably exaggerated. It is met with also in Fung-tien-fu (Shing-king), Lien-chau-fu (Canton), in Shan-tung, near Khoten, Karakash, Yarkand, and other places in Turkestan and Mongolia, in the rivers among the Siansk mountains, to the S.W. of Lake B[illegible] in E. Siberia, and other places in Central [illegible] also in New Zealand, Polynesia, and the States. It is of various colours, white, yellow, and green, and the milk-white and green varieties are the most valued. [illegible]ness, weight, sonoriety, and peculiar s[illegible] are the points on which the Chinese f[illegible] estimate of its value. It consists che[illegible] the silicates of magnesia and alumi[illegible] varying quantities of chromium, and other metals, according to the tint of the [illegible] Philosophers and physicians have ascrib[illegible] sorts of properties to this mineral, which, ever, as a medicinal substance for any pur[illegible] of pharmacy, can have no other effect so much steatite or soapstone. The C[illegible] suppose it to possess humane, just, in[illegible] brave, and pure qualities, presumed t[illegible] veyed to the wearer. Those who wear [illegible] to be relieved from the claims of gravita[illegible] Chinese jade articles have been dug up in Europe in connection with very ancient remains.—*Smith; Porter, M.B.; Nat. History of China; Yule's Embassy*, p. 147.



YUH-HWANG-TE, the pearly emperor, is one of the Chinese deities who is invoked in seasons of drought. He was the son of one of the kings, Kwong-Yim-Mew-Lok, and was canonized.

YUJ and Majuj, or Gog and Magog. See Alliteration.

YULE, COLONEL HENRY, an officer of the Bengal Engineers, author of Fortification for Officers of the Army, 1851; Embassy to Ava, 1858; Cathay and the Way thither, 1866; Book of Ser Marco Polo, 1871 and 1875; Geography of the

Upper Waters of the Oxus, 1872. Henry Yule and Captain W. Gill, R.E., the River of Golden Sand, 1880. He was in charge of the Observatory at Aden in 1840; author of an account of the Khassya Hills, Bl. As. Trans., 1854; on Native Tree Bridges, Scandinavian Antiquities; Tremendous Falls of Rain at Cherrapoonji, ibid.; Translation of the Canal Grant of the Emperor Akbar, with Notes on the Western Jumna Canal, ibid., 1839, x. p. 113.—*Dr. Buist's Catal.*

YU-MUH, nomade wandering herds. They and the Tosang fowlers are variously interspersed throughout the military jurisdictions of extra-provincial China, and are administered more or less by military functionaries. The Tosang are to be found in Kirin, and Tsitsihar of the Manchurian provinces, and Urianghai; the Yu-muh are at Chang-kia-kau, and in Ili, Jeh-ho of the map, Tarbagetai, Urianghai, Kobdo, and Tibet. There are also Yu-muh between Tibet and the Kan-suh frontier, under the minister residing at Si-ning-fu, and on the borders of Shan-si in the Kwei-hwa command.

YUNAM, also called Nam-tso, a glacier lake in Lahoul. Glacier lakes are accumulations of water formed by one glacier obstructing the outlet of a higher one, and are of frequent occurrence. At times the wall of ice breaks away before the pressure of the swollen waters, when the lower lands become suddenly inundated, and the torrent rushes on with uninterrupted violence for miles, exercising a marked influence even down to the ver parts of the rivers. Two of the most ele- d glacier lakes are the Deo-Tal, in Garhwal 745 feet), and the Nam-tso or Yunam, in (15,570 feet).

N. HIND., PERS. Greece. Yunani, a lso in India a system of medicine.

AN, a province of China, bounded on by Sze-chuen, on the south by Laos in, on the east by Kwan-se and Ho- the west by the Burman empire; a n of the N.W. is bounded by Tibet. of this province is estimated at 57,000 es, and its population at seven millions. is the most south-westerly of the provinces a proper, and contains a large number of madans. Marco Polo, whose book was en in 1295, describes the inhabitants of the ipal city as a mixed assemblage of idolators, ian Christians, and Muhammadans. The madans are said to be descendants of a 10,000 soldiers who were subsidized in m Baghdad, and then sent to colonize The Muhammadans of Yunnan are ed Pan-thay by the Burmese, and Quay by the Chinese. Pa-thi in Burmese means any Muhammadan. Yunnan is rich in gold, silver, lead, iron, copper (132 mines), tin, mercury, arsenic, and gypsum. The galena of the Khyto mines yields 104 oz. of silver to the ton of ore. In 1850, eleven thousand tons of copper were raised, and silver of value 2½ millions of francs. Its silver mines at Loosoonphoo are worked by Muhammadans, there also called Pan-thay. In 1854, the trade with Burma was valued at half a million sterling. A great traffic exists between China and the Laos States, the Siamese, the Burman Shan States of Limmai Moni, and conducted by great caravans of ponies, mules, and donkeys.—*Sirr's China.*

YURISH. PERS. Assault, storm, invasion, commonly supposed to give the English or Irish cry 'hurush.'

YUSSER, a species of kerotophyte, which abounds in the harbour of Jedda, and has a most singular effect under water, from its gently waving motion when agitated by the tide. It is of a deep-black colour. On being taken up it is flexible, but when dry it becomes very brittle. One species, if touched with the tongue, stings severely.—*Valentia's Travels*, iii. p. 320.

YUSUF and Zulcika, a romance by Ahmedi Jami, taken from the story of Joseph and Potiphar's wife.

YUSUF KHAN, the founder of the Adal Shahi dynasty at Bijapur, A.D. 1501, was the son of Amurath II. of Anatolia, born at Constantinople. After a varied career, he was purchased for the bodyguard at Beder, where he soon raised himself to distinction, and in 1501, on the defeat of Dastur Dinar, he assumed independence.

YUSUFZAI, an Afghan tribe on the N.W. frontier of India, partly within and in part beyond the British border. It comprises the independent districts of Swat and Buner to the north of the Hazarno and Mahaban range of mountains, and the level plains to the south of the mountains lying between the river Swat and the Indus. Its boundaries are Chitral and Yasin to the north, Bajawar and the Swat river to the west, the Indus to the east, and the Kābul river to the south. The southern half of Yusufzai to the south of the mountains Hazarno and Mahaban is under British rule, and corresponds with the ancient district of Peukolaitis or Pushkalavati, called also Pahkalaoti. Its inhabitants are about 140,000 Afghans and 125,000 other tribes. Water is entirely absent in the northern half.

The Yusufzai quitted their ancient habitations between Ghazni and Kandahar, and, after various unsuccessful attempts to obtain a settlement in Kābul (at the time when Mirza Ulug, surnamed Kābuli, ruled that kingdom), finally established themselves in Swat and Bajawar, which at the period were governed by a dynasty of princes styled Sultani, who derived their lineage from Alexander the Great. Bajawar is certainly the Bazira of Alexander, and the celebrated rock of Aornos ought to be situated either in Bajawar or Swat, or the adjoining country of Kuttor. The Yusufzai possess, in addition to Swat and Bajawar, the tract situated between those provinces and the rivers of Kābul and Indus.

The Yusufzai tribes now hold all the districts to the north of the Lauddaey Sind, or eastern half of the Kābul river, though they were in Baber's time new comers. Their Ranizai division all reside beyond the British border in the Sani and Bar or Swat districts. Sani Ranizai was a refuge for malcontent criminals who made inroads, and in 1852 a force under Sir Colin Campbell obtained their submission; since which they have fulfilled their engagements.

Few even of the scores of mounds which cover the plains of Yusufzai have yet been in any way investigated, much less opened; and still fewer have been the attempts to search the hills which abut on this plain, although every attempt in this direction has been abundantly rewarded. Amongst the art remains spared by the Muhammadans, with their traces of Greek origin, are such as the

nude figure in chain armour, with the Macedonian chlamys, and the Greek head of Buddha, the chin of which only is Indian, found at Jamalgarhi.

The Yusufzai are revengeful, envious, avaricious, and obstinate, fond of liberty, faithful to friends, kind to dependents.—*MacGregor*, iii. p. 43.

YUTHIA or Ayuthia, in lat. 14° 18′ N., about 72 miles up the Menam river, was formerly the chief city of Siam, but the Siamese were driven from it in 1767 by the Burmese. The country produces cotton, sugar, pepper, teak, rosewood, and other items.

YUZ BASHI. TURK. A commander of 100 horsemen.

YUZ-BEGI, a centurion chief in Ush-Turfan.

Z

Z, the twenty-sixth and last letter of the English language, is also found in most of the modern languages of Europe, also in Arabic, Persian, and Urdu. It is a sibilant consonant, and is merely a sonant or vocal s. It is quite a characteristic distinction between the Sanskritic and Semitic dialects of India, that the former are destitute of the symbol and the sound of z, whilst in the latter there are no fewer than five modifications. In the Arabic, three letters have individual powers, but, with the exception of zh, which has the sound of the French j in jour, no difference of pronunciation is made in India. The Hindu races who do not use z are not able to distinguish between z and j, so that zor, strength, becomes jor, union; roz, day, is pronounced roj, for there is not any letter corresponding to z in the Sanskrit, Hindi, Mahrati, Gujerati, Bengali, Uriya, Telugu, Carnata, Tamil, or Malealam. In the two Tamil dialects zh and l interchange, as in Pazham or Pallam, fruit.

ZAABUT. ARAB. A large, bag-sleeved, black or brown coloured robe, made of home-spun woollen, the garb of the Arab peasant, the hedge priest, and the darvesh.—*Burton's Mecca*, i. p. 24.

ZAB, the Lesser Zab or Zei, is a river of Turkish Kurdistan. Its principal source is in the Legwin valley. It descends into the plains of Assyria. Athur, a ruined city near the mouth of the Upper Zab, now usually known by the name of Nimrud, is called Ashur by the Arabic geographers; and in Athur we recognise the old name of Assyria, which Dion Cassius writes Atyria, remarking that the barbarians changed the sigma into tau.

The Greater Zab is a river of Kurdistan, which is formed by several streams running through the Jawur mountains, and converging in the S. slope of the great Kurdistan chain. It enters the Tigris below Senn at Kushuf, in lat. 35° 59′ 30″ N. —*Muller's Lectures*, p. 233; *Malcolm's Persia*, i. p. 2; *MacGregor*.

ZA-BAING, a tribe in Burma. No trace of the Mon is left along the Yuma range, tribes of the Karen family being the exclusive holders of its inner valleys. Some of the very imperfectly described tribes on the eastern side of the Irawadi, to the north of the Ka-ren-ni, viz. the Za-baing, Khyen, etc., may belong to the older immigrants.

ZAB'H. ARAB. With the Muhammadans, killing an animal for sacrifice or food. The manner prescribed is to invoke the name of God, and cut the vessels of the throat so as to exhaust the blood. It is then halāl or lawful food, and in India the term halāl karna is used. In killing wild animals or game by shooting this is not necessary. The Jews similarly make their food lawful, and a certificate of it is attached to the carcase.

ZABTI. ARABO-HIND. Resumed property, or distrained, attached, or under arrest; also, in the Panjab, crops of the more valuable kind,—poppy, sugar-cane, etc.,—on which a special acreage is charged. In the Panjab, opium is not made a Government monopoly as it is in Bengal. The people are free to cultivate it if they choose, only it ranks as a Zabti crop, and has certain higher charges made upon it.

ZABUL, also Zabulistan or Zawulistan, was a province south of Balkh and Kābul, including Seistan, and having Ghazni for its capital, but extending from Ghazni westward to the river Helmand as far as Bāst (now in ruins), with Peshin on its south, the Kach Tobah Hills on its east, Ghazni on the N.E., and the Siah Koh on the N. The name is not now current.—*Bellew*.

ZABULON. The valley of the Zabulon is narrow and well wooded. It is cultivated; but although the soil appears good, tillage is not very general. In a two hours' walk from Nazareth, Seppown is reached. It is a small town upon a height near the entrance to the vale of Zabulon. From its situation it had gained an unhappy distinction in the wars of the Holy Land. 600 Christian knights were massacred in front of it by Jappadin.—*Skinner's Journey*, i. p. 140.

ZADAH. PERS. Born, a child. It is compounded, as Shah-zadah, a prince; Shah-zadi, a princess, etc.

ZAFFAR-NAMAH, the Persian name of a work, purporting to contain a conversation between Aristotle and Buzurjmiher. See Ashraf.

ZAFRAN-i-HADID. PERS. A sesqui-chloride of iron made by burying for ten days in the ground a composition of iron filings and sal-ammoniac; the damp of the earth causes the sal ammoniac to act on the iron.—*Honigberger*.

ZAGHRITAH, a shrill cry with which Arab women welcome their wanderers home. The Egyptian word is generally pronounced Zaghrutah, the plural is Zagharit, corrupted to Ziraleet. The classical Arabic term is Tahlil; the Persians call the cry Ki. It is used by women, and is formed by raising the voice to its highest pitch, vibrating it at the same time by rolling the tongue, whose undulations express now joy, now grief. The sound so gladdening to the returner, sends a chill to the stranger's heart. —*Burton, Mecca*, iii. p. 197.

ZAGROS, a name given by Europeans to the main range of mountains separating the elevated table-land of Central Asia from the valley of the Tigris; but the people do not know such a name. The Zagros range, through the hills of Kurdistan, unite with the Armenian mountains on the north. On the south it extends by the mountains of Luristan and Khuzistan. The drainage of the Zagros range to the westward and southward flows to the Tigris, and the Shat-ul-Arab is formed by the junction of the Tigris and Euphrates, the two rivers of Mesopotamia.

ZAHAR MOHRA. HIND. Any bezoar stone.

There are several of these substances, all of them reputed amongst natives of India to be capable of extracting poison from a poisoned wound, from a snake-bite or arrow-wound. That from Khatai is more opaque and pale-yellow coloured than that from Ladakh. The zahar mohra of Ladakh and of Suket is serpentine, a hydrate of magnesia. Whether as a bezoar or as common serpentine, or as calcined bones, zahar mohra applied to a snake-bite will absorb a small quantity of the poison; but common earth, always at hand, will do better. In the Panjab, serpentine is made into cups or bowls, which are supposed to crack and split if poison is put in them. In Europe a similar superstition prevailed as to Venetian glasses, and in the middle ages opal was believed to lose its colour at the sight of poison. A compound of magnesia is dug near Iscardo, in Bultistan, and there cut and turned into cups, plates, etc. It is supposed to have a wholesome effect on any fluid put into it, and to break should poison touch it. Zahar-tor, HIND., identical with zahar mohra; its meaning is poison antidoté, from Zahar, poison, Torna, to break.—*Powell.*

ZAHT. In Burmese Buddhism, religious dramas of the higher order are called the Zaht gyee Tsé-bwe. They are ten in number, and are designed to show how Buddha in turn overcame all the deadly sins. Of these the Waythandaya is an affecting story, and prized for the beauty of its composition. The Weezaya Zaht, a secular play by the late Oo Hpo Nyah, is acted by all the Pwes (Pooays).

ZAILA and Tajowra. In 1839, after the capture of Aden, it was deemed necessary to secure command of the harbours of Zaila and Tajowra on the Donkali coast, ports in Africa, nearly opposite to Aden, and the principal outlets of the trade of Southern Abyssinia. Tajowra is a dependency of Zaila, and both places were subject to the Imams of Senaa, but during the revolutions at Senaa the chiefs of Zaila and Tajowra had assumed independence. Treaties were made, but Zaila and Tajowra subsequently fell under the government of the Turks.—*Treaties.*

ZAINAB, wife of Zaid, taken to wife by Mahomed. As Zaid was a slave, the transaction was not in accordance with the customs of the people, and no Muhammadan will defend the act.

ZAKARIYA-al-KAZWINI, son of Mahomed, son of Mahmud, was a native of Kazwin or Kasbin in Persia, author of the Asar-ul-Balad and Akbar-ul-Balad, a geographical compilation from the works of Istakhri, Ibn Haukul, and others. His works were written after the middle of the 13th century A.D., about A.D. 1263, A.H. 661, or A.D. 1273, A.H. 674. He also wrote the Ajaib-ul-Makhlukat and Gharaib-ul-Maujudat.

ZAKAT. ARAB. A tenth or tithe, a legal alms amongst the Muhammadans. It is obligatory on every Muhammadan to give annually a tenth or more of his property. The descendants of Mahomed are not allowed to accept zakāt or sadaqa. They are to be bestowed on pilgrims to Mecca, religious mendicants, debtors, beggars, poor travellers, proselytes. According to the Muhammadan religion, an alms is required to be given annually to the poor, of camels, oxen, sheep, goats, horses, mules, asses, gold, and silver, provided the property be of a specific amount, as 5 camels, 30 oxen, 40 sheep, 5 horses, 200 dirhem, or 20 dinar. The proportion is generally one-fortieth, or 2½ per cent., which is to be paid in kine or in money or other equivalent. The term means literally purification, and is metaphorically applied to a tax, as its payment is considered to purify and render legal the property on which it is paid. There are many different opinions among Muhammadan doctors relative to the proportion and mode in which this tax should be collected on property of various kinds, and amongst Muhammadans it affords a constant subject for vilification. The zakat of Ism or name is the prescribed offerings, or the attributes of the deity.—*Malcolm's Persia,* ii. pp. 249, 334.

ZALACCA, a genus of palms occurring in Malacca, Penang, Assam, and the Tenasserim Provinces. The leaves are employed as thatch and for baskets, etc.

Zalacca affinis, found at Malacca near Ching, where it is known under the name of Salak batool, which means the true salak.

Zalacca Assamica, *Wall.*, is a plant of Assam.

Zalacca conferta flourishes in very shady wet places in the great forests of Malacca, as at Ching and Katawn. It is the Asam-komber of Penang, and the Asam-paiah of the Malays of Malacca.

Zalacca edulis, *Remusat.* Z. Rumphii, *Wall.*, Calamus zalacca, *Roxb.* This tufted, short-stemmed palm has leaves varying in size from 18 to 20 feet in length, common in swampy places about Malacca, the Tenasserim Provinces, as well as in Burma. It is the Salak-komber of Penang. Its red scaly fruit is eaten by the natives. The light Selung boat in which the maritime Selung race of the Mergui Archipelago shoot over their waters, owe their buoyancy to the stems of the edible zalacca, which form their sides. These stems are as light as, and of the consistency of, cork, for which they are often substituted; and the Selung are skilful in uniting them together to serve instead of planks, so as to make an unequalled sea-boat, that floats on the waves like a swan.

Zalacca glabrescens grows in Penang, where it is called salak.

Zalacca macrostachya grows in marshy, damp, and exceedingly shady places at Ching near Malacca. It is the Rungum of the Malays.

Zalacca secundia grows in forests about Kuju in Upper Assam, the Mishmi mountains, and on the lower ranges of hills on the borders of Upper Assam.—*Seeman; Voigt; Mason's Tenasserim.*

ZAMAN SHAH was the son of Timur Shah, and grandson of Ahmad Shah. He meditated expeditions against India, but he never advanced beyond Lahore. He was defeated and blinded by Shah Mahmud, driven from the throne of Kābul, and for nearly half a century afterwards remained till his death a pensioner of the Indian Government at Ludhiana.

ZAMBESI, a river of E. Africa, which rises towards the west coast. It is navigable for 300 miles to the Kebrabasa rapid, and for other 300 miles above the rapid. Its valley is very unhealthy. Its enters the Indian Ocean in lat. 18° 51′ 40″ S., and long. 36° 18′ 30″ E.—*Findlay.*

ZAMBURUK. HIND. Wall pieces or small cannon, mounted on camels, and worked from off their backs.

ZAMINDAR. HIND., PERS. A holder or occupant of a landed estate. Zamindar was a term originally applied to hereditary Hindu chiefs,

but Muhammadans extended it to independent princes, like those of Udaipur and Jodhpur. In comparatively modern times, it has included persons holding assignments of the Government revenue, as well as district and village officers, and collectors of land revenue. In 1793 the Government of India, by an Act known as the Perpetual Settlement, recognised the zamindars and independent talukdars of Bengal, Behar, and Orissa as actual proprietors so long as they paid the Government revenue of nine-tenths of the fixed nett proceeds of the lands (Beng. Reg. viii. 1793, iii. 1794, v. 1795, ii. xxvii. 1803), and the same principle was afterwards applied to Madras (Mad. Reg. xxv. 1802, ii. 1806, iv. 1822). The Bengal settlement has been considered not only a great financial error, but also an injustice to the country.

Village landholders are distinctly recognised throughout the whole of the Bengal Presidency, except in Bengal proper, and perhaps Rohilkhand. They appear to subsist in part of Rajputana, and perhaps did so at no remote period over the whole of it. They are very numerous in Gujerat, include more than half the cultivators of the Mahratta country, and a very large portion of those in the Tamil country. They are almost extinct in the country south of the Nerbadda, except in the parts just mentioned. In all the Madras Presidency north of Madras itself, in the Nizam's country, and most of that of Nagpur, in great part of Kandesh, and the east of the Mahratta country, there is no class resembling them. This tract comprehends the greater part of the old divisions of Telingana, Orissa, and Canara. They are not mentioned in Sir John Malcolm's Central India, and are not known in Malwa. In Hindustan they are commonly called village Zamindars or Biswadars; in Behar, Malik; in Gujerat, Patel; and in the Dekhan and south of India, Mirassidar. The rights of property in the land is unequivocally recognised in the present agricultural inhabitants by descent, purchase, or gift.

The zamindari estates in the Madras Presidency have a revenue of Rs. 1,40,60,000, of which Rs. 51,32,990 is payable to Government as pesh kush or tribute. Arranging them according to their revenues, there are Vizianagram, Venkatagherri, Pittapur, Shivaganga, Ramnad, Kavetnuggur, Kalastri, Bobbili, Ettiapuram, Nedavole, and Baharzalli, Devarakota, Wyvur, Jeypur, and others. About the middle of the 19th century the zamindar of Bobbili refused the maharaja of Vizianagram his title of Munney Sultan, and his appeal was made to the Privy Council. Bobbili has been a noted place in its time. It is a zamindari of about twenty square miles in the Northern Circars, in the vicinity of Vizianagram, Vizagapatam, and Chicacole, and the rulers have been amongst the leading men in that part of the country.

Zamindar is used in the Panjab only in the sense of a mere proprietor, and not, as in Bengal, to mean a wealthy landholder of a large estate. Also, in the Panjab and Sind, this is a designation of the ordinary cultivator. The zamindars or cultivators of the soil at Jell, as throughout Cutchi, are the Jat race, who there seldom moved abroad but on bullocks, and never unless armed. A Jat might generally be seen half-naked, seated on a lean bullock, and formidably armed with matchlock and sword; but to the north and west of Cutch Gandava, as also in Herat, Kandahar, and Kābul, the Jat are to be seen as itinerant artisans, like gypsies. — *Stirling; As. Res.* xv. p. 239; *Elphin. Hist. of India*, pp. 249, 422.

ZAMORIN, a titular chief of Calicut, the Samari, descendant of a royal family who ruled over territories now comprised in the greater part of the collectorate of Malabar. The title is also said to be a dialectal change from Sami Rama (Semiramis), also from Samudri or Tamudri, Seaking. By a treaty of 18th August 1792, the zamorin agreed to act on the civil rules which the E. I. Company might introduce. Further changes were made by treaties of June 1793, in September 1794, and 15th November 1806, the last of which gave a consolidated allowance to the zamorin. Calicut town is on the Malabar coast; in lat. 11° 15¼′ N., long. 75° 47½′ E. The zamorin, in 1513, sent a deputation to Portugal, and his ambassador, who turned Christian, was knighted, under the name of John of the Cross, by John III. On returning to India, he was banished from the zamorin's court. In 1532 he appears to have been installed as the fishermen's chief, as he headed a deputation of 85 of them to Cochin, soliciting the assistance of the Portuguese against the Muhammadans. The whole of the embassy are said to have become converts to Christianity. A Portuguese fleet was sent to their relief, and 20,000 are said to have immediately consented to be baptized. Ten years subsequently, Xavier instituted a church for these people. Its name, Calicut, is from Colicodu, a cock crowing, as Cheruman Permal gave his sword and all the land within cock crow of a small temple to the zamorin, who attained considerable power in the 15th century; but in the early wars of the Portuguese, the British, and the Muhammadans of Mysore, that high place was lost. Tipu Sultan destroyed the flourishing trade. There are many of the Tiar and Moplah race here. Calicut was the first port at which Vasco da Gama arrived. It was visited in 1494 by Pedro da Covilham. — *Horsburgh; Bartolomeo's Voyage.*

ZAM-ZAM, a well near Mecca, 7 feet 8 inches in diameter, and 56 feet deep, which tradition traces to the time of Hagar and her son Ishmael, as the spring that gushed forth to relieve their thirst. Its water is exported in little tins, being considered holy. It is milky in appearance, and is heavy to the taste. When a Sindi is seen to be in the agonies of death (sakarat), all present recite the shahādat or confession of faith. If water from Zam-zam be procurable, it is dropped into the man's mouth, as a traditional saying of the prophet informs his followers that it is a meritorious deed. In 1883, Mr. E. Frankland analyzed the water, and found it to be of the most abominable character. In fact, it is sewage more than seven times as concentrated as London sewage, and it contains no less than 579 grains of solid matters per gallon. Knowing the composition of this water, and the mode of propagation of Asiatic cholera by excrementitious matters, it is not to be wondered at that outbreaks of this disease should often occur among pilgrims to Mecca, while it would scarcely be possible to provide a more effective means for the distribution of cholera poison throughout Muhammadan countries. He

received from the consul at Jedda:—'The well is in Mecca; the water is regarded as holy, and large quantities are annually sent as gifts to all Musalman countries. Most of the Muhammadan princes, especially those of India, have keepers of the well, whose duty it is to send them annually water from the well.'

ZAMZAMA, or Bhangiwala, a gun at Lahore, 14 feet 4½ inches long, cast A.D. 1761, by Shah Wali Khan. The gun on the ramparts of Bijapur, cast at Ahmadnaggur by Rumi Khan, is of huge dimensions, that on the top of Gawilgarh is 27 feet, and one on the ramparts of Beder is 21 feet.

ZAN. PERS. A woman; hence zanana, women's apartments, the women of a family.

ZANGARIA or Dzangaria derives its name from the Zangar, a branch of the Kalmuk or Western Mongolians, who suddenly acquired great power in the 18th century. Their empire stretched E. and W. from Hami to Lake Balkash, and they invaded Tibet, and sacked its capital in 1717. But in 1757 they were overthrown by the Chinese, and the whole nation perished. The Upper Ili valley is called Kulja, and it is rich land. It was occupied by Russia in 1871 to 1880, when the inhabitants were not more than 100,000. The Zangaria revolt was followed by revolts of the Dungan and Taranchi, and numbers perished. Zangaria is the natural boundary separating the Central Asiatic Kulan from the Djigitai of the Mongolian Gobi, and the limit of distribution of the Saigak, the antelope of the depressed wastes; as also of the Djeiran of the mountain table-lands. At the present time, Zangaria is inhabited by the Burut or Kirghiz proper, and the Kirghiz-Kazak of the Great Horde, known under the collective appellation of Uisun. Among these there is a tribe called the Red Uisun, who assert themselves to be the remnants of a great and powerful nation. The Buruts and Uisuns are two distinct races. The Great, Middle, and Little Kirghiz-Kazak hordes form one Cossack family, distinct from that branch of the Kirghizes called Buruts by the Chinese, and Dikokamenni by the Russians. These two family groups differ in language, extraction, and customs.—*Valikhanof.*

ZANJIRA, also written Janjirah and Jinjeera, a Mahrati form of Jazirah, an island, but applied to a territory which extends along the western sea-coast of the Peninsula of India, between the Reodunda and Bankut rivers. About the year 1489, a party of Abyssinians, in India known as Sidi and Habshi, serving the Nizam Shahi dynasty, disguised as merchants, obtained permission to land three hundred boxes, each of which contained a soldier, and by their means they obtained possession of Dhunda Rajpur. It afterwards formed part of the Bijapur Adal Shahi kingdom, under whom, in the time of Sivaji, the government of S. Konkan was held by the admiral of the Bijapur fleet, who with his crews were all Abyssinians. Being hard pressed by the Mahrattas, the officers of the fleet seem to have offered their services to Aurangzeb, then at war both with Bijapur and the Mahrattas. Since that time, up to the years 1810 or 1815, they were engaged in constant wars by sea and land. The Sidi were more dreaded than all others on the pirate coast. The town and district of Jafarabad on the Kattyawar coast is a colony from Jazirah, from which it receives a governor.—*Clune's Itinerary Treatise.*

ZANNAR, Zennar, or Jannar. ARAB., HIND., PERS. A belt, a zone; the sacred thread worn by the Brahmans, Kshatriya, Vaisya, and artisan races of Hindus.

ZANONIA CLAVIGERA. *Wall.* A trailing plant of the Khassya mountains. Z. Indica, *Linn.*, Kyee-aa, BURM. The fruit is obscurely triangular, and having the flavour of the cucumber. It climbs to the top of the loftiest trees at Alwaye, 14 miles from Cochin. Its leaves are used medicinally. Z. zehneria, *Endl.*, Kyee-aa, BURM., a plant of Tenasserim. — *Voigt; Useful Plants; Mason.*

ZANSKAR, tributary to Indus, rises on the N. declivity of Bara-lacha pass, lat. 32° 47′ N., long. 77° 33′ E., runs N.W., W., N.W., N.E., N.W., N.E., into the Indus, a few miles below Leh. Length, 150 miles; receives the Trarap, 42; Zingchan Tokpo, 22 miles. The Zanskar district of Ladakh lies along the two great branches of the river of the same name. Zanskar town, near the Indus river, occupies the north slope of the main Himalayan chain parallel with Kishtwar on the south. Padum, the capital, is 11,592 feet above the sea; the territory is in lat. 33° to 34° N., and long. 77° to 78° E.—*H. f. et T.* p. 224.

ZANZIBAR, an island on the E. coast of Africa, in lat. 6° 9′ S., and long. 39° 14′ 10″ E., which gives its name to a territory on the mainland adjoining. It and the greater part of the eastern coast of Africa were conquered by the Portuguese in the beginning of the 16th century. Driven to despair by the tyranny of their rulers, the inhabitants of Mombassa, in 1698, invited the assistance of the imam of Muscat, who expelled the Portuguese, and put many of them to the sword. It was not till 1784, however, in the time of Ahmad bin Said, that the Muscat Arabs established a permanent footing in the island of Zanzibar; and even for many years afterwards, till the accession of Syud Said in 1807, the subjection of Zanzibar was little more than nominal. In 1746, the people of Mombassa threw off allegiance to Muscat, elected Shaikh Ahmad as their sultan, and maintained their independence till 1823, when, fearing the aggression of the imam, Soleiman bin Ali, the sultan of Mombassa, with the consent of the people, put himself under British protection. A treaty in 1824 to that effect, however, was not ratified. The Zanzibar dominions extend from Cape Delgado about 1100 miles northward along the coast. In 1844, Syud Said of Muscat appointed his son Syud Khalid as his deputy and successor in Zanzibar, and his son Said Thowayni in Muscat. On their father's death, after arranging for a payment for Zanzibar, a dispute soon arose regarding the nature of this payment, and whether it implied the dependence of Zanzibar on Muscat. The matter was referred to Lord Canning, who awarded the payment of 1000 crowns in perpetuity, but declared the independence of Zanzibar. In 1879, the population consisted of British, 24; Indian Muhammadans, viz. Khojah, 2974; Bohra, 1066; Mehman, 367; and Hindus, 954; Parsees, 26; Goa Portuguese, 240; French, 39; German, 13; American, 8, with other Asiatics and Africans under the protection of the British and French.

Zanzibar or Sangbar means Negro land, and was a term in early times applied to the coast of Africa, S. of the equator, but is now restricted to the island and littoral ruled by an Arab family

of the Shiah sect of Muhammadans. The Zanzibar dominions comprise that portion of the coast included between Magdashoa in 2° north latitude, and Cape Delgado in 10° 42′ south latitude. Beyond them, to the north, are the independent Somali tribes, which extend almost to the Red Sea, where they meet the Dankali race; and on the south they are bounded by Mozambique. The extent of coast under the dominion of the Sultan of Zanzibar is about 1100 miles, but the most valuable parts of his sultanate are the islands of Zanzibar (containing the capital of the same name), Pemba, and Monfia. The first is situated at a distance of from 20 to 30 miles from the mainland. It contains none but small streams. It is a lovely island, of unbounded fertility; the mango and other trees grow to an enormous size, oranges grow in profusion everywhere, and pine-apples of large size and good flavour grow wild all over the island. The Arabs grow cloves to the neglect of other produce. The soil is a rich vegetable mould, formed by decayed plants on a bed of coral. Many rare and valuable plants grow here wild; the sarsaparilla, the copal tree, spices of all sorts, sugar-cane of immense size, and rice. Zanzibar Island at its greatest breadth is 46 miles long by 18 miles wide, but its general breadth is 8 or 9 miles, with a general height of 100 feet. Mathurdas Khetsee, a Hindu merchant of Zanzibar, at the close of the year 1872, mentioned in the Rast Goftar that Kilva and the surrounding districts were the principal seats of the slave trade. In Zanzibar and the neighbouring places, the trade had been monopolized by Arabs, as British subjects are restrained there. At Mozambique, Vibu, and the Guja territories, under the Portuguese rule, the trade flourished. On the north, the trade was still moderately carried on between Burawa and Central Madagascar, and down to Soffala. British influence had succeeded in making this trade a matter of risk, but traders carried on the slave trade under cover of the ivory trade. Bhattia, Banya, Khojah, and Borah had the greatest share in the slave trade. A large number of Borah merchants reside at the principal towns. The Indian merchants go to Samu, Mombassa, Zanzibar, Kilva, Queelowa, Mozambique, Madagascar, Soffala, and Kurmani. In 1872 there were only from 5 to 10 Khojah, about 75 Bhattia, and a very large number of Damaun and Diu Banya in Mozambique. Madagascar, called Bookin by the natives, contained about 1000 Borah and Khojah. Up to 1872, they had their families with them. There were about five Parsees in Zanzibar, about the same number in Mozambique, two or three in Vibu, and one or two others here and there, all of Damaun and Diu. They put on Parsee dress, and were strongly suspected of having some participation in it. The Cutchi Banya generally reside in Mombassa and Lamu, while the Damaun and Diu Banya live in Mozambique and the southern territories. The vessels from Damaun and Diu proceed direct to the African coast with these merchants. They live for about 30 to 35 years, collect money, and return to their native country to get married. The Cutchi Banya and Bhattia also go to Africa without their wives or families, but they keep African mistresses with them in their houses. These women generally came from Bookin and central towns of Africa, where they were to be had for 100 or 150 dollars. They have white skins and handsome complexions. In Mozambique, Vibu, and other Portuguese towns, Portuguese women, and sometimes European women, live with these Hindu merchants. Native firms correspond with Hindu and Khojah firms in Bombay. Parents sent their children in their minority to Zanzibar to get an insight into the intricacies of trade. Indian merchants have pushed in so far that not a single town is without at least one of them. From 10,000 to 20,000 slaves were said to pass yearly through Kilva on their way to the various parts of the Sowahili, and to Arabia.

ZAPANIA NODIFLORA. *Linn.*

Lippia repens, *Spreng.*	Verbena cuneata, *Willde.*
L. sarmentosa, *Spreng.*	V. nodiflora, *Linn.*
L. nodiflora, *Rich.*	
Chhoto okra, . . BENG.	Wukkun, . . . SIND.
Bhukokra, BENG., HIND.	Podu talli, . . . TAM.
Chota okra, . . ,,	Bokkena, . . . TEL.
Baleia ithi kani, MALEAL.	Nela pippali, . . ,,

An annual plant, one of the Verbenaceæ, native of the E. and W. Indies, N. America, Australia, and Polynesia, grows on streams and banks of rivers in South India. Its leaves and young shoots are used in medicine.—*Voigt.*

ZAPATOS. SP. Shoes. A Spanish word which seems to have been derived from the same source as the Chappal, HIND., the Sapate, TAM.

ZAR-AFSHAN, literally gold scattering, is one of the principal rivers of the khanate of Bokhara, known also as the Kohik, and formerly Sogd Kuwan. It rises about 175 miles to the east of Samarcand, its principal source being an immense glacier, extending 35 miles up a ravine, and here called the Macha-darya. It flows westerly towards Samarcand, which it passes a few miles to the north. At the Chobanata Hill it separates into two channels, which re-unite near the Russo-Bokharian frontier. The island thus formed, called Miankal, is the most fertile portion of Russian Turkestan. Gold is washed for at Hissar, also at Urmitan. It receives the Fan-su, several brooks, the Kishtut-su. The Zar-afshan district is one of the subdivisions of the Russian province of Turkestan. It includes all the territory annexed by the Russians from the Amir of Bokhara, except the Jezikh district, and is divided into the Samarcand and Kata Kurghan districts, the headquarters being at Samarcand.—*Trotter, Central Asia; Vambery, Bokhara*, xxxii.

ZARAFSHANI KAGHAZ. HIND. Gold-sprinkled paper, which the natives of India use when addressing people of rank.

ZARANG, the chief town of Sijistan, from which the lake formed by the Helmand and the Farrah is often called the lake of Zarang. It is the Zarrah of the maps. The Drangæ are supposed to be the Zarangæ. The vicinity affords good pasturage, and wheat and barley in sufficient quantities to be sent to Herat. Lat. 32° 15′ N., long. 61° 20′ E.—*Ferrier, Journey*, p. 429.

ZARATHUSTRA SPITAMA, the Zoroaster of Europe. According to Chevalier Bunsen, he appeared in the reign of Vistaspa, a Bactrian king, towards the year 3000 B.C. Firdusi, in the Shah Namah, gives his era as during the reign of Gushtaspi. Another author makes him a contemporary of Moses. Spitama was a Shoshyanto or fire priest, the son of Purushapa, and was born in Bactria, which he calls in his writings Berekdha

Armaiti. Ragha, now Rai, near Teheran, has been fixed on as his birthplace, but for no other reason than that it was a city governed by the priests alone. The only one of his children mentioned in his writings is his daughter Purudusta. He was a Zarathustra or high-priest, and hence was known to the Greeks as Zarastrades and Zoroastres, whence the Latin and English Zoroaster. The modern Parsees call him Zarodusht. He declared that he had a divine mission to expel all idolaters and promote the practice of agriculture, and he founded what is known as the Masdayasna or Parsee religion, which is simply the old faith of the primitive Aryan, reformed by his hymns and writings. He laid the foundation of that Zend literature which, Dr. Haug shows, required centuries for its growth, and was complete B.C. 400. He is expressly called 'the celebrated in Airyana Vaejo,' or Aryan home. To the supreme deity, whom his predecessors, the Shoshyanto sect, had worshipped as the Ahura or the living ones, who were opposed to the Deva of the idolaters, he applies the term Ahuro-Mazdao, 'that Ahura who is called Mazdao or almighty.' This name denotes a conception of the deity almost identical with the antediluvian Elohim or Jehovah. The word appears in the cuneiform inscriptions as Ahuramazada, in the times of the Sassanian kings as Ahurmazd, and in modern Persian as Ormuzd; and this one God not only rewards the righteous, but punishes the wicked. A separate evil spirit of equal power with Ahuramazda, and always opposed to him, is entirely strange to Zarathustra's theology, though the existence of such an opinion among the ancient Zoroastrians can be gathered from some later books, such as the Vendidad. 'Spentomainyus has created the light of the day, and Angromainyus the darkness of the night; the former awakens men to their duties, the latter lulls them into sleep. Life is produced by Spentomainyus, but extinguished by Angromainyus, whose hands, by releasing the soul from the fetters of the body, enable her to go up to immortality and everlasting life.' In course of time 'Spentomainyus was taken as a name of Ahuramazda himself; then of course, Angromainyus, by becoming entirely separated from Ahuramazda, was regarded as the constant adversary of Ahuramazda, and thus the dualism, God and Devil, was called forth.'

ZARBAFT. HIND. A thin fabric of silk and gold thread woven together.

ZARMANOCHEGUS, Zarmanochidus, or Zarmanochagus, a native of Broach or Cambay, who accompanied the embassy from the king of Pandiya to the emperor Augustus at Antioch. He went with Augustus to Athens, and there committed self-immolation by burning himself in the presence of the emperor. Zarmanochegus was, however, preceded by Calanus in the self-immolation. Until the time of Plutarch, the tomb of Zarmanochegus was to be seen, and was known as the Indian's tomb.—*Strabo*, lib. xv. p. 1048; *Pennant's Hindustan*, i. p. 69; *Barth.*

ZAYAT. BURM. A public shed or portico for the accommodation of travellers, loungers, and worshippers, found in every Burmese village, and attached to many pagodas. It corresponds to the dharm-sala of Northern, and the choultry or chattrum of Southern India.—*Yule's Embassy*, 23.

ZAYDEE, BURM., a Buddhist pagoda, is from the Pali Chaitya, and is also called payah. The greatest of these religious structures are the Shoay-dagon in Rangoon, the lotus shrine Shoay Maw-daw at Pegu, Shoay San-daw for the sacred hair at Prome, and the Maha-Myat-Mune temple in Mandalay. A prominent part of the ritual in dedicating a payah is to pour water drop by drop on the ground.

The Kyaik-htee-yoh is on a hill 3500 feet high. On its summit are several rock boulders, surmounted by little shrines. The Kyaik-htee-yoh boulder is huge, and rests on a projecting rock separated from the rest of the hill by a deep chasm. The boulder stands on the extreme verge of the bare rock, and hangs over it as if a gust of wind or a few extra pounds added would make it topple over, and crash down the dizzy height far away into the green valley below.

The Maha-Myat-Muni payah has a huge brass image of Gautama, which in the year 1784 was brought from Akyab. Pagahn is said to have 9999 Zaydee. A memorial line says:—

'Hlé win-yoh than ta-nyan nyan
Pagahn payah poung.'

'The cartwheel's creaking strains
Pass Pagahn's storied fanes.'

The three great Buddhist works of perfection in Burma are—(1) assistance afforded to parents and relations; (2) great offerings made in this and former existence, coupled with strict observance of the different enactments of the law; (3) benevolent dispositions towards all beings indiscriminately.

The ten great virtues are, liberality, observance of the precepts of the law, retreat into lonely places, diligence, patience, fortitude, wisdom, benevolence, truthfulness, indifference.

The five renouncings are, the giving up, for holiness' sake, of wife, goods, life, one's self.

ZEA MAYS. *Linn.* Indian Corn, Maize.

Mokka, ... BENG.	Jagung, . . . MALAY.
Pyoung-boo, . . BURM.	Yavanala, . . . SANSK.
Bollah, ... CAN.	Muwa iringu, . . SINGH.
Mukka juari, . . DUKH.	Makka-cholum, . TAM.
Kukri . . . of KANGRA.	Makka-jonna, . . . TEL.

The Zea genus of plants belongs to the natural order Panicaceæ. The word is identical with the Greek Ζειά, but the Greek plant was a species of Triticum or Hordeum, and Zea is entirely American. The Zea plants are monœcious. There are six or seven varieties of Zea mays, red and white. The American variety has been extensively distributed throughout the Himalaya hills, and the plains of the N.W. Provinces, and the Panjab; in parts of the Himalaya, to 7500 and even 8000 feet; on the Chenab and Ravi. In some parts of the Panjab it forms a staple food of the people, ground, and made into bread, but in India a large proportion of it is eaten roasted in the ear. The stalks of the plant contain a considerable quantity of sugar, which has been economically manufactured in the crystalline state in several of the South American provinces.

In the preparation of the soil for maize cultivation, plough and cultivate as for any other dry crop; the better the land is ploughed and worked the more satisfactory will be the results. Manure the soil freely, apply sheep and cattle dung, decayed leaves, ashes, brickyard dust, tank mud which has been thoroughly exposed, wild indigo, madder leaves, etc. No crop pays better for a

thorough manuring. The manure should be spread evenly over the land before the last ploughing takes place. To prevent crows, squirrels, etc., destroying the seed, tar it before sowing. Take 1½ pints (½ Madras measure) of hot water, and add to it $\frac{1}{12}$ of a pint (¼ ollock) of tar, mix together, and after cooling, pour the solution through about 20 measures of seed. After dusting with sand, ashes, or sawdust, to prevent the seeds adhering together, the grain is ready for sowing. Sow 30 lbs. per acre, in rows 24 inches apart; plant the seed about two inches deep and about nine inches apart; during growth keep down the weeds; cultivate the rows with hand-hoes and ploughs. For harvesting, when the outer covering of the cob begins to open, and the seed is hard and glazed, it is time to commence gathering. If the season be favourable, do not be in a hurry to peel the cobs. If stored with the skins on, they must be frequently examined, lest they should heat or mould. The straw is excellent fodder, and should be carefully stored for consumption during the dry season. It is most economical to chaff or steep the straw before giving it to farm stock. The cobs may be shelled when dry, and the grain used as food; or it may be used in feeding horses, cattle, or sheep. Direct experiments have proved that, weight for weight, it produces better results than gram. Mr. Robertson thinks the maize crop is one worthy of much attention in British India. —*Jameson's Report; Eng. Cyc.; Stewart, Panjab Pl.; Mason; O'Sh.; Madras Experimental Farm.*

ZEBAYER ISLANDS, in the Red Sea, comprise seven volcanic islets, viz. Jibbel Zebayer, about three miles long, the most easterly, has three hills, the central of them in lat. 15° 3½′ N., and long. 42° 18′ E. It is about 600 feet high, and the southern hill is a cone. The other islands are, Centre Peak, Saba, Connected Island, Saddle Island, Table Peak, Rugged Island, and Haycock Island, each about half a mile in length, and of moderate height. In July and August 1846, Saddle Island was observed in action, dense masses of sulphurous smoke arising from it.—*Findlay; Dr. Buist; Bom. Geo. Trans.*, 1852.

ZEBU, the Bos Indicus of Linnæus, is the B. domesticus, B. Indicus, B. zebu, and B. Taurus zebu of authors, and has many English synonyms, but that of Brahmany bull is the most usual. They occur domesticated throughout India, all Southern Asia and the Archipelago, and are largely used for draught.

Naturalists have generally made two divisions of cattle, the humped kinds of tropical countries, the zebu or Bos Indicus of India, and the common unhumped cattle, the Bos Taurus. As with dogs and pigs, the domestic cattle are certainly from more than one stock. Humped cattle were domesticated in Egypt as early as the 12th dynasty, that is, B.C. 2100, and they have greater osteological differences from common cattle than the fossil species of Europe, B. primigeneus, longifrons, and frontosus, have from each other, and their habits also differ. The zebu of India seldom seeks the shade, and never goes to stand knee-deep in the water like the cattle of Europe. They run wild in parts of Oudh and Rohilkhand, and can maintain themselves in a region infested by tigers. They have given rise to many races. The European breeds of humpless cattle are extremely numerous, perhaps fifty in number. The genus Bos readily yields to domestication. The three fossil species are the parents of those of Europe; and the B. Indicus, the yak, the gayal, the arni, and the bubalus, have all been domesticated.—*Z. in Indian Field; Jardine, Mammals of India; Darwin, Eng. Cyc.* See Bibos; Bovidæ.

ZEB-un-NISSA BEGUM, daughter of the emperor Aurangzeb, was a poetess. She wrote a diwan. Her literary takhallus or nom de plume was Makhfi, meaning anonymous.

ZEDOARY, Zedoaria.

Zerukbad, Jadwar, ARAB.	Zerumbad, . . . PERS.
Shuthi, ... BENG.	Karchura, . . SANSK.
Tien-chuh-kan-kyang, CH.	Hinhura-pecallieulla, SIN.
Kutchur, ... DUKH.	Cedoaria, ... SP.
Zedoaire, ... FR.	Pulang-kalangu, . TAM.
Zittwer, ... GER.	Kichili-gadda, . . TEL.
Capur-cachary, . HIND.	

The zedoary of commerce is the root of a plant which grows in Malabar, Ceylon, Cochin-China, etc. There are three distinct kinds, supposed to be the roots of Curcuma zedoaria, *Roxb.*, and C. zerumbet, *Roxb.* The best zedoary comes from Ceylon, where C. zerumbet grows. The odour of zedoary is fragrant, and somewhat like that of camphor; the taste biting, aromatic, and bitterish, with some degree of acrimony; was formerly employed in medicine. Zedoary is imported into Bombay from China and the Malabar coast.—*O'Sh.; Faulkner; Powell; Milburn.*

ZEHNERIA CERASIFORMIS. *Stocks.* One of the Cucurbitaceæ, a plant with a climbing or creeping stem. It grows in Gujerat, the Panjab, and Sind; is good fodder for cattle, and acts as a lactagogue.—*Murray.*

ZEND is described to have been the Achæmenian or old Persian. Until recent years, orientalists have differed as to the existence of any such language as that called Zend; but the prevalence of this language is now universally admitted. The term Zend means commentary or explanation, and was the name of the comment which accompanied the Avesta, the law, or the word. What name the language was known by in ancient times has not been discovered. It is a twin-sister of Sanskrit; and the common source of the two languages is proved not only by an unmistakeable similarity, but by the many myths and semi-divinities which are common to the oldest writings in both these languages. In what country and from what language these two great Aryan tongues arose, is a matter for conjecture.

The original texts of the Avesta were not written by Persians, as they are in a language not used in Persia; they prescribe certain customs which were unknown to Persia, and proscribe others which were current in Persia. They were written in Media by the priests of Ragha and Atropatene, in the language of Media, and they exhibit the ideas of the sacerdotal class under the Achæmenian dynasty.

If grammars and lexicons of this language ever existed, they have not come down to modern times. Translators have nothing to work upon but the texts themselves. The traditional school seeks to explain them by the writings of later times in other languages; the comparative school approaches them through the old Vedic Sanskrit. According to this school, 'the Avesta and the Veda are two echoes of one and the same voice, the reflex of one and the same thought; the Vedas therefore are both the best lexicon and the

best commentary to the Avesta.' At the head of the former school stands Spiegel, and Burnouf was the great founder of the latter. Neither of these methods can be implicitly trusted. There is no disputing the close affinity of the Vedic Sanskrit and the language of the Avesta, but these two languages must have existed apart for a long time before the Vedas and the Avesta were composed. They show a great difference in the spelling of words which were once identical; and if the forms of words changed, their significations could hardly have been exempt from variation, of which two examples are convincing proofs,—Sanskrit, Deva, a god; Zend, Daeva, a demon; Sanskrit, Asura, a demon; Zend, Ahura, a god.

The period when the Zend texts were collected and formed into the Avesta has not been ascertained; but it seems possible to trace a Zoroastrian literature back to the 3d century before Christ; and although some portions of the Avesta are evidently later in time than the rest, 'no part of them can belong to a later date' than the 4th century A.D. The date of the collection must have been long posterior to the composition of the component parts. How and when these productions first made their appearance is a matter for pure speculation.

The Zend-Avesta is divided into two parts. The Avesta, properly so called, contains the Vendidad, the Vispērad, and the Yaçna. The Vendidad is a compilation of religious laws and of mythical tales; the Vispērad is a collection of litanies for the sacrifice; and the Yaçna is composed of litanies of the same kind, and of five hymns or Gathas written in a special dialect, older than the general language of the Avesta. The Khord-Avesta or small Avesta is composed of short prayers, which are recited at certain moments of the day, month, or year, and in presence of the different elements. The proper form of the name is Avesta Zend, a softened form of Avesta wa Zend, *i.e.* text and comment or explanation. Its Pehlevi form is Apistak, the Pastak and Pastakum of the Mahrati and Telugu.

A Pehlevi translation of the more important books, supposed to have been made under the Sassanidæ (A.D. 235-640), is extant, and a Sanskrit translation of the Yaçna, made about the end of the 15th century by Nerio Singh.

Anquetil de Perron in 1771 made a translation of it; Burnouf gave a version of the first and ninth chapters of the Yaçna in 1833; and Martin Haug, of the Gathas in 1858-60, and other fragments.

The Zend-Avesta was printed by Westergaard in 1852-54, and printed and translated by Spiegel in 1851-58, and translated in 1880 by Professor James Darmesteter.

The Gatha are songs; the Yaçna consists of prayers, hymns, etc., relating to sacrificial rites, and intended to be used during the performance of sacrifice. Several of the Gatha are ascribed to Zoroaster, who, according to Berosus, lived anterior to B.C. 2000. Haug supposed the Zoroastrian Gathas to be as early as the time of Moses. The first Fargard of the Vendidad must have been composed before the migration of the Medes southward from the Caspian region.—*G. Rawlinson*, ii. p. 322; *The Sacred Books of the East.*

ZENGABAD, the country of the tribe of Karim Khan, king of Persia, whose dynasty was overthrown by the Kajar tribe, that of the present king. When they came first into these parts, they were nomades, but they are now settled in villages. There are a great many besides established in Zengabad, and many in the Pasha of Baghdad's army. Their clans are—Kerwei of the Feili tribe, Lor, Sedeni, Goorzei.

ZENOBIA, queen of Palmyra, was wife of Odenathus. After her husband's death, A.D. 266, she assumed the throne as regent for her sons. She appeared in military attire at the head of her troops, and shared in their labours both on horseback and on foot; but she ambitiously endeavoured to subdue all Syria, Western Asia, and Egypt. The emperor Aurelian overthrew the city and took her prisoner, and in his triumph she was shown to all Rome, covered with costly jewels, fettered hands and feet with shackles of gold. She was led by a golden chain before the chariot of Aurelian along the Sacred Way. All Rome gazed on the Arab princess. She passed the remainder of her life with her sons, in the neighbourhood of Tivoli, near Hadrian's villa, on an estate which still bore her name when Pollio wrote her history. She is accused of having yielded to the promptings of jealousy, and of having consented to the death of her husband, because he seemed to prefer Herodes, his son by a former wife, to Herennianus and Timolaus, his children by herself. See Palmyra.

ZIARAT. Pilgrimage to a Muhammadan saint's shrine; also the visiting of the grave of a Muhammadan relative, or other deceased person, on the third day after burial, when the Koran is read, and prayers are recited and offerings made in expiation of the sins of the deceased. This visit is also called Tija, the third (day), and Phul-Charhana, spreading flowers. Places for these minor pilgrimages are the tomb of Ali, called Mash'hid-i-Ali, at Nejeff, near Kufa, the shrine of Imam Husain at Karbela, and that of Imam Raza at Mash'hid in Khorasan; but all the numerous Imam-zadehs and tombs of holy characters throughout the country are thus visited. The minor pilgrimage is termed a Ziarat, as distinguished from the Hajj, or great pilgrimage to Mecca.

ZIBELLINA, the Khatun Bulugan, became wife of Arghun Khan; she had been married to Abaka, but on his demise, according to the custom of the Mongols, she passed to the urda of her stepson, Arghun Khan, Kablai Khan's great nephew. Zibellina, the Khatun Bulugan, was a lady of great beauty and ability. On her death, Arghun sent Marco Polo for another wife out of the Mongol tribe of Bayaut, but Arghun died before the lady, Kuka-Chin, was brought, and she passed to Ghazan, the nephew of Arghun, for Arghun had been succeeded by Kai-Khatu, his brother.—*Quart. Rev.*, July 1868.

ZIEGENBALG, BARTHOLOMEW. Ziegenbalg was the first Protestant missionary in India. He sailed for India in 1705, and for a time returned to Europe in 1714. In 1719 he finished his Tamil translation of the Bible, which had occupied him 14 years. George I. of Great Britain wrote two letters to Ziegenbalg, on the 23d August 1717 and 23d February 1727, congratulating him on his success. He wrote a Genealogy of the South Indian Gods, printed at Madras 1869.

ZIFFAF. ARAB., HIND. Leading a bride home.

ZIFT-i-RATB and Zift-i-Yabis. PERS. Ratianaj and catrain are varieties of resin, colophony, and dried tar. Zift-i-Rumi, HIND., also dried tar; Zift-i-Ratab and Zift-i-Yabis, pine resin or tar, etc. Zift-Rumi, asphaltum or black bitumen, is a deep-black, pitch-like solid; hard, softens at 150°, and melts above that; highly inflammable, believed to be the result of the natural distillation of petroleum. It is produced in abundance in Barbadoes and Mesopotamia. It is a valuable lacquer for the protection of iron or tinned iron vessels. A lump rubbed over the heated metal, coats it with a hard, adhesive, brilliant coat, which resists most of the common corrosive agents.—*Powell.*

ZIKKIR or Zikr. ARAB. Reminiscences; amongst Muhammadans, repeating the attributes of God or the creed, also devotion towards the deity; calling on the Lord; the term by which the Rafai darveshes designate their religious services. The zikkir of the Maulavi darvesh commence their religious service with part of a mystic poem, using soft music and plaintive love songs. See Jalal-ud-Din.

ZILHUJ or Zilhujja, the last month of the Muhammadan year.

ZILLAH. PERS. In India, a district or local division of a country. In British India, each province is divided into zillahs or districts, under collectors and magistrates or deputy commissioners, with joint or deputy assistants, and extra-assistants. In the Bengal Presidency, these districts are in most cases grouped into divisions, each under a commissioner supervised by a revenue board or financial commissioner. English counties average 1000 square miles in extent. In India they are much larger. In Bombay, for instance, collectorates average about 6000 square miles, and Kandesh is supposed to be 15,000 square miles. Plural, Zillahjat.

ZIMB. ABYSS. Dog-fly.

T'zirah, Zabub, AR., HEB. | Glossina morsitans, LAT.

The zimb insect is translated hornet in Exodus xxiii. 28; Deuteronomy vii. 20; Joshua xxiv. 12. It is difficult to conceive that Isaiah could have in view any other insect when he says—'The Lord shall hiss for the fly that is in the uttermost part of the rivers of Egypt' (Isaiah vii. 18). The original word rendered fly in the translation is Zabub, and, as Bruce observes, 'the Chaldee version is content with calling this animal simply Zabub, which signifies the fly in general, as we express it in English. The Arabs call it Zimb in their translation, which has the same general signification. The Ethiopic translation calls it Tsaltsalya, which is the true name of the particular fly in Geer, and was the same in Hebrew.' Bruce has given a graphic account of this fly. The Latin Asilus and the Greek οἶστρος were probably only different pronunciations of the same term, Hatsirah, as this fly is called both by Moses and Joshua. Dr. Harris gives as names of flies, the Oreb of Exodus viii. 21; the Zebub of 2 Kings i. 2, 3, 6, 16, and Psalm cxviii. 12; the T-sira of Exodus xxiii. 28, Joshua xxiv. 12, Deuteronomy vii. 20.—*Kirby and Spence, Entomology; Harris, Nat. Hist. of the Bible*, p. 139.

ZIMMAY is the northernmost Shan State tributary to Siam, and lies about three weeks' journey from Moulmein, and forty days' from Bangkok. The prince or chief of Zimmay is nominally subordinate to the king of Siam, to whom a yearly tribute of very trifling value is paid. In reality, however, the control exercised from Bangkok has been of the slenderest kind, the Zimmay people accepting the suzerainty of Siam merely as one degree less objectionable than that of the Burmese, whom they dislike very strongly. Various reasons exist for the inefficient control exercised from Bangkok, not the least being the length and difficulty of communication between Bangkok and Zimmay, and the disturbed condition of Zimmay and the adjacent Shan States.

ZINAT-un-NISSA, daughter of the emperor Aurangzeb. Kazi Shahab-ud-Din, following Khafi Khan, states that in her young days she became attached to the young raja Sahoo, and the two young people having been allowed to grow up together, on one occasion, Aurangzeb, observing them in the same room, forbade all future intercourse. Aurangzeb died at Ahmadnaggur in the Dekhan, where he was provisionally interred (somp gya), and his remains were afterwards finally placed in a tomb on the hill at Roza near Dowlatabad, and over his remains is a very simple cupola or dome. At Aurangabad, however, is the splendid tomb of this daughter. The author of Travels of a Hindu states that the Zinat-Masjid, more commonly called the Kumari-Masjid, or Maiden's Mosque, was built by Zinat-un-Nissa, the virgin daughter of Aurangzeb, who, like Jahanara, remained unmarried. The princess who built it having declined entering into the married state, laid out a large sum of money in the above mosque, and on completing it she built a small sepulchre of white marble, surrounded by a wall of the same, in the west corner of the terrace. In this tomb, he says, she was buried, in the year of the Hijira 1122, corresponding with the year of Christ 1710.—*Tr. Hind.* ii. p. 312.

ZINC, Speltre.

Peh-yuen, Peh-t'ung,	CHIN.	Sang-fusri, . .	IT., SP.
Sung busri, . . .	DUKH.	Tambaga-putih,	MALAY.
Spelter, ...	DUT.	Schpaater, . . .	RUS.
Zinco, Chinck, .	IT., SP.	Tutanagam, . . .	TAM.

Zinc was first mentioned by Paracelsus in the 16th century, under the name of zinetum. Zinc is found in the state of an oxide, but principally as a sulphuret (blende), and an impure carbonate (calamine). From both ores it is first converted into an oxide by the process of roasting, and then reduced to the metallic form by the aid of carbonaceous matter, when it may either be fused or sublimed. Until purified by a second distillation, it contains as impurities, small portions of other metals, as iron, copper, arsenic, etc. In British India, zinc is used in forming alloys; of these, there are alloys with lead, chiefly used on account of the facility with which it can be turned or filed. 1 lb. of copper to 2 oz. yields a red-coloured ductile alloy; with 6 oz. is common pot-metal, brittle when warmed.

ZINGIBER CASSUMUNAR. *Roxb.*

Z. purpureum, *Roxb.* | Z. Cliffordii, *Andr.*

Ban ada, . . .	BENG.	Karu allamu, . . .	TEL.
Vana-adrakam, .	SANSK.	Kura pasupu, . .	,,

Grows throughout British India, and has a strong camphoraceous smell. Rhizoma much larger than that of common ginger; smells camphor-like, tastes hot and bitterish; now very little used.—*Roxb.*

ZINGIBER OFFICINALE. *Roscoe.*

Amomum zingiber, *Linn.*

Zinjabil, Zingabil, ARAB.	Ischi, ... MALEAL.
Khyen-seing, . . BURM.	Zinjabil, ... PERS.
Kan-kiang, Peh-kiang, CH.	Adraka, . . . SANSK.
Adrak, Ada, . . HIND.	Ammu inguru, . SINGH.
Sonth (dry ginger), ,,	Inji, ... TAM.
Alia, ... MALAY.	Allam, ... TEL.

The native country of the common ginger plant is not known; but it is cultivated in all the warmer parts of Asia and on the slopes of the Himalaya up to 5000 feet. Its flowers are small, whitish-purple, but it very rarely seeds; the roots are greatly increased. It is planted at the commencement of the rains in beds of about six feet square, and in a rich cultivated soil. The planting consists in dividing part of the green root, which the natives first soak in a mixture of cow-dung and water; it is then planted about two inches deep and about one foot apart. It requires a great deal of water, and to be kept clear of weeds. When the stalks dry, the ginger may be taken up; although it is sometimes left in the ground for a couple of years. It must be watered during the dry season, from October or November up to February and March.—*O'Sh.; Roxb.; Mason; Smith.*

ZINGIBER ZERUMBET. *Roscoe.*

Amom. zerumbet, *Willd.*	Zingiber spurium, *Kon.*
Butch, . . BENG., HIND.	Walinguru, . . SINGH.

Found in the island of Ceylon and in the woods about Calcutta; the taste of the root resembles that of ginger, but is bitter as well as aromatic. This plant is much used for cataplasms and fomentations, but is not taken internally. It is not used in medicine by European practitioners.—*O'Sh.* p. 648.

ZIRCON. Its pellucid varieties are gems; jargoon is of a dull green; hyacinch or jacinth has a peculiar red tint; and there are yellow and blue tints, but these are rare. The more pellucid and colourless zircon, from its exceptionally high refractive power, approaches even the diamond in brilliancy.

ZIZYPHUS, a genus of plants of the natural order Rhamnaceæ. Besides those noticed below, several species occur in S.E. Asia, viz.:—Z. albens, *Roxb.*, China; glabra, *Roxb.*, Chittagong; incurva, *Roxb.*, Dehra Doon; jujuba, *Lam.*, British India, Archipelago; lotus, *Lam., Pers.*, N. Africa; Mirzaporensis, *Royle*, Shergotti; nitida, *Roxb.*, China; Roxburghiana, —? Chittagong; rugosa, *Lam.*, British India.

ZIZYPHUS FLEXUOSA. *Wall.*

Beri, ... CHENAB.	Barj, Ban, . . KANGRA.
Sinjli, Simil, . KANGRA.	Ber-relnu, . . . RAVI.

A large shrub or small tree, has a girth of 4 to 5 feet; it grows in N.W. Himalaya, not uncommon at places from 2400 to 6500 feet, from the Ravi to near the Indus.—*Cleghorn; Stewart.*

ZIZYPHUS GLABRATA. *Heyne.*

Zizyphus trinervia, *Roxb. Fl. Ind.*

Ran-bor, ... MAHR.	Karukuva, . . . TAM.
Kurkatta, . . . TAM.	Kakupala, . . . TEL.

This moderate-sized tree grows in the Peninsula of India. In the Bombay Presidency it is most common in cultivated lands and in alluvial soil on the banks of rivers. In Coimbatore, trees would yield 12-inch planks, but it is commonly a moderate-sized tree. Its timber, of a light-brownish colour, is excellent, hard, and close-grained, and takes an excellent polish. The bark affords a quantity of kino-like gum both by exudation and by decoction.—*Wight; Gibson; Voigt.*

ZIZYPHUS JUJUBA. *Lam.* Jujube tree.

Z. trinervia, *Roth.*	Z. sororia, *Schult.*
Z. Mauritiana, *Wall.*	Rhamnus jujuba, *Linn.*
Zruf, Ussli suddir, ARAB.	Bidara, ... MALAY.
Kul, Budri, . . BENG.	Elentha, . . MALEAL.
Hyi-bin, Hzee, . BURM.	Perin todali, . ,,
Elanji mara, . . CAN.	Maha-debara, . . SINGH.
Gulimara, . . . ,,	Ellendi, ... TAM.
Ber, ... HIND.	Regu manu, . . . TEL.

This tree is found everywhere in the south and east of Asia. There are several varieties in the Panjab, Z. hortensis, Z. hysudricus. It is the Pomum Adami of Marco Polo. Its wood is tough, strong, and durable, is used for carpentry, well curbs, well wheels, and ploughs, and for making charcoal. By grafting and cultivation, it affords a large fruit. The fruit of the wild kind is dried and powdered, as was done with the lotus of the Lotophagi. This powder in Arabia is called Suve koon nebek, in Persian Arud-i-kinar, in Hindi Ber choonee. The bark is used in the Moluccas as a remedy for diarrhœa; the root, with some warm seeds, in infusion in fever. The lozenges, and thickened mucilage called jujubes by the confectioners, are prepared from this and from the Z. vulgaris, a native of Syria, Persia, and Hindustan. A variety with long fruit, described by Dr. Wallich, is called in Bengal Narikeli kool. Its reddish-coloured round fruit is about the size of a large olive, and is used in chatnies and pickles. The uncultivated fruit when nearly ripe tastes like a crab-apple; it is a small sour berry.

ZIZYPHUS NUMMULARIA. *W. and A.*

Birar, ... BEAS.	Malla, Kokni ber, PANJ.
Jar-beri, . . . HIND.	Karkanra, . . PUSHTU.
Jand-ber, . . JHELUM.	Birosa, . . SALT RANGE.
Jareri, ... PANJ.	

This small thorny shrub grows in N.W. India, and abundantly in the Panjab. It is used for hedges, and its bark as a tanning substance. It is eminently characteristic of a dry climate, being common in the most desert and rainless districts of the Panjab. Its fruit is a small red drupe the size of a pea, and considered by natives cool and astringent, useful in bilious affections.—*Powell; Thomson's Tr.* p. 305.

ZIZYPHUS ŒNOPLIA. *Mill.*

Zizyphus napeca, *Roxb.*	Erra-minya-wel, . SINGH.
Kan-hzee, . . . BURM.	Koattay maram, . . TAM.
Pen-lay-hzee, . . ,,	Paringi, ... TEL.

This shrub is common in Ceylon, in Bengal, and in the Peninsula of India. Dr. Gibson had never seen it in the Bombay Presidency, but as a climber; and Wight says if used at all at Coimbatore, it can only be for small ornamental work. The bark affords a good deal of kino, and dyes leather red. Fruit eaten by the natives, its taste being pleasantly acid, and a great favourite with the thirsty traveller, and mice are fond of it. Its leaves are eaten by the lac insect. A decoction of the bark of the fresh root is said to promote the healing of recent wounds.—*Roxb.*

ZIZYPHUS VULGARIS. *Lam.*

Kandika, ... BEAS.	Kokan ber, . . JHELUM.
Fitni, Pitni, Ber, HIND.	Amlai, ... SUTLEJ.

This common wild fruit tree grows in almost every jungle in British India. It is cultivated by

Muhammadans round their tombs. The fruit is astringent, but sometimes of a pleasant subacid flavour,—eaten chiefly by the poorer classes and wild animals. The fruit is oblong, containing a stone, and bears twice in the year, the best crop about January. After this is over, the tree is pruned, by cutting off nearly all the smaller branches. A second crop succeeds on the new wood in the rains, but, from being full of maggots, is not eatable; even in the cold weather very little of the fruit is free from this insect. The flavour is somewhat that of a fresh apple, and the fruit when large and fine is by no means to be despised. Dr. Riddell succeeded best by budding from a good tree on a common stock raised from seed. It will bear well in two or three years, but requires care and watering at first. A fine gum lac is produced from this tree. The cocoon of the wild silk-worm is often found attached to it. It is common at many places in the Panjab Himalaya, especially towards the west at from 2000 to 4000 feet, and in Kashmir to 6000 feet. It also occurs in the Salt Range, and is occasionally found in gardens in the Panjab. The fruit is small and sour, but is eaten.—*Stewart; Riddell.*

ZIZYPHUS XYLOPYRA. *Willd.*

Z. elliptica, Roxb.	*Z. orbicularis, Schult.*
Z. caracutta, Roxb.	Rhamnus xylopyrus, *Retz.*
Z. rotundifolia, Roth.	
Sooti, ... BOMBAY.	Gatte, ... TEL.
Gumun mara, . . CAN.	

This small thorny tree grows in the hot dry parts of Ceylon, and throughout the south of India, and can always be recognised by the pale colour and softness of the under-surface of its leaves. It is most common below the ghats in Canara and Sunda, but it never grows to a very large size. It is common in every forest on the coast of Coromandel. In a good soil it grows to be a pretty large tree, with a tolerably erect trunk; but in general it is found in the state of a large straggling shrub. Cattle eat the leaves, young shoots, and fruit. The kernels taste like filberts, and are eaten by the natives. The wood of the largest trees is much esteemed by the natives, being yellowish or orange-coloured, very hard and durable, and at the same time not very heavy. The wood is used for implements, and its round fruit is employed in the arts, being much used by shoemakers to blacken leather and to make blacking.

ZOBEIDAH, wife of Harun-ur-Rashid, authoress of the Arabian Nights. She is buried at Baghdad. A pine-apple spire rises over the tomb.

ZODIAC. The following are the Sanskrit names of the signs of the zodiac, with the months and the corresponding astronomical periods:—

Sign.		Hindu Month.	d.	h.	m.
Mesha	(Aries),	Vaisakh,	30	22	12·8
Vrisha	(Taurus),	Jyesht,	31	9	40·8
Mithuna	(Gemini),	Ashadh,	31	14	39·2
Karkata	(Cancer),	Sravan,	31	11	16·8
Sinha	(Leo),	Bhadra,	31	0	52·0
Kanya	(Virgo),	Aswin,	30	10	56·8
Tula	(Libra),	Kartik,	29	21	38·8
Vrishika	(Scorpio),	Margashirsh or Agrahayan,	29	12	9·6
Dhanus	(Saggitarius),	Paush,	29	8	21·2
Makara	(Capricornus),	Magha,	29	10	54·4
Kumbha	(Aquarius),	Phalgun,	29	19	21·6
Mina	(Pisces),	Chaitr,	30	8	8·4
Total (according to the Parasara Siddhanta), ...			365	6	12·54

The Hindu astronomers knew the Greek names of the signs, which, however, have never been brought into ordinary use, viz. Kriya, Tauru, Jituma, Kulira, Leya, Parthona, Juka, Korpya, Tauxika, Akokero, Hridoga, Isthusi.

Hindu astronomers have divided the zodiac into 27 equal parts, called lunar mansions, of 13° 20′ each. Their names are—

Aswini.	Magha.	Mula.
Bharani.	P. Phalguni.	P. Ashadha.
Krittika.	U. Phalguni.	U. Ashadha.
Rohini.	Hasta.	Sravana.
Mrigasiras.	Chitra.	Dhanishtha.
Ardra.	Swati.	Sata-bhisha.
Punarvasu.	Visakha.	P. Bhadrapada.
Pushya.	Anuradha.	U. Bhadrapada.
Aslesha.	Jyeshtha.	Revati.

According to Mr. Colebrooke, at the epoch of the Vedas the summer solstice was in the middle of Aslesha, the 9th lunar mansion; therefore Regulus was half a lunar mansion + 9°, that is 15° 40′, east of the summer solstice at that time. On 1st January 1859, the long. of Regulus was 147° 52′ 30″. Hence Regulus was at that date 57° 52′ 30″ east of the summer solstice. The summer solstice had therefore retrograded through 42° 12′ 30″ = 42°·208 since the epoch of the Vedas. And as the equinoxes and solstices move backward on the ecliptic at the rate of 1° in 72 years, it must have occupied 70 × 42°·208 = 3039 years to effect the change. Hence the age of the Vedas was 3039 on 1st January 1859, or their date is B.C. 1181, *i.e.* the early part of the 12th century before the Christian era.—*Archdeacon Pratt in Beng. As. Soc. Journ.* No. 1 of 1862.

ZODIACAL LIGHT. This, in the Red Sea and in Bombay, is far brighter than in England. Flashes of light, coruscations of the aurora borealis, in pyramidal form, would exactly describe the phenomenon. It varies, however, greatly, and often for some days together is scarcely visible.—*Burton's Mecca*, i. p. 307.

ZOHAK, a ruined city 9 miles from Bamian, built solidly with great skill and taste, and of burnt bricks. Abul Fazl thinks it was a fortress. Masson regards it as a religious structure.—*MacGregor*, p. 728.

ZOHAK, a mythical king of Persia; according to tradition, he came from Arabia.

ZONAR. HIND., PERS.

Poita, Poitu, . . BENG.	Yajnopavita, . . SANSK.
Janeo, Janar, . . HIND.	Janavi, ... „
Janwez, ... MAHR.	Jhandiam, Zendiam, „
Pavitra, ... SANSK.	Yadnu-pavita, . „

The zonar is regarded by the Brahmans as of sacred import; and they do not consider an individual as fully member of his class until he has assumed this symbol. Some writers call this the Brahmanical, priestly, or sacerdotal cord; but it is worn by the Brahman, Kshatriya, and Vaisya castes, by the Bed or herbalists of Bengal, by the five komsallar or artisan castes of the Dekhan, carpenters, goldsmiths, coppersmiths, blacksmiths, and stone-cutters, and also by the Parsee Zoroastrians. The zonar, however, is different for each of the races who wear it. It is imposed with solemnity, whence the three castes are termed Dwija, or twice-born. The investiture, with its accompanying formulæ, is considered to indicate the regeneration of the individual. The rite is applicable to all the three superior castes, or the Brahman, Kshatriya, and Vaisya, to each of

whom the term Dwija is appropriate; although, as the two latter are considered to be extinct, it now signifies the Brahman only. The cord of the Brahman should be made of cotton, that of the Kshatriya of a kind of grass, and that of the Vaisya of woollen thread. The investiture of the first should take place between the ages of five and sixteen; of the second, between six and twenty-two; and of the third, between eight and twenty-four. If delayed beyond the latter period, the individual is considered degraded from his caste. An essential part of the ceremony is the communication of the Gayatri or holiest verse of the Vedas. Various ceremonies are attendant upon Hindu boys between infancy and the age of eight years. After that age, and before a boy is fifteen, it is imperative upon him to receive this sacred thread, which, after a variety of preliminary ceremonies, is thus performed. The priest first offers a burnt sacrifice, and worships the salagrama, repeating a number of prayers. The boy's white garments are then taken off, and he is dressed in yellow or red, and a cloth is brought over his head, that no Sudra may see his face; after which he takes in his right hand a branch of the vilva, Ægle marmelos, and a piece of cloth in the form of a pouch, and places the branch on his shoulder. A poita of three threads, made of the fibres of the suru, to which a piece of deer's skin is fastened, is suspended from the boy's left shoulder, falling under his right arm, during the reading of the invocations. The father of the boy then repeats certain formulas, and in a low voice pronounces three times the Gayatri. It is communicable to all three, and is the following: 'O'm! Bhurbhuvă ssuvâha, O'm! Tatsa vit'hru varennyâm; B'hargo devâssyâ dhimahi dhiyo yonaha pracho dayath. Om! earth, air, heaven, O'm! Let us meditate on the supreme splendour of the divine Sun; may he illuminate our understanding.' After this the suru poita is taken off, and the real poita, or sacred thread, put on. During this ceremony the father repeats certain formulas; the suru poita is fastened to the vilva staff, shoes are put on the boy's feet, and an umbrella in his hand. The receiving of the poita is considered as the second birth of a Hindu, who is from that time denominated twice-born. A boy cannot be married till he has received the poita. The sacred thread must be made by a religious Brahman. It consists of three strings, each 96 hands (48 yards), which are twisted together; it is then folded into three, and again twisted; these are a second time folded into the same number, and tied at each end in knots. It is worn over the left shoulder (next the skin, extending half-way down the right thigh) by the Brahman, Kshatriya, and Vaisya castes. The first are usually invested with it at eight years of age, the second at eleven, and the Vaisya at twelve. The period may, from special causes, be deferred; but it is indispensable that it should be received, or the parties omitting it become outcastes. Colonel Tod, describing a gift to the Saiva temple of Eklinga, mentions that in return, the donor, who was the prince of Mewar, received lessons of morality, was initiated into the mysterious rites of Siva, and finally was invested with the triple cordon of faith (tin purwa zonar) by the hands of the sage, who became his spiritual guide, and bestowed on his pupil the title of regent (dewan) of Eklinga. When the Carthaginian gained the battle of Canna, he measured his success by the bushels of rings taken from the fingers of the equestrian Romans who fell in that memorable field. Akbar estimated his by the quantity of cordons (zonar) of distinction taken from the necks of the Rajputs, and seventy-four and a half 'man' are the recorded amount. To eternize the memory of this disaster, the numerals 74½ are, amongst the Rajput race, tilac, or accursed. Marked on the banker's letter in Rajasthan, it is the strongest of seals, for the sin of the slaughter of Chitore is thereby invoked on all who violate a letter under the safeguard of this mysterious number. Something like the zonar was ordered in Numbers xv. 38, in the fringes to be attached to the Arba bamforth on his breast, and which every Jew still wears.—*Tod's Rajasthan*, i. pp. 225, 328; *Cole. Myth. Hind.* p. 154; *Wilson's Hindu Theatre*, p. 163; *Moor's Hindoo Pantheon; Chow-Chow.*

ZONARIA PAVONIA. *Ag.* The Turkey feathered zonaria is a beautiful sea-weed, one of the Fucaceæ. It grows in all seas, attached to rocks, shells, etc. It resembles the expanded tail of the peacock.—*J. A. Murray.*

ZOOLOGICAL GARDENS were formed in Madras by Surgeon-Major Balfour in 1856. The collection comprised an aviary, snakes, the orang-utang and others of the monkey tribe, lemurs, armadilloes, bears, hyænas, tigers, the last given by Lord Harris. It was in connection with the Government Central Museum which he established in that city. The animals were afterwards removed to the People's Park in that city.

ZOOPHYTE, from the Greek Ζωον, animal, and Φυτον, a plant. The characteristic example of this class of creatures is to be seen in the coral, and authors divide them into

I. Protozoa, including Infusoria, Foraminifera, and Spongiadæ.

II. Polypifera, including the Hydræ, Sertularia, and Pennatularia.

III. Echinodermata, or sea-urchins and star-fishes.

The Protozoa are subdivided into Rhizopoda and Infusoria. The Amibæ, Foraminifera, and Noctilucæ are three orders of Rhizopoda. The Infusoria exist in all waters. The Ganges annually transports them to the ocean, to the extent of six or eight times the size of the Great Pyramid of Egypt. And the waters at a depth of 22,000 feet between the Philippines and Marianne Islands yielded 116 species.

The Polypifera, the polypi, correspond with the polype of science and the acalephous zoophytes of Cuvier. In nearly all the polype, the sexes are separate. They are arranged into the classes Sponge, Alcyonidæ, Zoantharia, Discophora, and Ctenophora.

The name is from the Greek πολυπους, meaning many-footed. The name is sometimes applied in a restricted sense for the genus hydra, but it usually comprises the animals of all zoophytes of the genera actinia, astrea, caryophyllea, corallium, hydra, isis, madrepora, meandrina, oculium, pocillopora, porita, sertularia, tubipora, and others.

The sponge animal lives at the bottom of the sea, and consists of a mass of light elastic tissue. Over three hundred species are known, amongst them are the feather, fan, bell, lyre, trumpet, distaff, peacock tail, and Neptune's glove sponge.

River sponges are irregular sandy masses, piled on plants and solid bodies in fresh water. The sea sponge is found in the Mediterranean, Red Sea, Mexican Gulf, and eastern seas, attached to rocks at from 5 to 25 fathoms deep. In the Red Sea, the Arabs dive for them and sell them in Egypt and at Aden. The Spongia, Calcispongia, Halispongia, and Spongilla constitute a group of which the constituent structure is known. The Geodia, Cœloptychium, Siphonia, Myrmecium, Scyphia, Endea, Halirrhoa, Happalimus, Cnemidium, Jerea, and Teuthium constitute another group, depending on characters of surface and general figure.

Some species of polypi live in large companies, and secrete a habitation or basis, to which the term polypidom has been applied; others live apart, like the hydra, floating about separately in the water, or, like the anemone, fixed one by one to the rocks. They have attracted the attention of the most learned naturalists from the time of Aristotle to the present day. The bright-red substance of the polypidom of the Corallium nobilis is the red coral of commerce, which, after pearls, for ornamental jewellery is the most precious product of the sea. It occurs chiefly in the Mediterranean, where it is dredged for. Sicilian coral has fetched as much as £10, 10s. the ounce.

The polyps are propagated by eggs, by buds, and by self-division. The polypidom of Tubipora musica of the Indian Ocean, is composed of a series of bright-red calcareous tubes, like those of an organ.

The Madrepora abound near the islands of the Indian and Pacific Oceans, and cover the banks and reefs near the Australian shores, particularly M. muricata, *Linn.* It is used for ornament, and is the Corne de Dame or Char de Neptune of the French.—*Newton's Levant*, p. 293; *Hatchett; Royle; Figuier; Madras Ex. Jur. Rep.*

ZORAPUR, a suburb of Kurnool, on the right bank of the Tumbudra river. General Cunningham supposed it to be the old town of Zora or Jora, as it answers to the Choliya or Joriya of Hiwen Thsang. In 1839, Alif Khan, the nawab of Kurnool, was dreaming of rebellion, and on being detected, he took up a position here with his mercenaries. He was defeated, and sent as a prisoner to Trichinopoly, where he was assassinated by one of his own dependents.

ZORAPUR, a town near the left bank of the Kistna river, usually called Beder Zorapur, because it is occupied by the Berder or Beder race. It is a feudatory chiefship of Hyderabad, in the S.W. part of the Hyderabad dominions. It is held by a Beder chief, with a portion of his tribe, and until the latter part of the 18th century the kingdom of Mysore contained several principalities of the Beder race. It is surrounded by rocky hills, and is a perfect site for a predatory race. The Beder chief joined in the rebellion of 1857-59, and, on being captured, he shot himself.

ZORAWAR SINGH, a Sikh general who commanded an expedition sent from Kashmir by Gulab Singh in 1839. After taking Ladakh and Iskardo, he marched up the valley of the Indus into Gnari, a province of Tibet, and captured Gurtok, its capital. His force was inconsiderable, and he wrote in vain for supplies and reinforcements. These were not easily furnished across the many intervening ranges of snow-capped mountains; winter was now approaching, and Zorawar Singh fortified for himself a cantonment near Gurtok, when a Chinese and Tibetan force surrounded him, and cut off his supplies. His detachment was thus overpowered, and himself slain. About 120 miserable Sikh fugitives found their way, half-frozen, across the Niti pass into the British province of Kamaon, and told the tale. This occurred in the winter of 1842, at the very time when the British force of Kābul was similarly overpowered by the Afghans.—*Prinsep's Tibet*, p. 22; *Cunningham's Sikhs*, p. 256.

ZOR-KHĀNAH, or Palaistra, where wrestling and athletic feats are practised, called in India talīm khana.

ZOROASTER, the first of a dynasty that ruled in Babylon from B.C. 2235 to 2011, a period of 224 years, during which there were seven successors. From the Armenian edition of Eusebius, in the Chaldæan lists of Berosus, the name of one Zoroaster is known to us as a royal name. It is that of the Median conqueror of Babylon, who vanquished the realm and city of the Chaldees, and founded the second Babylonian dynasty in the year 2234 B.C. See Kissa-i-Sanjan.

ZOROASTER. See Zarathustra Spitama.

ZU, in Arabic means having or possessed with.

Zu-ul-Jalal, possessed of dignity.

Zu-ul-Faqār, the two-edged sword of Ali, which was said to have been given to Mahomed by the angel Gabriel. Zu-ul-Karnain, two-horned, a title adopted by Alexander the Great, who claimed descent from Jupiter Ammon. It was also adopted by Seleucus Nicator, but his reasons are not known. It was supposed to be meant to indicate that the power extended from east to west.

Zawi or Zui and Zi are the oblique cases of Zu. Sallatin Zui-ul-iqtadar, powerful princes. Zi-iqaida, the last month of the Muhammadan year.

Zu-l-Junna, the name of Husain's steed, meaning a winged wolf.

ZUHRA. ARAB. The planet Venus.

ZULIKHA, wife of Pharaoh. Her passion for Joseph is described in the Persian poems of Nizami and Jami.

ZU NAWAZ or Dhu Nawaz, surnamed the Lord of the Pit, from his throwing Arabs who refused to accept Judaism into a pit of fire.—*Sale's Koran.*

ZUTTU. TEL. The scalp-lock of hair worn by each man of the Hindus, called Kudami in the Tamil country.

ZYE. PUSHTU. A son, also written Zoe and Zai, answering to the Scotch Mac, the Irish O, the Arabic Ibn and Wald. All the Durani tribes have names ending in zye. According to Elphinstone, there are nine of these tribes,—the Populzye, which is the largest; Alleko-zye, Barukzye, Achik-zye, Nur-zye, Yusuf-zye, Husain-zye, Ali-zye, and Ishaq-zye, the two last being the smallest.

ZYGÆNA, hammer-headed shark, a curious shark with a head like a hammer, according to an Englishman's imagination, but like a buffalo's horned head, according to the Burmese. The genus Zygæna belongs to the sub-class of fishes Chondropterygii, Order II. Plagiostomata. First sub-order, Selachoidei, Fam. 1. Carchariidæ, Group B. Zygænina.

Zygæna Blochii, *Cuv.*, Archipelago.
Z. malleus, *Risso*, all seas.
Z. tudes, *Cuv.*, E. and W. Indies, Archipelago.
Z. tiburo, *Linn.*, Atlantic, Archipelago.
Z. mokarran, *Rappell*, Red Sea.

ZYGOPHYLLACEÆ, the bean capers, a natural order of useful plants, comprising in British India the genera fagonia, peganum, sectzenia, tribulus, and zygophyllum. Zygophyllum simplex, *Linn.*, and Z. coccineum, *Linn.*, camel-fodder plants of the Panjab, Sind, and Cutch, called in Sindi Aletthi and Putlani.—*J. A. Murray.*

ZYMOOSHT are a small but brave tribe of Afghans, numbering about 5000 fighting men, some of whom are well mounted. They inhabit a valley leading from Western Miranzai onward, towards the crest of a range called the Paiwar Kothul. Their country of right belongs to the Kābul kingdom. They were usually ready to combine for mischief with the Tooree and Orakzai, and to threaten Miranzai. They hold some land in the plains, which holding affords some pledge for their good behaviour. See *Khyber.*

GENERAL INDEX

FOR ALL THE THREE VOLUMES.

Detailed Indices for 'Birds,' 'Boats,' 'Ships,' and 'British India' are given at the end of this General Index, and at the end of the Second Volume are Indices for 'India,' 'Insects,' and 'Mammalia.'

A

AAL VULLI KELANGU, TAM., Janipha manihot.
Ababel, HIND., Swallows, Martins, Swifts.
Abadat, a Bedouin tribe.
Abagasus. See Bactria, 224.
Abasa, sister of Harun-ur-Rashid.
Abasi, HIND., Mirabilis jalapa.
Aba Sin, the Indus.
Abbass. See Khalifah, Persia.
Abdals. See Chahl Tan.
Abdhut. See Mendicants.
Abd-ul-Kadar Ghilani. See Muhammadanism; Sufi.
Abdullah, father of Mahomed.
Abdullah-ibn-Abad. See Ibadiyah; Imam.
Abd-Ullah-ibn-ul Makaffa. See Bidpai.
Abdul Malik-Avenzoar.
Abdul Muttalib, grandfather of Mahomed.
Abdul Razak—Ormuz.
Abd-ul-Wahab. See Bedouin.
Abd-ur-Rahmanzai. See Afghanistan.
Abd-us-Shams, ARAB., Turnsol.
Abercrombie. See Egypt.
Abhayagiri. See Pallonarua.
Abhi-angana, TAM., TEL., Bathing.
Abhidana Ratnamala. See Halayudha Bhatta.
Ab-hul, ARAB., Juniper berries.
Ab-i-balad. See Khuzistan.
Abies. See Coniferæ; Æcidium; Ægiceras.
Ab-i-garm. See Hot Spring, 112.
Ab-i-ma, also Ab-i-Panj, the Oxus.
Abir; Karkam, PERS., Saffron.
Ablak-maina, HIND., Sturnus cineraceus.
Abnoos, ARAB., Diospyros ebenum, D. melanoxylon.
Abor. See Bor-Abor; Kachar; Kolita.
Aborigines. See Chandala; Hindustan, 79.
Abpura Hill—Jetwa.
Abroma strictus. See Fibres.
Absin-ul-Fil, ARAB., Colocasia esculenta.
Abu-Abdullah. See Idrisi.
Abu Bakr, father of Ayasha.
Abu Hurayra. See Sufi.
Abul Fida Ismail, Hamawi, a learned king of Hamai in Syria, A.D. 1342, author of the Takwim-ul-Baldan.
Abulgasius. See Bactria, 224.
Abuva, also Avva guda, TEL., Trichosanthes bracteata.
Acacia amara, lebbek, speciosa. See Albizzia.
Acacia cinerea, Dichrostachys cinerea.
Acacia dalea, Caillea cinerea.
Acacia lævigata, Prosopis dulcis.
Acacia scandens, Entada pursætha.
Acacia xylocarpa, Inga xylocarpa.
Acajuba occidentalis, Anacardium occidentale.
Acalephæ. See Medusæ; Portuguese Man-of-war.
Acalypha hispida, Caturus spiciflorus.
Acanthopterygii. See Fishes, 1108.
Acanthus ilicifolius, Dilivaria ilicifolia.
Acarus coffeæ. Coffee Planting, 774.
Accad. See Kalah.
Acer criticum. See Pat'har.
Achemenidæ. See Cuneiform; Zend.
Acheta. See Crickets; Insects.
Achi maram, TAM., Calasanthes Indica.
Achymus asper, Trophis aspera.
Achyranthes nodiflora, Allmania nodiflora.
Achyranthes sessilis, Alternanthera sessilis.
Achyranthes villosa, Ærua lanata.
Acmena Zeylanica, Eugenia Zeylanica.
Acontiadidæ—Reptiles.
Acridotheres pagodarum, Pagoda thrush; Sturnidæ, Thrush.
Acrochordidæ. See Reptiles.
Actias, silk-worms. See Bombycina, 411; Insects.
Actinia. See Borneo, 420.
Actitis, Sandpiper. See Scolopacidæ.
Ada, BENG., Zingiber cassumunar.
Adadode, Adasaram, TAM., Adhatoda vasica.
Adaka, Cavughu, MALEAL., Areca catechu.
Adaki, SANSK., Cajanus Indicus.
Adal. See Semitic Races.
Adālat, Sharra, ARAB., Law.
Adala vitala, TEL., Lepidium sativum, cress.
Adallam, MALEAL., Cerbera odallam.
Adam. See Abu Kubays; Havvah.
Adamantine spar, Corundum.
Adamaruthu, TAM., Bridelia retusa.
Adambea glabra, Adamboe, MALAY, Lagerstrœmia reginæ.
Adam-Khor, PERS., Cannibal.
Ada modien, MALEAL., Holostemma Rheedianum.
Ada morinika, TEL., Cadaba Indica.
Adas, Adz, ARAB., Ervum lens.
Adas, JAV., Fœniculum vulgare.
Adas-pedas, MALAY, Hyosciamus niger.
Ada syamoli, Kavanchi, TEL., Helicteres isora.
Adavi, TEL., wild, uncultivated.
Adavi amida, Jatropha curcas.
Adavi chamma, Canavalia virosa.
Adavi chedu, Trichosanthes cucumerina.
Adavi chikkudu kaya, wild var., Lablab vulgare.
Adavi godhumulu, Coix barbata.
Adavi jilakara, Purple fleabane.
Adavi kutta, Cuon rutilans.
Adavi mamena, Boerhaavea erecta.
Adavi munaga, Ormocarpum sennoides.
Adavi nabhi, Agni sikha, Gloriosa superba.
Adavi nimma, Atalantia monophylla, Limonia alata.
Adavi ponna, Rhizophora mucronata.
Addar Jasan, Parsee.
Addatinapali, TAM., Aristolochia bracteata.
Adelia. See Chœtocarpus.

Adenanthera aculeata, Prosopis spicigera.
Adenema hyssopifolia, Cicendia hyssopifolia.
Adhwari, Lagerstrœmia parviflora.
Adiantum caudatum—Hansraj.
Adi-modram, TAM., Glycyrrhiza.
Adinath, Palitana.
Adisur of Sen dynasty, i. 433.
Aditya bhakti chettu, Helianthus annuus.
Aditya dynasty, Kashmir.
Adi-upa-Des. See Birbhan.
Adjunta. See Architecture.
Adjutant, Leptoptilus argala.
Adnara, HIND., Felis pardus, Panther.
Adonda, Arudonda, TEL., Capparis horrida.
Adraistæ of Arrian—Jartikka.
Adrak, HIND., Green ginger.
Adraka, i. 490.
Adulay kai, TAM., Cucumis tuberosus.
Adurian—Parsee.
Adwaita. See Charvaka; Dwaita.
Adwani Khel. See Afghanistan.
Adya katti, the Coorg knife.
Ædidium. See Fungus.
Ægoceros ægagrus, Capra ægagrus.
Ægoceros Falconeri, Capra megaceros.
Æolian pipe. See Buluh.
Æschynomene grandiflora, Agati grandiflora.
Æschynomene triflora, Desmodium triflorum.
Æsculapius. See Dhanwantari.
Æsculus hippocastanum, Horse chestnut.
Æsop's Fables. See Bidpai; Kaliláwa-Damna.
Æsta-kudus, ARAB., Lavender.
Æthopyga, Sun birds.
Æt-musana, SINGH., Cyathea arborea.
Afaz, Afis, ARAB., Galls.
Afghans, Pathan.
Afim, Afyun, ARAB., Opium.
Aflatun, ARAB., Balsamodendron b'dellium.
African plants. See Botany.
Afridi. See Afghanistan.
Afsantin, ARAB., Artemisia; Wormwood.
Afshar—Iliyat.
Aftimun, HIND., Cuscuta reflexa.
Agada tantra, SANSK., Antidotes.
Agalugen, ARAB., Eagle-wood, Lign-aloes, Aquilaria agallocha.
Agamidæ—Reptiles.
Agane. See Babylonia, 218.
Agapetes arborea, Vaccinium Leschenaultii.
Agara, HIND., Achyranthes aspera.
Agar-agar, MALAY, Eucheuma spinosum, Gigartina spinosa, Plocaria candida, Sea-weeds.
Agaria. See Chutia Nagpur.
Agaric, Amadon.
Agaru, SANSK., Aquilaria agallocha, Eagle-wood, Lign-aloes.
Agarwal, Oswal.
Agasa-tamare, TAM., Pistia stratiotis.
Agasi, Agati grandiflora.
Agathis loranthifolia, Dammara orientalis.
Agathocles. See Bactria, 222.
Agathos Demon, Hindu, 71.
Agathotes chirata, Ophelia chirata.
Agave cantala, Fourcroya cantala.
Aghor. See Oritæ.
Aghora. See Cannibals; Chamundi; Kerari.
Agila gahru, MALAY, Eagle-wood.
Agin buti, DUK., Ammannia vesicatoria.
Aglaia adorata. See Chloranthus inconspicuus.
Aglay maram, TAM., Chickrassia tabularis.
Agni. See Divination; Hindu; Ordeal.
Agnihotra Brahmans, i. 433.
Agni-jwala, SANSK., Grislea tomentosa.
Agni mata, TEL., Plumbago Zeylanica.
Agni vendrapaku, TEL., Ammannia vesicatoria.
Agriculture, Husbandry.
Agri-Horticultural Societies. See Botany, 422.
Agrostis linearis, Cynodon dactylon.
Aguayka, a short and very hard leather whip, about one and a half feet long, attached to a stick, used by Cossacks and the Tartars.
Agur, TAM., Hugonia mystax.
Ahairiah. See Boar.
Aharwarah, Rohilkhand.
Ahel, ARAB., Lign-aloes.
Aheta. See Philippines.
Ahilla, SINGH., Cathartocarpus fistula.
Ahir, PERS., Conessi seed.
Ahir. See Gorakhpur.
Ahlada mara, CAN., Ficus Indica.
Ahmad. See Paniput.
Ahmad, Wajah-ul-Mulk. See Chardaota.
Ahreo, SIND., Lepidium sativum.
Ahriman—Parsee.
Ahuna Vairya—Parsee.
Ai or Anait. See Chaldæa, 642.
Aihole, i. 612.
Aika-wairena, SINGH., Ophioxylon serpentinum.
Ailan, HIND., also Elaur, Ellal, Andromeda ovalifolia.
Aima, TAM., Buchanania latifolia.
Aimak. See Char Aimak; Feroz Kohi; Iliyat; Parsivan.
Ain, MAHR., Terminalia tomentosa.
Aing? BURM., Dipterocarpus alatus.
Aini mara, Anjeli, MALEAL., Artocarpus hirsutus.
Aino, JAPAN, Jesso.
Ain-ul-dik, ARAB., Abrus precatorius.
Airávati, the Ravi.
Air-bladder. See Fish Maws.
Aishk-pecha, PERS., Pharbitis nil.
Aiwulli. See Architecture, 145.
Ajaib-ul-Makhlukat, Zakariya-al-Kazwini.
Ajam. See El-Ajem.
Ajata Satru—Palibothra, Pataliputra.
Ajmir, Hindustan, 82; Mhairwara, i. 449.
Ajmud, HIND., Apium involucratum.
Ajuga fruticosa, Anisomeles Malabarica.
Ajunta Caves. See Cave Temples; Jain Architecture.
Ajwain, HIND., Ligusticum ajowan, Ptychotis ajwain, Bishop's weed.
Ak, HIND., Calotropis procera.
Aka Khel. See Afghanistan.
Akal nafsah, ARAB., Euphorbia Canariensis.
Akarakarum, TAM., Pellitory.
Akarkara, HIND., Spilanthes oleracea.
Akarparsi, MALAY, Asparagus racemosus.
Akar-wangi, MALAY, Andropogon muricatus.
Akasa-tamara, TEL., Pistia stratiotis.
Akas-bel, GUJ., Cusuta reflexa.
Akash bulli, BENG., Cassyta filiformis.
Akas-mukhi. See Mendicants; Saiva.
Akas-nim, HIND., Bignonia suberosa.
Akazai. See Afghanistan.
Akhar, Rikhali, BEAS, Rhus vernicifera.
Akhi of Kulu, Rubus, *sp.*
Akhira—Palli.
Akhiri Char-shambah. See Muhammadanism.
Akhul. See Central Asia.
A-kia-lu-hiang, CHIN., Lign-aloes.
Akkada, Upper, or Northern Chaldæa. See Commerce; Cuneiform; Literature.
Akkye. See Binua.
Aklil-ul-jabal, ARAB., Rosmarinus officinalis.
Aklil-ul-Malik, HIND., Astragalus hamatus.
Aklu, HIND., Viburnum fœtens.
Akra, Ankra, HIND., Vicia sativa.
Akri, HIND., Withania coagulans.
Ak-rokat—Kalu.
Akrot, HIND., Juglans regia, Aleurites triloba.
Aku chenrudu, TEL., Euphorbia cattimandu.
Akuje madu, TEL., Euphorbia nivulia.
Akund, HIND., Calotropis procera.
Akuyila-semun-rumi, ARAB., Opobalasam.
Ak-yau, BURM., Agallocha wood.
Ala-chandala, Alsanda, TAM., Dolichos Sinensis.
Alaika, Alli-chettu, TEL., Memcylon ramiflorum.
Alakh Nami—Sanyasi.
Ala-Kul, Lakes.
Alam, ARAB., Banners, Standard.
Ala maram, TAM., Ficus Indica.
Alamzai Khel. See Afghanistan.
Alanga, SINGH., Calonyction grandiflorum.
Alang-alang, MALAY, Imperata kolnighi.
Alareya-gass, SINGH., Kurrimia Zeylanica.
Ala-u-Din. See Ertoghral.
Alausa toli. See Fishes, 1114; Red Fish; Fish Roe.
Alawa, TEL., Pangolin.
Al-Azzah. See Al-lat.
Albuquerque, Portugal.
Alcurus. See Bulbul.
Alder, Alnus Nepalensis.
Alestris. See Fibres.
Aleurites lacciferum, Rottlera laccifera.
Alexandria, Oritæ.
Alexandrian laurel, Calophyllum inophyllum.
Alga, Trichodesmium erythræum, Sea-weeds.
Al-Gazzali—Sufi.
Al-Ghabun, a Bedouin tribe.
Ali, TAM., Aquila fulvescens.
Alia, Elwa, HIND., Aloes.
Alich or Andkhui—Turkoman.
Alii Kimbula, SINGH., Crocodile.
Ali Illahi—Karund.
Alintah, MALAY, Leeches.
Alisa, Eti chilla, TEL., Dilivaria ilicifolia.
Alish of Kangra—Rubus.
Ali's Pot—Kashgul-i-Ali.
Aliveri, BENG., Lepidium sativum, Cress.
Aliya Santana, Polyandry.
Alizai. See Afghanistan.

Al-Kahira—Kahira.
Alkola, Aleurites triloba.
Alkushi, BENG., Mucuna prurita, Cowhage.
Alla batsalla, TAM., Basella cordifolia.
Alla-gili-gich-cha, TEL., Crotalaria verrucosa.
Allah—Ilah.
Allas tribe—Kedah.
Alligator pear—Persea gratissima.
Alli of Animallay, Antiaris innoxia.
Alli palli, KASH., Asparagus filicinus.
Allopu Kommu-vella-vanti-gadda, TEL., Andropogon nardus.
Alloy. See Brass; Pot Metal.
Allu, HIND., Himalayan nettle, Urtica, *sp.*
Allu, ordeal. See Divination; Ordeal.
Almanac, Panchanga.
d'Almeyda, Portugal.
Alms. Hindu, 72; Mendicants.
Aloe Americana, Fourcroya cantala.
Aloes-wood, Aquilaria agallocha.
Alphabet. See Akkad; Deva Nagari; Literature.
Alpheadœ—Shrimps.
Alpinia cardamomum, Elettaria cardamomum.
Alpinia sessilis, Kaempfera galanga.
Alsi, HIND., Flax.
Alsophila armata, Tree-fern.
Al-Taur, Saur, ARAB., Bull.
Alu Balu, PERS., Prunus cerasus.
Alu Bokhara, HIND., PERS., Prunus Bokhariensis.
Aluk, HIND., Pine resin.
Alvares. See Portugal.
Alwar, Hot springs, 113.
Alyar, HIND., Dodonœa Burmanniana.
Amada, BENG., Curcuma amada.
Amadoa Indica, Cluytia patula.
Amalguch, HIND., Prunus puddum.
Amaltas, HIND., Cassia.
Amarak, a Bedouin tribe.
Amar-bauria, HIND., GUJ., Cusuta reflexa.
Amardad-sal—Parsee.
Amarkantak—Hindustan, 77.
Amaryllis latifolia, Crinum latifolium.
Amba, also Ambalika, Pandu.
Amba curb, MAHR., Cupania canescens.
Amba Jogi, i. 612.
Ambalu, Ampalu, MALAY, Lac.
Ambarbarus, Aarghus, ARAB., Berberis aristata.
Ambari, Bombay, Crotalaria juncea, DUKH., Hibiscus cannabinus.
Ambashta, Amlika, SANSK., Oxalidaceæ.
Ambati maddu, TEL., Trianthema obcordatum.
Ambeng, BURM., Amber.
Ambi halli, HIND., Curcuma zedoaria.
Ambla, Amla, PANJ., Emblica officinalis.
Amblycephalidæ—Reptiles.
Ambuti, Amrul, HIND., Oxalidaceæ.
Am-chur, HIND., Mango pickles.
Amdhuka, BENG., HIND., Vitis Indica.
America. See Fu-Sang; Britain.
Ame-sa-Auza, BURM., Anona squamosa.
Amghautan, ARAB., Acacia Arabica.
Amir-ul-Mominin—Imam, Khalif.
Amla-loniha, SIAM, Oxalidaceæ.
Amlanch, Kansi, CHENAB, Ribes.
Amla vetasawmu, TEL., Calamus.
Amlika, HIND., Emblica officinalis.
Amlok, HIND., Diospyros lotus.
Amlu, CHENAB, Cusuta pedicellata.
Amluj, ARAB., Phyllanthus emblica.
Amluki, BENG., Albizzia stipulata.
Amok. See Bugis; Celebes.
Amomum galanga, Alpinia galanga.
Amomum hirsutum, Costus speciosus.
Amomum repens, Elettaria cardamomum.
Amomum zerumbet, Curcuma zedoaria.
Amomum zingiber, Zingiber officinale.
Amoy. See Hae Nun.
Amphidonax, Arundo karka.
Ampulex, Wasp.
Amra, HIND., Spondias mangifera.
Amran Hill. See Babylon.
Amr Bel, HIND. See Aptimun.
Amsshashpand—Parsee.
Amu Darya. Central Asia; Oxus.
Amukanam, TAM., Physalis somnifera.
Amulet. See Divination.
Amultas; Bhawa, HIND., Cathartocarpus fistula.
Amur, a Bedouin tribe. See Bedouin.
Amus, ARAB., Ajwain seed.
Amusada nelli, SINGH., Emblica officinalis.
Amwah. See Architecture, 141.
Amyntas. See Bactria, 222.
Amyris agallocha and A. commiphora, Balsamodendron agallocha.
Amyris Gileadensis, Balsamodendron berryi, Opobalsam.
Amyris Zeylanica, Canarium commune.
An, Jan, Kal, of Beas, Urtica heterophylla.
Ana, the Supreme Being of the Chaldees; Anata, female of Ana.
Ana-deva—Homa.
Anæsthesia—Solanaceæ.
Anagundi. See Hampi.
Anai-anai, MALAY, White ants.
Anai kattaley, TAM., Agave Americana.
Anai pulia maram, TAM., Adansonia digitala.
Ana-kala-bhrita—Slave.
Anamirta cocculus. See Cocculus Indicus.
Anan, Annan-tha, BURM. ? Fagræa fragrans.
Ananda temple—Pagan.
Ananta-chaturdasi, Vishnu.
Anao, Aonouee, MALAY, Arenga sacchariferа.
Anapa chikkudu kaya, TEL., Lablab vulgare.
Anaprasanam—Hindu, 66.
Anar, HIND., Punica granatum.
Anaradhapura. See Architecture, 147; Pallonarua.
Anasa maram, TAM., Ananas sativus.
Ana shorigenam, MALEAL., Girardinia Leschenaultiana.
Ana shovadi, MALEAL., TAM., Elephantopus scaber.
Anashtar, HIND., Erythrina stricta.
Anas phal, DUKH., HIND., Illicium anisatum.
Anatherum muricatum, Andropogon muricatus.
Anazah. See Bedouin.
Anchar, Antiar, JAV., Antiaris toxicaria.
Anchusa. See Dyes.
Andara-gass, SINGH., Dichrostachys cinerea.
Andersonia acuminata, Conocarpus acuminatus.
Andersonia cucullata, Amoora cucullata.
Andhra. See Coins; Warangal.
Andkhui. See Afghanistan.
Andrachne trifoliatus, Bischoffia Javanica.
Andrada—Tibet.
Andrographis paniculata, Chiretta.
Andromachus—Tareaq Faruq.
Andromeda symplocifolia, Vaccinium Leschenaultii.
Andropogon acicularis, Chrysopogon acicularis.
Andropogon saccharatus, Sorghum saccharatum.
Anethum Panmori, Fœniculum panmori.
Anethum sowa, Dill seed.
Anga. See Clothing, 748.
Angad—Nanak.
Angia, HIND., a bodice. See Clothing.
Angiopteris pruinosa, Tree-fern.
Angolam, MALEAL., Alangium decapetalum.
Angrakha. See Clothing, 748.
Angria. See Conaji.
Anguza, Hing, HIND., Ferula asafœtida.
Anhenta, SINGH., Datura fastuosa.
Ani, CAN., TAM., TEL., Elephant.
Ani carra, Ooday, TAM., Odina wodier.
Anictoclea Grahamiana, Tetrameles nudiflora.
Ani gandamani, TAM., Adenanthera pavonina.
Animallay — Mountains, Coimbatore, Kader.
Ani-neringi, TAM., Pedalium murex.
Anisaruli mara, CAN., Alangium decapetalum.
Anise, Anethum graveolens.
Aniseed tree, Illicium anisatum.
Anisun, Anisbu, HIND., Ptychotis.
Anjabar, HIND., Polygonum bistorta.
Anjan, HIND., Pennisatum cenchroides.
Anjan, HIND., Sulphuret of antimony.
Anjir, HIND., Ficus carica.
Anjun, MAHR., Hardwickia binata.
Anjuna, Kurpa, MAHR., Memecylon ramiflorum.
Ankhar, BEAS, Falconeria insignis.
Ank-kush, BENG., Rottlera laccifera.
Anklet. See Bracelet.
Ankren, BEAS, Rubus.
Ankulo, Ankul, MAHR., Alangium decapetalum.
Anna bugdi, TAM., Green copperas.
Anna-deo—Isani.
Annah-leng, BURM.? Fagræa fragrans.
Annam. See Cochin-China.
Anna Purna Devi—Parvati, Lakshmi.
Anneslea spinosa, Euryale ferox.
Anoa depressicornis, the Sapi Utan, or Wild Cow of Celebes.
Anogeissus acuminatus, Conocarpus acuminatus.
Anomospermum excelsum, Dal, Actephila Neilgherrensis.
Anoo. See Burma, i. 526.
Ansari—Lebanon.
Anta chika, MALEAL., Anona squamosa.
Antara-tamara, TEL., Pistia stratiotes, Villarsia.
Antara valli tige, TEL., Cassyta filiformis.
Ant-eater, Manis pentadactyla, Pangolin, M. aurita.
Anterved—Jumna.
Anthemis nobilis—Chamomile.

Antheræa, genus of silk-worms. *See Bombycina, 411; Insects.*
Anthibidæ, a family of beetles.
Anthriscus cerefolium, Chærophyllum sativum.
Anthrodactylis spinosa, Pandanus odoratissimus.
Antialcides. See Bactria, 222.
Antiar, JAV., Strychnos tieute.
Antiaris saccidora, Lepuranda saccidora.
Antichirst. See Dajjal.
Antilope bubalus, Alcephalus bubalus.
Antilope chickara, Tetraceros quadricornis.
Antilope colus, Saiga Tartarica.
Antilope gutturosa, Procapra gutturosa.
Antilope picta, Portax pictus.
Antilope quadricornis, Tetraceros quadricornis.
Antimachus. See Bactria, 222.
Antiochus. See Bactria, 220.
Antistes—Imam.
Ants. See Formicidæ; Insects.
Antumora, BENG., Isora corylifolia.
Anu—Kha-mi.
Anu, SUMATRAN, Arenga saccharifera, Gomuti.
Anumulu, TEL., Lablab vulgare.
Anwar-i-Soheili, Panchatantra, Kashifi.
Anzarut, HIND., Sarcocolla, Penæa mucronata.
Aola, Anola, Amla, HIND., Phyllanthus emblica.
Aornos. See Bazira; Mount Mahaban.
Apamargamu, TEL., Achyranthus aspera.
Apa marya, HIND.; Apang, BURM., Achyranthes aspera.
Apama siliquosa, Bragantia Wallichii.
Apamea, Persia.
Aphis coffeæ, Coffee louse. See Bug, i. 504; Coffee Planting, 774; Insects.
Apis. See Bull.
Apium graveolens, Celery.
Apium petroselinum, Petroselinum sativum, Parsley.
Aplotaxis auriculata, Aucklandia costus.
Apocyne viminea, Orthanthera viminea.
Apocynum fœtidum, Paederia fœtida.
Apocynum frutescens, Ichnocarpus frutescens.
Apollo—Krishna.
Apollodotus. See Bactria, 222.
Apollophanes. See Bactria, 222.
Aponogeton monostachys, Spathium Chinense.
Apoong, KOL., Holostemma Rheedianum.
Appa, SINGH.; Apum, TAM., Hopper.
Appak-Hodja—Kashgar.
Appel, MALEAL., Premna integrifolia.
Applacaram, TAM., TEL., Barilla.
Apple tree, Pyrus malus.
Apsaras, Swarga—Valkyne.
Apteryx Australis, Struthionidæ.
Apurs, BALUCH., Juniperus excelsa.
Aquila. See Eagle; Eagle-wood.
Araba. See Carriage.
Arabic—Languages.
Arabi mutchi, DUKH.; Mullet fish.
Arachnechthra, Sun-birds.
Arachosia. See Haraquita.
Aradhya, i. 434.
Arafat—Ihram, Mount.
Arafura Sea. See Archipelago, 135.
Arainæ, Macaws of America, Parrot.
Arak, ARAB., Salvadora Persica.
Aral, Lake. See Central Asia; Lakes.
Arala, SANSK., Ailantus excelsus.
Arali, MALEAL., Allamanda cathartica.
Arali, TAM., Nerium odorum.
Aralia papyrifera, Fatsia papyrifera, Rice-paper plant.
Arandi, HIND., Castor-oil plant.
Arango, GUJ., Cornelian beads.
Arang-para, MALAY, Lamp-black.
Araq, Arq, ARAB., Alcohol, Arrack.
Ararat—Mount.
Arasa maram, TAM., Ficus religiosa.
Arashtra. Chandragupta; Jartikka.
Arasinagoorghy, CAN., Gamboge butter.
Arati. See Divination; Ordeal.
Arati pallam, TAM., Plantain.
Aravalli. See Climate; Hindus, 76; Mountains.
Aravam—Tamil.
Araya anjely, MALEAL., Lepuranda saccidora, Antiaris innoxia.
Arbes, Arbee, ARAB., Colocasia esculenta.
Arbol de Leche, Cow-tree.
Archer fish, Chætodon rostratus, and Toxotes jaculator?
Archil. See Orchilla Weed.
Archipelago. See Climate; Languages.
Architecture. See Cave Temples; Dhank; Halebid; Ellora; Ajunta; Orissa; Sculptures.
Arctomys hemachalanus, Marmot.
Ardanda, HIND., Capparis horrida.
Ardashir. See Hoormuz; Kai.
Ardekan, Istakhr.
Ardibehest-Jasan—Parsee.
Ardich, TURK., Juniper berries.
Areca oleracea, Oreodoxa oleracea.
Aren, JAV., Arenga saccharifera, See Fibres; Palm Wine.
Arethusieæ—Orchiaceæ.
Argala migratoria, Leptoptilos argala.
Argali, Caprovis argali.
Argaun, Traders of Kashmir.
Argha. See Yoni; Parvati; Patera.
Arg'hiam, Hindu, 70.
Argus Pheasants, Ceriornis, *sp.* See Birds; Phasianidæ.
Argyreia speciosa, Letsomia nervosa.
Ari, Arisi payera, MALEAL., Oryza sativa.
Ari, Khubani, Chinaru, HIND., Armeniaca vulgaris.
Aria, PUSHTU, Pyrus Kamaonensis.
Aria bepon, MALEAL., Azadirachta Indica.
Ari-alu, MALEAL., Ficus religiosa.
Aria-vila, MALEAL., Polanisia.
Aridurum, TAM., Orpiment.
Ari-ikan, MALAY, Isinglass, Fish-maws.
Ari poone, S. CAN., Calophyllum elatum.
Aris, Arus, Asganda, HIND., Adhatoda vasica.
Arisina, CAN., Curcuma longa.
Aritha, HIND., Sapindus detergens, S. acuminatus.
Arius. See Fishes, 1115; Isinglass.
Ariya poriyam, MALAY, Antidesma bunias.
Arjamand Banu Begum, Taj Mahal.
Arjuna, Arjunsadra, DUKH., Pentaptera arjuna.
Arjuna—Pandu.
Arjuno, BENG., Lagerstroemia regina.
Arkalu, TEL., Harmala ruta?
Arkhar, Rikhul, BEAS, Rhus acuminata.
Arma-Bel—Kara Bela.
Armenia. See Commerce, 790; Haiq.
Arna, HIND., Bubalus arni.
Arnatto, Annatto, Bixa orellana.
Arni, HIND. of BEAS, Clerodendron siphonanthus.
Aroosha fibre of Chittagong, Callicarpa.
Arora. See Deserts, 920.
Arremene, SINGH., Cassia Sumatrana.
Arsaces—Persia, Bactria, 221, 223.
Arsenic. See Dyes; Hurtal; Realgar.
Arsenoe. See Commerce, 789.
Arsis rugosa, Grewia microcos.
Art—Jewellery.
Artabanus, Hoormuz.
Artaxerxes, Kai, Hoormuz, Persepolis.
Arthaneswari, i. 435.
Artichoke, Cynara scolymus.
Artisans. See Caste.
Aru. See Archipelago, 135.
Aru, JHELUM, PANJ., Amygdalus Persica.
Aruda, TAM., Ruta graveolens.
Aruga, Warugu, TEL., Paspalum stoloniferum.
Arugam pilu, TAM., Cynodon dactylon.
Aru kanla kachoram, TEL., Curcuma amada.
Aruli, Aungra, HIND., Emblica officinalis.
Arum campanulatum, Amorphophallus campanulatus.
Arum colocasia, Colocasia antiquorum.
Arum esculentum, Colocasia esculenta, C. antiquorum.
Arum orixense, Typhonium orixense.
Arum Rumphii, Amorphophallus campanulatus.
Arumugan—Kartikeya, Skanda.
Arunasala Puranam. See Brahma.
Arundo karka, Amphidonax karka.
Arunelli, TAM., TEL., Cicca disticha.
Arur, Rattankat, CHENAB, Andromeda ovalifolia.
Arusa-pas-pardah, PERS., Puneeria coagulans.
Arwi, HIND., Colocasia antiquorum.
Arzan, HIND., Panicum miliaceum.
Asafetida, Ferula asafœtida.
Asal-ul-nahl, Injubin, ARAB., Honey.
Asan, Saj, HIND., Terminalia tomentosa.
Asarun, ARAB., Asarum Europæum.
Asbarg, HIND., Delphinium, *sp.*, a yellow dye.
Ascaridia Indica, Vernonia anthelmintica.
Ascetics, Hylobii.
Ascidiadæ—Tunicata.
Asclepias asthmatica, Tylophora asthmatica.
Asclepias geminata, Gymnema sylvestre.
Asclepias gigantea, Calotropis gigantea.
Asclepias herbacea, Calotropis herbacea.
Asclepias microphylla, Pentatropis spiralis.
Asclepias montana and A. tingens, Gymnema tingens.
Asclepias odoratissima, Pergularia odoratissima.
Asclepias pseudosara, Hemidesmus Indicus.

Asclepias rosea, Oxystelma esculentum.
Asclepias tenacissima, Marsdenia tenacissima.
Asfar, ARAB., Carthamus tinctorius.
Asfeidaj, ARAB., White lead.
Asgand nagori, HIND., Withania coagulans.
Ash—Fraxinus xanthoxylloides.
Ashbutchegan, ARAB., Castor, Civet.
Ashkar, PERS., Caroxylon Griffithii.
Ashtoreth, Sun-worship. See Job.
Ashunkar, CAN., Jonesia asoka.
Ashur, ARAB., Calotropis gigantea.
Ashurites, Povindah.
Ashur Khana. See Allawa.
Ashwa-gandha, HIND., Withania somnifera.
Ashwertha, BENG., Urostigma religiosa.
Asi. See Armour, 161.
Asinus Indicus. See Equidæ; Onager.
Asli Tus. See Ibex Wool.
Asl-ûs-sus, ARAB., Glycyrrhiza.
Asnea, MAHR., Leopard.
Asoka—Jonesia asoka.
Asok maram, TAM., Guatteria.
Asphota, SANSK., Jasminum.
Aspidium arbor, Cyathea arborea.
Aspidium barometz, Tartarian lamb.
Assam—Hindustan, 82.
Assanna, Asun, MAHR., Bridelia spinosa.
Assassin. See Alamut; Hasan; Karmati.
Assothee, Ashok, TAM., Polyalthia longifolia.
Assur. See Babylonia, 218.
Assyrian dynasty. Babylonia, 218.
Astak, HIND., Dried apricots.
Astarte—Ken.
Astarte. See Baal.
Astrak, GUJ., HIND, Ammoniac gum.
Astrapia nigra, Paradise birds.
Astronomy. See Chaldæa; Kacsha.
Astrung, ARAB., Mandrake.
Astur, micronesius. See Accipitrinæ.
As-ul-us-sosun, Isra, ARAB. Orris root.
Asur. See Chutia Nagpur.
Aswa—Sacæ.
Aswail, MAHR., Ursus labiatus.
Aswalayana, TEL., Poa cynosuroides.
Aswa-medha, Horse sacrifice. See Horse, 103.
Aswaththamu, TEL., Ficus religiosa.
Ata? HIND., BENG., Anona squamosa.
Atadi, SINGH., Chiretta.
Ataka mamidi, TEL., Boerhaavia erecta.
Atanday, TAM., Capparis horrida.
Atap, MALAY, Nipa fruticans.
Atash-bahram—Parsee.
Atash khor, PERS., Caccabis chakor.
Atcha, Atti maram, TAM., Hardwickia vinata, Ebony.
Atchakzai. See Daurani.
At-demmata, SINGH., Gmelina arborea.
Atteuchus sacer, Sacred Beetle of the Egyptians. See Copridæ; Insects.
A-thau-ka-pho, BURM., Jonesia asoka.
Atherura fasciculata, Porcupine.
Ath'r—Baggi.
Atibala chettu, TEL., Sida rhomboidea.
Ati-madhuramu, TEL., Glycyrrhiza, Liquorice juice.
Ati maktamu, TEL., Dalbergia Oojjainensis, Hiptage madablota.
Atis, HIND., Aconitum heterophyllum.
Atish, Tisi, Alisi, PANJ., Flax.
Ati-singia-bish, BENG., Aconitum ferox.
Atith—Siva.
Ati tipili, TAM., Scindapsus.
Ati-visha, SANSK., Aconitum ferox.
Atke kule, BENG., Arachis hypogea.
Atmagupta, SANSK., Cowhage.
Atmisa, Artimisaya, ARAB., Artemisia.
Atnamus, ARAB., Anthemis nobilis Plant.
Atolls—Reef.
Atrek valley. See Central Asia; Etrek.
Atr-i-gul, PERS., Otto of roses.
Atta. See Ants; Insects; Poneridæ.
Attacus, a genus of silk-worms. See Bombycina, 412; Insects.
Attagen aquilus, Tachyptes aquila.
Atta-jam—Olea dioica.
Attalea funifera, Piassaba fibre.
Atta maram, TAM., Anona squamosa.
Attei, TAM., Leeches.
Attila. See Etzel.
Atti maram, TAM., Ficus glomerata.
Attoonettee, TAM., Æschynomene aspera.
Attukka-gass, SINGH., Covellia glomerata.
Attukudasa, MAL., Æschynomene aspera.
Aulantha, MALEAL., Calosanthes Indica.
Auma, HIND., Desert soil.
Aurangabad. See Daulatabad.
Aurantaceæ. See Citraceæ.
Aurea chersonesus, Ophir, Sinhoa.
Aurelia. See Phosphorescence.
Australian plants. See Botany, 423.
Authi, TAM., Bauhinia.
Authoondy kai, TAM., Capparis brevispina.
Ava Ardui Sur Jasan—Parsee.
Avadhuta or Avdhauta—Sanyasi, Saiva.
Avalokit-Eswara, a Bodhi-satwa, the Chinese Kwan-Yin.
Avanak, MALEAL., TAM., Ricinus communis.
Avantipur. See Architecture, 146.
Avanzoar, Ibn Zohar.
Ava pepper. See Kava.
Avarai, TAM., Cassia absus and C. auriculata.
Ave-mavo, Ayma, TAM., Careya arborea.
Avena sativa, Oats.
Averhoes. See Abul Wahid; Avesta; Pa-zend.
Averrhoa acida, Cicca disticha.
Avisi, TEL., Agati grandiflora.
Avitta, TAM., Agati grandiflora.
Avocado—Persea gratissima.
Avoset, Recurvirostra avocetta.
Avurtunni, SANSK., Helicteres isora.
Avuru gaddi veru, TEL., Andropogon muricatus.
Awa-nori, JAP., Algæ, Sea-weeds.
Axis porcinus, Hog-deer. See Cervidæ.
Ayal-urchi, PERS.; Aquilaria agallocha.
Aya maram, TAM., Ulmus integrifolia.
Ayapana, BENG., HIND., Eupatorium triplinerve.
Ayar, Eliyum, PANJ., Andromeda ovalifolia.
Ayar mawar, MALAY, Rose-water.
Ayer-Ayer, Lansium aqueum.
Aylulah—Kaylulah.
Ayodhya. See Dasaratha.
Ayugma parma, SANSK., Alstonia scholaris.
Azadirachta Indica, Weevils.
Azarbijan. See Cave, 610.
Azes. See Bactria, 223.
Azilises. See Bactria, 223.

B

BA, ACHIN, Cocos nucifera.
Ba, Ke-ba, BHOT., Goitre.
Baalbec. See Heliopolis.
Baba, a Turkish impostor, A.D. 1260.
Baba-Booden—Kadur.
Babak, an impostor, A.D. 816.
Baba Lal—Muhammadanism.
Babassa, TEL., Hydrocotyle Asiatica.
Baba Yadgar—Karund.
Babbar sher, HIND., Felis leo.
Babbasai elaka, TEL., Hydrocotyle Asiatica.
Babbeh—Kirmani.
Babblers, Birds of the sub-family Timalinæ.
Babchi, PANJ., Psoralea coryllifolia.
Babeer, Papyrus antiquorum.
Babel, Tak-i-Kesra.
Baberung, Babrung, HIND., Embelia ribes.
Babhan, Brahmans, i. 433.
Babi-alu, Bencoolen, Papirus Malayanus.
Babirussa, Horned hog.
Baboons, Papioninæ.
Babra, TEL., Dolichos Sinensis.
Babui-Tulsi, BENG., Ocimum basilicum.
Babul, HIND., Acacia, *sp.*
Babuna, HIND., Matricaria chamomilla.
Babylon. See Hillah.
Baccauria. See Dyes.
Baccharis salvia, Blumea balsamifera.
Bacchi, HIND., Vernonia anthelmintica.
Bach, HIND., Acorus calamus.
Bachang, MALAY, Mangifera fœtida.
Bach-chali kura, TEL., Basella cordifolia.
Bach-chali-manda, TEL., Ceropegia tuberosa.
Bachelors' Hall: See Deka Chang.
Bactria. See Coins.
Bactrus of the Greeks, the River Oxus.
Badak, MALAY, Rhinoceros.
Badakhshan. See Afghanistan, 30.
Badam, TAM., Canarium strictum; HIND., Terminalia catappa.
Badami, i. 612.
Badam Kohi, PERS., Apricot.
Badawurd, HIND., Fagonia cretica.
Badgers, *sp.* of family Melididæ, genera Mellivora, Taxidia.
Badhail of Aramra—Saurashtra.
Badhara, HIND., Gmelina Asiatica, PUSHTU, Taxus baccata.
Badi—Panchanga.
Badian, PERS., Fœniculum panmori.
Badian-i-Khatai, ARAB., Illicium anisatum.
Badida chettu, TEL., Erythrina Indica.
Badleyun, B'dellium.
Badlo, BEAS, Gymnosporia spinosa.
Badranjoya, HIND., Nepeta ruderalis.
Badruj-ul-abiaz, ARAB., Basella alba.
Baduchi, HIND., a red earth of Gurgaon, used as a dye.
Badul, HIND., Pteropus, Bats.
Bag, HIND., Tiger, Felis tigris.
Baga nella, HIND., Tradescantia axillaris.
Bagar, HIND., Eriophorum cannabinum.

Bag bherenda, BENG., Jatropha curcas.
Bag-dasha, BENG., Felis viverrina.
Bagh on the Tapti. See Cave Temples, 611.
Bagh-ankra, BENG., Alangium decapetalum.
Bag-hans, Raj-hans, HIND., Phœnicopterus roseus.
Baghel, Central India—Rajputs.
Baghuna, HIND., Rhus cotinus.
Bagla. See Boat, 393.
Bag-narri, Nalu, PANJ., Arundo karka.
Bagnu of Kaghan, Populus ciliatus.
Bagon, PHIL., Balachan.
Ba-gyee-nee, BURM., Clerodendron squamatum.
Bahan, PUSHTU, SUTLEJ, TR.-IND., Populus Euphratica.
Baha-ud-Din, Nakshband, A.D. 1453.
Baha-ud-Din—Sufi.
Baha-ud-Din Zakaria, A.D. 1170—Muhammadanism.
Bahawalpur. See Daoudputra.
Bahbudi, the Afghan knife.
Bahel shulli, CAN., Asteracantha longifolia.
Bahika, Jartikka.
Bahira, HIND., Terminalia bellerica.
Bahman, HIND., Centaurea behmen.
Bahmani .chil, HIND., Haliastur Indus.
Baholi or Bhawali, HIND., Land about a village homestead.
Bahraich, Ikauna.
Bahram—Varanes.
Bahram Gor. See Hun.
Bahrein, Persian Gulf.
Bahr-ul-Lut—Jordan, Dead Sea.
Bahta. See Boats, 393.
Bahu phalli, PANJ., *sp.* of Corchorus.
Bahura, HIND., Terminalia bellerica.
Baibarang, HIND., Myrsine Africana.
Bai-Bhilara. See Ayamata.
Baingan, HIND., Solanum melongena.
Bais—Rajputs.
Baiz (or sign-mark), Swad.
Baiza Bai—Sindia.
Baizai Khel. See Afghanistan.
Bajar-kit, HIND., SANSK., Manis pentadactyla, Pangolin.
Baji, HIND., Herpestes, *sp.*
Bajra, HIND., Penicillaria spicata.
Baju. See Borneo, 419.
Baka, Buko, BENG., Agati grandiflora.
Baka-kaia, MALEAL., Cucumis melo.
Bakam, ARAB., BENG., Cæsalpinia sappan.
Bakambar, HIND., Anisomeles ovata.
Bakapushpam, SANSK., Agati grandiflora.
Bakar, CIS-SUTLEJ, Cornus oblonga.
Bakayun, PERS., Melia bukayun.
Bakhoor-miriam, ARAB., Cyclamen.
Bakhtiari, Iliyat.
Bakkapu chettu, TEL., Cæsalpinia sappan.
Bakkar-ul-wash, ARAB., Alcephalus bubalis.
Bakla, HIND., Garden bean.
Baklat-ul-hakima, ARAB., Portulaca oleracea.
Baklat-ul-jezal, ARAB., Origanum normale.
Baklat-ul-malik, ARAB., Fumaria officinalis.
Baklat-ul-mubarik, ARAB., Portulaca quadrifida.
Bakr-eed. See P'd.
Baku—Caucasus.
Bakul, BENG., Mimusops elengi.
Bakur chiria—Jodagir.
Bakur-khani, PERS., Armeniaca vulgaris.
Bakus, HIND., Adhatoda vasica.
Balænidæ, Sirenia, Cetacea, Whales.
Balaji Wishwanath—Sivaji.
Balam, HIND., Cymbopogon aromaticus.
Balam-cira, HIND., Cucumis sativus.
Bala mushh, HIND., Valeriana Wallichiana.
Balanites Ægyptiaca, Ximenia Ægyptiaca.
Balanja, TRANS-INDUS; Calligonum polygonoides.
Balanopteris minor, Heritiera minor.
Balasu-kura, TEL., Canthium parviflorum.
Balchir, HIND., Nardostachys Jatamansi.
Balela, HIND., Terminalia bellerica, B. Sujah, T. citrina, also Coriaria Nepalensis.
Balghar, HIND., Russian leather.
Bali. See Archipelago, 137.
Baliyus, ARAB., Ambassador.
Balkh. See Afghanistan, 30.
Ballala—Somnathpur.
Ballarpur—Pakhall.
Balm of Gilead, Balm of Mecca, Balsamodendron Berryi.
Balnath. See Buldan; Rori Barolli.
Balogha lucida, Australian blood-wood tree.
Balpam, HIND., Steatite.
Balsamodendron Gileadense. Opobalsam.
Balsan. See Hill States.
Bal-Siva, Rori Barolli.
Bal-tar, BENG., Borassus flabelliformis.
Balti, Tibet, Deotsa.
Baltis. See Chaldæa, 642.
Baluchistan—Khelat.
Balur, HIND., Rock-crystal.
Balu rakkisa, CAN., Argemone Mexicana; TEL., Fourcroya cantala.
Balusu kura, TEL., Webera tetrandra.
Balut, HIND., Quercus, *sp.*
Ba lu wa, BURM., Abelmoschus esculentus.
Bamba—Kashmir.
Bambalimas, TAM., Citrus decumana.
Bamboo-worship, Hindu, 65.
Bamia of Bombay, Bombay Duck.
Bam-i-Danya, Pamir.
Bān, Bani, Banji, HIND., Quercus incana, Q. *sp.*
Ban, HIND., Moringa pterygosperma.
Bana, MALAY, Bore.
Banafsha, HIND., PERS., Viola odorata, V. serpens.
Banaganapilly. See Diamond; Feudatory; Hindustan, 81.
Banakhor, Ban-khor, PANJ., Pavia Indica.
Ban-akrot, HIND., Pavia Indica.
Banaphal of Sutlej, Fragaria Indica.
Banatha, SALT RANGE, Asparagus Panjabensis.
Banaula, HIND., Gossypium herbaceum.
Ba-nawa, a sect of Muhammadan fakirs.
Ban-berāl, BENG., Felis chaus.
Ban-burbuti, Phaseolus rostratus.
Ban bhanda, Flagellaria Indica, also Flacourtia sepiaria.
Ban-char, HIND., Quercus semecarpifolia.
Ban-chowr, Poephagus gruniens.
Banda—Nanak.
Banda Nawaz—Kulburga.
Bandar, SUTLEJ, Capparis spinosa.
Bandar Abbas, 6000 souls. See Gambroon.
Bandarū, HIND., Gardenia tetrasperma.
Bandaru, Pundaru? TEL., Hymenodyction excelsum.
Bandd'hmati—Oswal.
Bandhana, HIND. See Dyes, 1001.
Bandhūk, HIND., Pentapetes Phœnicia.
Bandhuka, HIND., Ixora bandhuca.
Bandicoot rat, Mus bandicota.
Bandi gurivenda, TEL., Adenanthera pavonina.
Band-pat, HIND., Clitorea ternatea.
Ban-drenkh, CHENAB, Acacia stipulata.
Ban gab, Diospyros cordifolia.
Ban gamak, Cucumis pubescens.
Bangari ki lakri, HIND., Vangueria spinosa.
Bangash. See Afghanistan.
Ban-gau, Vana-go, Bison.
Bang-gor of Purniah, Leptoptilos Javanica.
Ban-grah, Calamus aromaticus.
Bangshaja Brahmans, i. 435.
Ban haldi, BENG., Curcuma aromatica.
Bani Sahar, a Bedouin tribe.
Banjar, HIND., Waste land.
Banjara of the Panjab, an oculist.
Ban juen, Clerodendron inerme.
Banka, HIND., a large sword, used in athletic exhibitions.
Ban kachu, Colocasia antiquorum.
Ban kahu, Vitex negundo.
Ban-kan-bren, PUSHTU, Quercus.
Bankar, BEAS, RAVI, Premna mucronata.
Bankat, HIND., Guilandina bonduc.
Bankimu, HIND., Corylus lacera.
Bankshū, HIND., Vitex negundo.
Banksia speciosa, Costus speciosus.
Ban kuch, HIND., Viburnum cotinifolium.
Ban-kukur, JHELUM, Cornus oblonga.
Ban kuta, HIND., Cuon rutilans.
Ban luvunga, Ludwigia parviflora.
Ban-mallika, Jasminum angustifolium.
Ban mallika, Jasminum sambac.
Ban marach, Ammannia vesicatoria.
Ban marua, Æchmanthera Wallichii.
Ban marunga, Oxalis sensitiva.
Ban mehal, HIND., Pyrus baccata.
Ban munj, the dry sheath of Saccharum moonga, used for string and rope.
Banna, HIND., Viburnum fœtens.
Banner lati-gach'h, BENG., Cathartocarpus fistula.
Banniah. See Commerce, 790.
Ban-nil, BENG., Tephrosia purpurea.
Bannu, JHELUM, Callicarpa.
Ban-parra at MUNDLA, Gavæus gaurus.
Ban pat, Corchorus olitorius.
Banpatrak, CHENAB, Saxifraga ligulata.
Ban-phal, a morel, a mushroom.
Ban-potel, Trichosanthes cucumerina.
Ban raj, Bauhinia racemosa.
Ban rhea, Boehmeria utilis.
Ban-rohu, Manis pentadactyla.
Bans, B'hans, HIND., Bamboo.
Ban-shim, Lablab vulgare.
Ban-sinjli, Cratœgus oxyacantha.
Bans keora, BENG., Agave vivipera.

Banslochan, HIND., Tabashir.
Ban-sunn, Crotalaria verrucosa.
Bant, HIND., Cicer arietinum.
Bantáki, HIND., Solanum melongena.
Ban-tanduli, HIND., Amarantus polygonoides.
Bantek, a wild race in Celebes.
Ban-tendu, HIND., Diospyros cordifolia.
Ban-teng, MALAY, Gavæus sondaicus.
Bantu, a race in Africa, estimated at 13,000,000.
Banur or Marcut banur, Inuus rhesus.
Ban-ustaki, HIND., Aloe Indica.
Banwá, HIND., Plotus melanogaster.
Banyan, Ficus Indica, F. nitida.
Bapanaburi, TEL., Ehretia buxifolia.
Bapanga, TEL., Psoralea corylifolia.
Ba-phalli, HIND., Corchorus triloculáris.
Baphia nitida, Cam-wood, i. 561.
Bapu Drawodo, PANJ., Buckwheat.
Bár, HIND., Ficus Indica.
Bár, HIND., Quercus dilatata.
Barabar. See Cave Temples, 611.
Bara-chuls, HIND., Villarsia Indica.
Bára dari, HIND., an open pavilion or garden-house.
Bara Imam. See Imam.
Bara-kanur, HIND., Crinum Asiaticum.
Bara karela, HIND., Momordica charantia.
Barakzai. See Daurani.
Baral, HIND., Artocarpus lacoocha.
Bara Lacha—Mountains.
Bara lasura, HIND., Cordia latifolia.
Bara makhim shim, BENG., Canavalia gladiata.
Bara mareca, HORT., MALEAL., Lablab cultratum.
Baran, CHENAB, Taraxicum officinale.
Barangi, HIND., Clerodendron infortunatum.
Bara phutika, HIND., Melastoma malabathricum.
Barari, Ber, CHENAB, Capparis spinosa.
Bara singha, HIND., Cervus Wallichii, also C. affinis and Rucervus Duvaucellii.
Bará tugar, HIND., Tabernæmontana coronaria.
Barawa, TR.-INDUS, Cynodon dactylon.
Barbadoes flower fence, Parkinsonia aculeata.
Bar-bagal, Pteropus Edwardsii.
Barbara, HIND., Felspar, used in pottery.
Barbets, *sp.* of Megalaimidæ.
Barcha, HIND., Quercus floribunda.
Barg, PERS., any leaf.
Barg-i-tambul, PERS., Betel-leaf.
Barhamdi, HIND., Microlonchus divaricata.
Barhwan, HIND. See Cow-dung.
Bari, HIND., a polishing paste used by lapidaries. Barta, a wooden bar covered with a polishing composition, used by stone-carvers.
Bari, HIND., Land near villages.
Bariara, HIND., Sida cordifolia.
Bari Doab. See Canals.
Barik-shutri, HIND., Camel-hair cloth.
Barilla, Carbonate of soda, Kali, Kelp.
Barinka, TEL., Epicarpurus orientalis.
Bari Wafat—Muhammadanism.
Barjala, BENG., Sida cordifolia.
Barji Hatkar. See Dhangar.
Barkal, GONDI, Leopard.
Barking deer, Cervulus áureus.
Barkuk, PERS., Armeniaca vulgaris, Apricot.
Barlaam—Josaphat.
Barleria longifolia, Asteracantha longifolia.
Barley, Hordeum.
Barna, PANJ., Crataeva Roxburghii.
Baro, PANJ., Albizzia elata.
Baroch—Paitan.
Baroda—Hindustan, 81.
Bar-phuli, HIND., Euonymus fimbriata.
Barpyal, HIND., Fallow land.
Barrada—Chrysorrhœa.
Barral, HIND., Ovis ammon.
Barral, HIND., Artocarpus integrifolia.
Barranki, Bari venka, TEL., Trophis aspera.
Barrier reefs. See Atoll; Coral; Reef.
Barri gokeru, HIND., Pedalium murex.
Barrows. See Burial Customs, 518.
Barsanga, MAL., Bergera Konigii.
Barsha of Kanawar, Armeniaca vulgaris.
Bartang, HIND., Plantago major.
Bart'h, Hindu fast-days. See Cajanus bicolor; Phalah.
Barthoma. See Portugál.
Bartho, HIND., Erythrina stricta.
Barthua, HIND., Hymenodyction excelsum.
Barunghi, SANSK., Gunta baringa.
Barungi, HIND., Quercus ilex.
Baryara, HIND., Sida cordifolia.
Barygaza, Paitan, Pandya.
Bárzad, HIND., Galbanum.
Basava, TEL. See Deva-dasa; Hindu, 71.
Basha, HIND., Accipiter nisus.
Bashahr. See Hill States; Kanawar.
Bashkir—Turk.
Bashr (Bishr)—Sufi.
Basil—Ocimum.
Basilisk. See Iguana.
Basma, HIND., Indigofera tinctoria.
Básmati, HIND., Fine rice, white, long, thin grain, and fragrant when boiled.
Basna, HIND., Agati grandiflora.
Basoti of Kangra, Colebrookia oppositifolia.
Bassant of Ravi, Hypericum perforatum.
Bassar of Sutlej, Capparis spinosa.
Bassia—Isonandra.
Bassid, ARAB., Coral.
Bassu Tarta—Jamnotri.
Bastard cedar, Guazuma tomentosum.
Bastard saffron, Carthamus tinctorius.
Bastard sago palm, Caryota urens.
Bastard teak, Butea frondosa.
Bastra, HIND., Callicarpa.
Basuti, CHENAB, Adhatoda vasica.
Bat. See Cheiroptera; Mammalia.
Batagur baska—Reptiles.
Bátal—Kashmir.
Batang, SUTLEJ, Rubus.
Batangi, HIND., Pyrus variolosa.
Batar, HIND., Rice sown broadcast.
Batasha, HIND., Potash; also a sweetmeat.
Batatas edulis, Sweet potato.
Bat-bakri of Ravi, Fungus, Mushroom.
Batezai. See Afghanistan.
Bathenians, Old Man of the Mountain.
Bathu, PANJ., Chenopodium album.
Bathudi—Orissa.
Batis, HIND., Aconitum heterophyllum.
Batkar of Murree, Celtis Caucasica.
Bat-myaka, TEL., Eupodotis Edwardsii, Bustard.
Batoti, HIND., a blight or disease of pulse, in the Panjab, caused by the east wind.
Batoum, i. 609.
Batrachians—Reptiles.
Batrachus grunniens. See Fishes, 1115.
Batsali-kura, TEL., Portulaca quadrifida.
Batsnab bish, Bish, BENG., Aconitum ferox.
Battál, HIND., Euonymus fimbriata.
Báttar, HIND., Grewia Rothii.
Battedombe, SINGH.? Calyptranthes caryophyllifolia.
Battee sal, BENG., Dipterocarpus alatus.
Battya kings—Sisunaga.
Batula, HIND., Cicer arietinum.
Batu nakit, JAP., Bezoar.
Batur-nibu, HIND., Citrus decumana.
Batu-timbul, MALAY, Pumice stone.
Baubwai, BURM., Careya arborea.
Baum, Bondar, BENG., Paradoxurus.
Bauri, SUTLEJ, Capparis spinosa.
Baver, SIND., Acacia farnesiana.
Bavungi, TEL., Celastrus paniculatus.
Ba-wa-net, BURM., Gendarussa vulgaris.
Bawang, MALAY, Orion.
Bawang-putih, Allium sativum.
Baw-chan, DÚKH., Psoralea corylifolia.
Baya, JAV., Crocodile.
Bayadere, FR., Dancing-girls, Devadasa.
Bayberry tree, ENG., Allspice.
Bay-heera of Himalaya, Felis pardus, Panther.
Baz, HIND., Astur palembarius.
Bazigar, HIND., an athlete, a tight-rope dancer.
Bazr-ul-Bunj., PERS., Hyosciamus niger.
Bazu, HIND., the arm; Bazuband, an armlet.
B'dellium—Balsamodendron.
Bead-seed tree, Abrus precatorius.
Beami, MALEAL., Herpestris moniera.
Bean, Faba vulgaris.
Bear-cat, Arctictis binturong.
Bear-pig, Arctonyx collaris.
Bears, *sp.* of the family Ursidæ.
Bebina, HIND., Mussœnda frondosa.
Beche-de-mer; FR., Holothuria, Trepang.
Bed, PERS., Calamus, also Populus alba.
Bedana, HIND., Seedless Raisins.
Beda tige, TEL., Ipomœa pes-capræ.
Beder race—Pindara.
Bedi—Nanak.
Bed-i-anjir, HIND., Ricinus communis.
Bed-i-majnun, PERS., Salix Babylonica.
Bed-i-mushk, Salix caprea.
Bedpai—Kashifi, Panchatantra.
Bed-ul-Ashar, EGYPT., Calotropis gigantea.
Bee-eaters, *sp.* of Merops and Nyctiornis.
Beef-wood, Casuarina equisetifolia.
Beeghotoon—Kan.
Beemboo, BENG., Coccinea Indica.
Bees. See Honey; Megachile.

Beesha, MALEAL., Beesha Rheedii.
Beetla-codi, MALEAL., Chavica betle.
Beetles. See Carabidæ; Copridæ; Insects.
Beg-banafsha, HIND., Orris root.
Beggars. See Alms; Mendicants.
Beg poora, BENG., Citron, Citrus medicus.
Begram—Opian.
Begti, Cockup, Lates calcarifer.
Behar. See Bengal; Cave Temples.
Behbehan—Khogilu.
Behemoth, Hippopotamus.
Behikar, HINDI., Adhatoda vasica.
Behistun. See Chronology.
Behitsil. Hot Spring, 112.
Behmen-abiad, ARAB., Centaurea behmen.
Behuari, BENG., Cordia myxa.
Behul, HIND., Grewia oppositifolia.
Bein, BURM., Opium.
Bek, CAN., TAM., Felis chaus.
Bekh, PERS., any root.
Bekhar, PANJ., Grewia Rothii.
Bekh-badian, PERS., Fœniculum vulgare.
Bekh-i-karafsh, PERS., Fœniculum vulgare.
Bekh-i-marjan, HIND., Coral.
Bekh-i-zanjabil-i-shami, PERS., Elecampane root.
Bekh-mekeh, PERS., Glycyrrhiza, Liquorice.
Bel, HIND., Ægle marmelos, Cratæva religiosa; Bela and Belphul, Jasminum sambac.
Bela, a district of Las in Baluchistan.
Bela, HIND., alluvial soil on the banks of a river.
Beladur, ARAB., Semecarpus anacardium.
Belam Kanda Schularmahi, MAL., Pardanthus Chinensis.
Bel-bandhar, a Hindu ceremony, 65.
Bel-ericu, MALEAL., Calotropis gigantea.
Beleyleh, PERS., Terminalia belerica.
Belgaum walnut, Aleurites triloba.
Beli-caraga, MALEAL.; Cynodon dactylon.
Belidæus breviceps. See Opossum; Phalangista.
Belikh-zichi, ARAB., Citrullus cucurbita.
Belilla, MALEAL., Musscenda frondosa.
Bel kambi, CAN., Albizzia amara.
Bellamodagam, MALEAL., Scœvola belamodagam.
Bella shora, MALEAL., Lagenaria vulgaris.
Bellinger, MALEAL., Lagerstrœmia parviflora.
Belli-nundi, Nanah, MAHR., Lagerstrœmia parviflora.
Bellur. See Architecture, 146.
Bellutta areli, MALEAL., Nerium odorum.
Bellutta-champakam, MALEAL., Mesua ferrea.
Bellutta pola-tali, MALEAL., Crinum Asiaticum.
Bel Merodach. See Chaldæa, 642.
Belna, HIND., a cotton cleaning roller, a rolling pin; a screw and roller apparatus for cleaning cotton; also the sugar-cane press.
Belœren payrin tuthi, MALEAL., Abutilon Indicum.
Belostoma Indicum. See Hemiptera.
Belshazzar. See Babylon.
Beltis, wife of Bel Nimrud, called also in Chaldee Enutes or Malita. In Assyria she was called Bilta Nipruta, also Bit Ana, i. 642.
Beluga. See Cetacea; Whales.
Belulí, CAN., Allium sativum.
Beluta pola-tali, MALEAL., Crinum Asiaticum.
Bem—Kashmir.
Bem nochi, MALEAL., Vitex negundo.
Bem pavel, MALEAL., Momordica dioeca.
Bem tamara, MALEAL., Nelumbium speciosum.
Ben, BURM., Amomum cardamomum.
Bena, HIND., Andropogon muricatum.
Bena-patsja, MALEAL., Fiaridium Indicum.
Bendakai, TAM., Abelmoschus esculentus.
Bendu rapu, TEL., Rottlera tinctoria.
Bengal gram, Cicer arietinum.
Bengan, HIND., Brinjal.
Bengieri, MALEAL., Sapium Indicum.
Beni. See Oman.
Benjamin of Tudela—Karund.
Benkar, Khumb, BEAS, Hiptage madablota.
Ben-teak, ANGLO-HIND., Bentheka, MALEAL., Lagerstrœmia parviflora.
Ber, HIND., Zizyphus jujuba, Z. nummularia.
Bera, HIND., Glochidion velutinum.
Berar. See Agriculture, 129; Hyderabad.
Berbers—Semitic Races.
Ber-biang Ber-sahibah, MALAY, Brother-making.
Berchemia oppositifolia, Sageretia oppositifolia.
Bergamotte lime, Citrus bergamia.
Beri of Panjab, a large heavy boat.
Berli, MAHR., Caryota urens.
Bermi, HIND., Cratæva tapia; Trianthema obcordatum.
Bermun. See Binua.
Berosus. See Chronology, 717.
Berwaja, TRANS-INDUS, Calligonum polygonoides.
Beryl—Precious Stones.
Besan, HIND., Grain flour, Cosmetic.
Besha-nungula, BENG., Methonica superba.
Besisi. See Binua; Gunong.
Be-situn. See Cuneiform.
Besra, HIND., Accipiter virgatus.
Bet, Beta, Bettamu, BENG., HIND., Calamus, Ratan.
Bete, TERNATE, Colocasia esculenta.
Betel-nut palm, Areca catechu.
Betel vine, Chavica betle.
Beter, HIND., Juniperus squamosa.
Betikh, ARAB., Cucumis melo.
Betosag, BENG., Chenopodium viride.
Bettu temples. See Architecture, 146.
Bet udata, TEL., Sciurus maximus.
Betula nitida, Alnus nitida.
Bet ya, BURM., Urtica heterophylla.
Beya, JAV., MALAY, SANSK., Cowrie.
Bezoar, Calculus cysticus. See How Tsao.
Bhābar, HIND., Andropogon involutum.
Bhaboot, HIND., Ashes. See Atit.
Bhadauria chiefs. See Feudatory.
Bhadra tunga gaddi, TEL., Cyperus hexastachyus.
Bhadri-nath—Tapta-kund.
Bhagela. See Chalukya.
Bhagirathi river. See Hugli.
Bhagmutty—Kathmandu, Pusputnath.
Bhains, HIND., Bubalus arni.
Bhaji, HIND., Greens, Amarantus.
Bhajji. See Hill States.
Bhakra, HIND., Tribulus, sp.
Bhākri, HIND., a yellow earth of Multan, used as a dye.
Bhakta—Vishnu.
Bhalawan, DUKH., Semecarpus anacardium.
Bhalu, HIND., Ursus, sp.
Bhalu soor, HIND., Arctonyx collaris.
Bhān, HINDI., Rhus cotinus.
Bhan, Labhan, PUSHTU, Populus Euphratica.
Bhand, HIND., Geranium nodosum.
Bhang, PERS., Bhanga, Ganjika, SANSK., Hemp, Cannabis sativa.
Bhangār bij, HIND., Asphodelus fistulosus.
Bhant, BENG., Clerodendron infortunatum.
Bhar—Rohilkhand.
Bharata, Pandu.
Bhartya, Tatyar, Braziers of Panjab.
Bharya, HIND., Canis pallipes, Wolf.
Bhasnuam, SANSK., Ashes.
Bhat mil, Bher band, HIND., Argemone Mexicana.
Bhatnair. See Deserts, 919.
Bhat-Raj, HIND., Bard.
Bhatta Soma Deva, author of the Kat'ha-sarit-Sagara. He lived about A.D. 1088.
Bhatti—Hissar; Rajputs.
Bhattiah. See Commerce, 790; Deserts, 920.
Bhattya dynasty. See Bharata.
Bhatwa, Bathu, HIND., Chenopodium album.
Bhau-bij festival. See Brahman, 432.
Bhawani—Parvati.
Bhawani river. See Cauvery.
Bhayroo, URIYA, Chloroxylon Swietenia.
Bheamoka, BENG., Helianthus tuberosus.
Bhekkar, Pekkar, PANJ., Adhatoda vasica.
Bhela, BENG., Semecarpus anacardium.
Bhendi, HIND., Abelmoschus esculentus.
Bheng, HIND., Nelumbium speciosum.
Bher-bhand, HIND., Argemone Mexicana.
Bhewndy. Hot Springs, 112.
Bhey, Bhot, Fagopyrum esculentum.
Bhihar—Rohilkhand.
Bhikshuka—Sanyasi.
Bhikuk. See Brahman, 430.
Bhil—Hindustan, 83; Hyderabad, 134.
Bhila, Bhiladar, Bhilawar, HIND., Semecarpus anacardium.
Bhim—Rudra Prayag.
Bhima—Pandu.
Bhima horses. Horse, 105.
Bhimb, HIND., Coccinea Indica.
Bhimpoga. See Cloths.
Bhim-raj, Paradise fly-catcher.
Bhimtal. See Lakes.
Bhir (female) GOND., Tetraceros quadricornis.
Bhir buti, HIND., a scarlet insect.
Bhiree, MAHR.; Chloroxylon Swietenia.
Bhirkura (male), GOND.; Bhirul of Bhils, Tetraceros quadricornis.
Bhogra, HIND., Cleome pentaphylla.
Bhojpatra, HIND., Betula Tartarica, B. bhojpatra.
Bhokur, HIND., Cordia latifolia.
Bhola, Trout of the Ganges.
Bhomia—Kathiawar.
Bhondar, BENG., Viverridæ.

Bhooi mung, BENG., Ground-nut.
Bhoomia-nim, HIND., Gratiola serrata.
Bhooshee, HIND., Crude carbonate of soda.
Bhopal. See Feudatory; Hindustan, 80.
Bhosa, Bhoonsa, HIM., Cuon rutilans.
Bhot race—Kashmir, Himalaya.
Bhownagar chiefs. See Feudatory.
Bhoysing, GUJ., HIND., Ground-nut.
Bhuansu, NEPAL, Cuon rutilans.
Bhudurea—Joshi.
Bhugri, HIND., dried date, dried jujube.
Bhui-dagdha, HIND. See Chiwana; or Hindu Cremation Place.
Bhuinhar—Brahmans.
Bhuin-koit, Kawtha, HIND., Feronia elephantum.
Bhuiya—Orissa.
Bhuk, JHELUM, Allium sphærocephalum.
Bhu kupittham, SANSK., Feronia elephantum.
Bhuluvanga, SANSK., Jussieua repens.
Bhumij—Orissa. See Chutia Nagpur.
Bhumi jamad-alu, Okkala, Slave.
Bhumi tailum, SANSK., Naphtha.
Bhum-phor, HIND., Philipæa calotropidis.
Bhumtas, HIND., Salix tetrasperma.
Bhungi, Isband, HIND., Jute, Circhorus olitorius.
Bhu-okra, HIND., Zapania nodiflora; Bhui-kumra, Tricosanthes cordata; Bhui-champa, Kaempferia rotunda; Bhui jamba, Premna herbacea; Bhuin-kumra, Batatas paniculatus; Bhui-sunn, Crotalaria prostrata; Bhuin aunla, Phyllanthus niruri.
Bhur, HIND., Sandy hillocky soil.
Bhura of Panjab, Coarse goat-hair cloth, sackcloth.
Bhurjamu, Barjapatri, TEL., Betula bhojputra.
Bhurtpur. See Feudatory; Hindustan, 80.
Bhustrina, SANSK., Andropogon schoenanthus.
Bhut, Bhut-bali, Spirit-worship.
Bhutala bhairi, TEL., Croton lacciferum.
Bhutam kusam, SANSK., Croton lacciferum.
Bhuta-nidya, SANSK., Mental ailments.
Bhut-jata, HIND., Apium graveolens.
Bhuvaneswar or Benares—Jain.
Bhyns, HIND., Buffalo.
Bhyri, HIND., Falco peregrinus.
Bi-ar of Hazara, Pinus excelsa.
Bibla, HIND., MAHR., Pterocarpus marsupium.
Bibla of Bowri, Leopard.
Bibor—Kolita.
Bibos cavifrons, Gavæus gaurus.
Biche-da-mar, Holothuria.
Bich-tarik, BENG., Letsomia nervosa.
Bich-taruka, BENG., Argyreia speciosa.
Bichua (scorpion), HIND., Urtica heterophylla.
Bicol. See Philippines.
Biddat, ARAB., in Muhammadan law points neither enjoined nor forbidden.
Bidul, HIND., Bauhinia purpurea.
Bignonia chelonoides, Stereospermum chelonoides.
Bignonia Indica, Calosanthes Indica.
Bignonia quadrilocularis, Spathodea Roxburghii.
Bignonia undulata, Tecoma undulata.
Bihi, HIND., PERS., Cydonia vulgaris.
Bihull, Biul, SIND., PANJ., Grewia oppositifolia.
Bija. See Hill States.
Bijar, the Brahmany Bull. See Brihotsarg.
Bijara sala, SANSK., Anacardium occidentale.
Bija-sal, BENG., Pterocarpus marsupium.
Bijband, Kuwar, HIND., Polygonaceæ.
Biju, HIND., Mellivora Indica.
Bikanir. See Desert; Feudatories; Hindustan.
Bikki, Konda manga, TEL., Gardenia latifolia.
Bilaspur. See Hill States.
Bilaur, HIND., Rock-Crystal.
Bilimbi, MALEAL., Bilin, SINGH., Averrhoa bilimbi.
Bilitshi of Lahaul, Ribes, *sp.*
Bil-jhun-jhun, HIND., Crotalaria retusa.
Billa-ilei, CAN., Gerbillus Indicus.
Billi lotan, HIND., Melissa.
Billu chettu, TEL., Chloroxylon Swietenia.
Billugá, Billu karra, TEL., Swietenia chloroxylon, Chlor. Swietenia.
Billu gaddi, TEL., Saccharum spontaneum.
Bil nalita, BENG., Corchorus fascicularis.
Biloja, SUTLEJ, Falconeria insignis.
Bilva, TEL., Cratæva Roxburghii.
Bilva-titha, CAN., Feronia elephantum.
Bima. See Archipelago, 138.
Bimak, HIND., Myrsine Africana.
Bimbu, Bhimb, HIND., Coccinia Indica.
Bin, BENG., BURM., Cannabis sativa.
Bin, HIND., a stringed musical instrument; the binjoji is a pipe used by snake-charmers.
Bina, Bala, Usir, HIND., Andropogon muricatus.
Bina, Binahe, BENG., Avicennia tomentosa.
Bina, BORNEO, Antiaris toxicaria.
Bina, HIND., Musk-deer.
Bina, HIND., Avicennia tomentosa.
Bincha, HIND., Flacourtia sapida.
Binda, TEL., Hibiscus esculentus.
Bindak, HIND., Corylus avellana.
Bindal, HIND., Momordica echinata.
Bin-kuk, ARAB., Armeniaca vulgaris.
Bin-punka, HIND., Puneeria coagulans.
Binua. See Archipelago, 136.
Biophytum sensitivum—Oxalidaceæ.
Biramdandi, HIND., Microlonchus divaricata.
Birba, HIND., Terminalia bellerica.
Bird cherry, Cerasus cornuta.
BIRD INDEX. See after this General Index.
Birgujar—Rajputs.
Birgus latro. See Crustacea.
Birhor. See Chutia Nagpur.
Biri, HIND., Ærua Javanica.
Birija, HIND., Galbanum.
Birmi, DUKH., Trichosanthes incisa.
Birmi, HIND., Taxus baccata.
Birra, HIND., Picea, *sp.*
Birthwort, Aristolochia bracteata.
Birum-jasif, PERS., Artemisia.
Biruni. Abu Rihan; Al Biruni.
Bisatun. See Hungrung.
Bisaya. See Philippines.
Bisfaij, TRANS-INDUS, Adiantum capillus veneris.
Bish, Batsnab-bish, HIND., Aconitum napellus.
Bish-bans, Beesha Rheedii.
Bishmutty—Kathmandu.
Bishop's weed, Anethum sowa.
Bishtarak, Argyreia speciosa.
Biskhopra, DUKH., Trianthema decandrum.
Bismillahi—Prasada.
Bison of Madras, Gavæus gaurus.
Bistuj, ARAB., GUJ., Boswellia thurifera.
Bitaghat. See Literature.
Biti, MALEAL., Dalbergia latifolia.
Bit-miaka, CAN., TEL., Bustard.
Bit noben, HIND. See Bit-laban.
Bitter apple, wild gourd, Citrullus colocynthis.
Bittern, *sp.* of Ardetta and Botaurus.
Bium, TEL., Oryza sativa.
Biur, Kingkhak, SUTLEJ, Artemisia.
Biyawak, Bewak, MALAY, Iguana.
Biyom, LEPCHA, Pteromys, *sp.*
Biyu kantyem, BHOT., Talpa microura.
Biyu khawar, TEL., Mellivora Indica.
Blackbirds, *sp.* of Merula.
Black Hole. See Holwell.
Black Mountains—Mount Mahaban.
Black salt, Bit-laban.
Blackwellia Ceylanica, Homalium Ceylanicum.
Blackwood, Dalbergia sissoides, Rosewood.
Blatti, MALEAL., Sonneratia acida.
Bleak-fish. See Chiliva.
Blechnum, Tree-fern.
Blimbing-basi, MALAY, Averrhoa bilimbi.
Blimbing manis, MALAY, Averrhoa carambola.
Blimbingun-teres, Averrhoa bilimbi.
Blistering beetle, Cantharis vesicatoria.
Blow-pipe. See Armour, 163.
Blue Mountain. See Koladyn.
Bluestone, Sulphate of copper.
Blumea grandis. See Camphor.
Blyth, Edward. See Birds, 367.
Bo, Bo-gaha, SINGH., Urostigma religiosa.
Boarda-gumudu, TEL., Benincasa cerifera.
Board of Control, instituted A.D. 1784. See British India, 448.
Boar standard. See Lanchhana; Varaha.
BOAT INDEX. See after this General Index.
Bobali. See Feudatory.
Bobra, Bobarlu, TEL., Dolichos catjang.
Boda, Bondaga, HIND., Lagerstroemia lanceolata.
Bodanta chettu, TEL., Bauhinia, *sp.*
Boda taram, TEL., Sphæranthus Indicus.
Bodda chettu, TEL., Ficus glomerata.
Boddama, TEL., Bryonia callosa.
Bodhi-drum, i. 493.
Bodhisattwa Avalokiteswara, Tsong-kha-ba, Josaphat.
Bodingan Sumatran, Brinjal.
Bodo-pail-kura, TEL., Trianthema obcordatum.
Bogum wanlu, TEL., Dancing girls.
Boiggiah of S. Mahratta Country. See Boyilla.
Bois d'Aigle, FR., Agallocha wood.

Bokaara-gass, SINGH., Gomphia angustifolia.
Bokada, TEL., Clerodendron infortunatum.
Bo-ke-mai-za, BURM., Kydia calycina.
Bokhara. See Central Asia; Turkestan.
Bokhari. See Abu Abdullah.
Bokhena, TEL., Zapania nodiflora.
Bokhi or Utimukta, DUKH., Hiptage madablota.
Bokkudu, TEL., Hydrocotyle Asiatica.
Bokur, MAHR., Cordia Rothii.
Bol, HIND., Balsamodendron myrrha, Myrrh.
Bola, BENG., Paritium tiliaceum.
Bolandur, CAN., Lagerstrœmia microcarpa.
Bole. See Ochre.
Boleophthalmus. See the Jumping Johnny.
Bolintra-bolum, TEL., Myrrh.
Bol siah, PERS., Aloes.
Boma-papata, TEL., Stylocoryne Webera.
Bombarimasa, TEL., Citrus decumana.
Bombax gossypium, Cochlospermum gossypium.
Bombax pentandrum, Eriodendron anfractuosum.
Bombay blackwood, Cassia Sumatrana.
Bombay Duck. See Bummalo; Fishes, 1116.
Bomma kachika, TEL., Costus speciosus.
Bomzu or Bumzu—Ra-khaing.
Bonassus. See Copridæ.
Bondar, BENG., Paradoxurus musanga. See Viverridæ.
Bondara, MAHR., Lagerstrœmia parviflora.
Bongs of Bisaya, Arœa catechu.
Bongu veduru, TEL., Bamboo.
Boni Gulf. See Celebes.
Bonta-chemudu, TEL., Euphorbia antiquorum.
Bontia germinans, Avicennia tomentosa.
Bonze—Talapoin; Monastery; Monk.
Booby, Sula fiber, S. piscator.
Boohora-gass, SINGH., Dipterocarpus hispidus.
Boomerang. See Armour, 163.
Boondi. See Hindustan, 80.
Bora-chung, BHOT., Ground-fish.
Borassus gomutus, Arenga saccharifera.
Boratu, SIND., Pollen of Typha elephantina.
Borbacha, HIND., Leopard.
Bori, MALAY, Croton tiglium.
Borz, PUSHTU, Capra ægagrus.
Bos. See Bovidæ; Bubalus; Gavæus; Zebu.
Bostan afroz, HIND., Amarantus cruentus.
Botakadandi, TEL.; Naudea parviflora.
Botku, TEL., Hemigymma Macleodii.
Botryllidæ—Tunicata.
Bottabenda, TEL., Abutilon Indicum.
Bottle gourd, Lagenaria vulgaris.
Bottu kuru, TEL., Cordia polygama.
Boue baya-za, Excœcaria agallocha.
Boulde princes. See Khalifah.
Bowchee of Bombay, Flacourtia sapida.
Boz, PERS., Capra ægagrus.
Bozandan, HIND., Asparagus racemosus.
Boz gand, HIND., Galls of Pistacia terebinthus.
Bra, Prau, BENG., CHENAB, Eremurus spectabilis.
Brah, Bras, Broa, Rhododendron, *sp.*
Brahmachari. See Sanyasi.
Brahmadurbha, SANSK., Ligusticum ajowan.
Brahmakund, i. 437, Brindaban.
Brahmanical caves. See Architecture, 144.
Brahman manufacture, i. 433.
Brahmany goose, Casarca rutila.
Brahmany kite, Haliastur Indicus.
Brahmaputra—Jamuna; Rivers.
Brahmari mari, TEL., Clerodendron serratum.
Brahu maricha, SANSK., Cayenne pepper.
Bramadandu, TAM., Argemone Mexicana.
Bramble, Blackberry, Rubus.
Bramha rakshasi, TAM., Fourcroya cantala.
Bramia Indica, Herpestris monniera.
Brami, Sarcostigma brevistigma.
Brami shomluta, BENG., Sarcostemma.
Brari, Breri, KASH., Ulmus campestris.
Bras, Bres, Karma bres, SUTLEJ, Buckwheat.
Bras, MALAY, Oryza sativa.
Braunai of Borneo.
Brazil gooseberry, Physalis somnifera.
Brazil wood, Cæsalpinia sappan.
Bread-fruit, Artocarpus hirsutus.
Brej-pam, HIND., Eider down, fine wool.
Bren, Bran, KASH., Ulmus erosa.
Breri, HIND., Quercus annulata.
Brès, HIND., Fagopyrum esculentum.
Bridelia patula, Cluytia patula.
Bridge. See Jhula.
Brihatchitra, HIND. Cassia sophora.
Brinj, PERS., HIND., Husked rice.
Brinjal, Mad-apple, Solanum melongena.
BRITISH INDIA INDEX. See after this General Index.
Broach, the ancient Baragoza. See Pandiya.
Brog. See Drok.
Bromelia ananas, Ananas sativus.
Broonga malagum, Oil. See Oils.
Brosimum. See Cow Tree.
Brown hemp of Bombay, Ambari.
Brownies. See Yaksha.
Brug-pa—Tsong-kha-ba, Hung-Kiao.
Bruguera decandra, Ceriops Roxburghianus.
Brush-turkey, Talegalla lathami.
Bryonia grandis, Coccinea Indica.
Bua-ahi, Marquesas, Sandal-wood.
Bu-Ali-Sina. See Abu Ali.
Bu-ambilla gas, SINGH., Antidesma paniculata.
Bua-nan-ka, MALAY, Artocarpus integrifolius.
Buang Pass. See Borendo.
Buansa, HIM., Cuon rutilans.
Buaza, Buwaza, MALAY, Crocodile.
Bubale, ARAB., Alcephalus bubalis?
Bubalo, SINGH., Coral.
Bubroma guazuma, Guazuma tomentosum.
Buckchi, HIND., Purple Fleabane.
Buckolee, HIND., Ixora bandhuca.
Buckthorn, Hippophae salicifolia.
Buckum, PERS., Pterocarpus Santalinus.
Buckwheat, Fagopyrum esculentum.
Buda-darmee, TEL., Careya arborea.
Budareni, TEL., Capparis divaricata.
Budda-kakara, TEL., Cardiospermum halicacabum.
Bud-da-tha-ra-na, BURM., Canna Indica.
Buddha Gaya. See Gaya.
Buddha's cocoanut, Sterculia alata.
Buddhist canon. See Kanishka.
Buddhist caves. See Architecture, 144.
Budha, Ikshwaku.
Budide gummadi, TEL., Benincasa cerifera.
Budorcas taxicolor. See Takin.
Buffalo. See Bovidæ, 426; Bubalus arni; Gavæus gaurus.
Bug. See Coffee Planting, 772–73; Insects.
Bu-ghyee-phyoo, BURM., Clerodendron viscosum.
Bugi, People of Celebes.
Buglas. See Philippine.
Bug-trora of Bombay, Tecoma undulata.
Buhuari, HIND., Cordia myxa, C. latifolia.
Bui, KANGRA, Ophelia alata.
Bui, SINGH., Bui-mung, HIND., Arachis hypogea.
Bui choti, HIND., Anabasis multiflora; Bui kalan, Panderica pilosa.
Buinch, BENG., Flacourtia sapida.
Buinphal, HIND., Tuber ciberium.
Bujlo, Kapfi, RAVI, Oreoseris lanuginosa.
Bujoor, Batool, BENG., Corypha elata.
Bukayun, HIND., Melia sempervirens.
Bukbur, ARAB., Cathartocarpus fistula.
Bukhoor, DEKH., Cordia myxa.
Bukkur. See Rohri.
Bukoki, HIND., Serratula anthelmintica.
Bukur-Kohani, Bokhara, Apricot.
Bulbine Asiatica, Crinum Asiaticum.
Bulbul chashm, HIND., a pattern produced in weaving.
Bulgaria. See Finn.
Bulghar, PERS., a sort of leather.
Buli, HIND., Sterculia urens.
Bull of Siva, Hindu, 65; Nandi.
Bulla, DUKH., Terminalia bellerica.
Bulla. See Phylactery.
Bullar (black-seeded), BOM., Lablab vulgare.
Bullock heart, Anona reticulata.
Bully tree, Achras sapota.
Bulpam, TAM., TEL., Soap-stone.
Bulrush, Cat's-tail, ENG., Typha angustifolia.
Bultistan or Balti—Iskardo.
Bulu-gass, SINGH., Terminalia bellerica.
Bulung, JAV., Eucheuma spinosum.
Bu-mai-za, BURM., Albizzia stipulata.
Bum-Buklesir. Hot Springs, 113; Mineral Springs.
Bu-mee-gass, SINGH., Tetranthera Roxburghii.
Bummalo. See Bombay Duck; Fishes, 1116.
Bun, ARAB., Coffee berry.
Bun, SUTLEJ, Amygdalus Persica.
Buna, HIND., Acacia speciosa.
Buna of Kaghan, Albizzia oderatissima.
Buna, KASH., Platanus orientalis.
Bund, HIND., a drop, a spot, a spotted cotton fabric.
Bundaru, TEL., Hymenodyction excelsum.
Bundela. See Rajputs.
Bundelkhand. See Central India; Feudatory; Hindustan, 83.

Bunga-chappa, MALAY, Blumea balsamifera.
Bunga-lawang, MAHR., Caryophyllus aromaticus.
Bunga-pala, MALAY, Mace.
Bungarus—Reptiles.
Bunge, Buzir-ul-bunge, AR., Henbane seed.
Bungka Kutua. See Kutua.
Bung-mai-zah, BURM., Inga bigemina.
Bunj, ARAB., PERS., Hyosciamus niger.
Bunting. See Emberizinæ.
Bunun musrini of Ravi, Fragaria Indica.
Bunyiu Nanjio—Japan.
Bupariti, MALEAL., Thespesia populnea.
Bur, Buri, Bori, SIND., Typha elephantina.
Bur, Buzh, Kapfi, CHENAB, Oreoseris lanuginosa.
Baraga, TEL., Eriodendron anfractuosum, Salmalia Malabarica.
Burati. See Pulati.
Bur-buti, HIND., Dolichos Sinensis.
Buree, Putera, Riri, SIND., Bulrushes.
Burgoond, Vurgoond, GUJ., Cordia latifolia.
Burhel, HIND., Ovis nahura.
Buria, HIND., a mat; Buria baf, a mat-maker.
Burial ceremonies, Hindu, 68, 69.
Burj, HIND. of Pangra, Betula bhojputra.
Burja, Burija, TEL., Hymenodyction excelsum.
Bur-kal, GOND., Felis pardus, Panther.
Burma. See Architecture, 148.
Buro-behuari, HIND., Cordia latifolia.
Buro-bet, BENG., Calamus fasciculatus.
Buro-koondo, BENG., Jasminum.
Buro-masoor, BENG., Lentil.
Burong devata, MALAY, Paradise birds.
Buroni chettu, TEL., Ficus rubescens.
Buro-rakto-komal, BENG., Nymphæa rubra.
Buro ritha, BENG., Sapindus emarginatus, Soap-nut.
Buro-shaluk, BENG., Nymphæa pubescens.
Buro-shial kanta, BENG., Argemone Mexicana.
Burr of Harriana, Cymbopogon laniger.
Burrel hay of Simla, Felis uncia.
Bursera serrata, Icica Indica.
Bursunga, HIND., Bergera Königii.
Burubu, MALAY, Spices.
Buruga manu, TEL., Bombax Malabaricum.
Burul, BENG., Artocarpus lacoocha.
Burumb, MAHR., Amoora Lawii.
Burundie, SANSK., Celosia albida.
Burun-jasif-i-kohi, PERS., Artemisia.
Buruq, Tunkar, ARAB., Borax.
Buru-shunti, BENG., Rottbœllia exaltata.
Burut—Kirghiz, Turkestan.
Buruta, SINGH., Chloroxylon Swietenia.
Busairu, SINGH., Premna tomentosa.
Bush quail, Perdicula, *sp.*
Bush rat, Golunda Elliotti.
Busi, TEL., Vitex arborea.
Busso, the Japanese Buddhist priest.
Buta-i-Miswak, HIND., Astragalus multiceps.
Butalli, Vendalli, TAM., Givottia rottleriformis.
Butan Koosam, SANSK., Anisomeles Malabarica.
Bu-ta-yat, BURM., Ægiceras fragrans.
Buti ka Mochka, CHENAB, Boletus igniarius.
But-kale, Batoola, BENG., Cicer arietinum.
But mogra, HIND., Jasminum sambac.
Butni sajji, HIND., Coarse soda.
Butocera rubus, Cocoanut tree beetle.
Butonica, Sylvestris alba, Barringtonia racemosa.
Butru, CHENAB, Fraxinus xanthoxyloides.
Butter of palm oils. See Oils.
Butterfly family—Insects; Papilionidæ; Ornithoptera Brookeana.
Butt'hhee—Kurao.
Button Quail, Turnix, *sp.*
Buttu Passalei Kirai, TAM., Basella cordifolia.
Buwah-luvung, BALI, Cloves.
Buwah-nona, MALAY, Anona squamosa.
Buz of Sutlej, Capra Sibirica.
Buzgar, a slave.
Buzoor butu of Bombay, Cycas circinalis.
Buzr katoona, ARAB., Plantaginaceæ.
Buzr-ul-shalat, Shubil, ARAB., Dill seed.
Buzzard, *sp.* of Buteo, Poliornis, Archibuteo, Pernis.
Byajainti, HIND., Sesbania Ægyptiaca.
Byakur, Bakur, BENG., Solanum Indicum.
Byga. See Binjwar.
By-it-zin, BURM., Antidesma paniculata.
Byntu, Chaughan stick.

C

CABBAGE, Brassica oleracea.
Cacalia sonchifolia, Emilia sonchifolia.
Cacatuinæ, Cocatoos of Australia. See Birds; Parrot.
Cachar. See Boro.
Cackay kalangu, TAM., Dioscorea alata.
Cacsha—Cshitija.
Cactus Indicus, Prickly pear.
Cadamba jasminiflora, Guettarda speciosa.
Cæsalpinia bonduc, Guilandina bonduc.
Cæstus. See Jetti.
Caillea cinerea, Dichrostachys cinerea.
Cairo—Kahira.
Caju-alar, MALAY, Strychnos ligustrina.
Calabash, ENG., Lagenaria vulgaris.
Caladium nymphæifolium, Colocasia nymphæifolia.
Calamagrostis arenaria, Psamma arenaria.
Calamagrostis karka, Arundo karka.
Calamaridæ—Reptiles.
Calandra. See Insects; Weevils.
Caldero bush, Pandanus odoratissimus.
Calf grass, Commelyna communis.
Calico printing. See Dyes, 1000.
Calidris, Sanderling. See Scolopacidæ.
Caligula, a genus of silk-worms. See Bombycina, 412; Insects.
Calinga. See Architecture.
Calla aromatica, Homalonema aromaticum.
Calla calyptrata, Colocasia esculenta.
Callichthys. Fishes; Walking Fishes.
Calliope. See Bactria, 222.
Callirhoe. Hot Springs, 111.
Callitris quadrivalvis, Citrus wood.
Calodium Cochin-Chinense, Cassyta filiformis.
Calobee of Sumatra—Rhea.
Calosanthes Indica, Bignonia Indica.
Calotes, *sp.* See. Blood-sucker; Reptiles.
Caltrops, Trapa bispinosa.
Calumbac—Lign-aloes.
Calyptranthes caryophyllifolia, Eugenia caryophyllifolia.
Camachile pillu, TAM., Lemon grass.
Cama-cumpa. See Cumbha.
Camari—Jaitwa.
Cambodia temples. See Architecture, 147.
Camel's hay, Lemon grass.
Camel's thorn, Alhagi maurorum.
Camel thistle, Echinops echinatus.
Camirium cordifolium, Aleurites triloba.
Camujay tree-oil. See Oils.
Camunium Sinense, Aglaia odorata.
Cana of Galilee—Kafir Kenna.
Canals of Sind. See Hyderabad, 135.
Canarac. See Architecture, 147.
Canary grass, Phalaris Canariensis.
Canavalia obtusifolia, a sand-binding plant.
Canchie pandu, TEL., Solanum nigrum.
Candarum, Amorphophallus campanulatus.
Candle-nut tree, Aleurites triloba.
Canjang kire, TAM., Basella alba.
Cannibals. See Birhor; Central Provinces.
Canouj. See Cush.
Canrew, Sottakla, TAM., Flacourtia sepiaria.
Canthium coronatum, Randia.
Canthium parviflorum, Webera tetrandra.
Cantor, Theodore. See Birds, 367.
Caouana—Reptiles.
Caoutchouc. See Castilloa; Ceara; Hevea; Siphonia elastica.
Cape gooseberry, Physalis somnifera.
Cape jasmine, Gardenia radicans.
Capparis trifoliata, Cratæva. Roxburghii.
Capra. See Bovidæ, 425; Mammalia.
Capulaga, Puwar, MALAY, Electtaria cardamomum.
Capurji, HIND., Bixa orellana.
Caracella. See Orfa.
Carap or Carab butter. See Oils.
Carapa Moluccensis, Xylocarpus granatum.
Carcara bulbosa, Pachyrhizus angulatus.
Carchemish—Hittite, 89.
Cardiva Island—Karateevo Island.
Cariari, HIND., Methonica superba.
Caries. See Blight; Uredo caries.
Carmania—Kirman.
Caroxylon Griffithii, yields barilla.
Carpenter bee, Xylocopa tenuiscapa. See Insects.
Carpobalsamum. See Opobalsam.
Carpophaga Forsteni. See Cittura.
Carpuramu, TEL., Camphor.
Carura regio Cerebothri—PANDYA.

Caryophyllus aromaticus, Eugenia caryophyllata.
Caryotaxus nucifera, Torreya grandis.
Casara kaia, TEL., Cucumis tuberosus.
Cashew-nut tree, Anacardium occidentale.
Caspian. See Central Asia.
Cassava plant, Janipha manihot, Manihot aipi.
Cassia fistula, Cathartocarpus fistula.
Cassite dynasty. See Babylonia, 218.
Cassowaries. See Dromaius; Struthionidæ.
Cassuvium pomiferum, Anacardium occidentale.
Caste. See Hindu, 74.
Castiglionia lobata, Jatropha curcas.
Castilloa. See Caoutchouc.
Castoreum—Civet, Jund Badushtar.
Catabeni or Gebantæ. See Okelis; Sea-Port.
Catappa, MALAY, Terminalia catappa.
Cataulacus. See Poneridæ.
Cat bear, Ailurus fulgens.
Caterpillars. See Coffee Planting, 774; Drepana; Insects.
Cathay—Khitai.
Catodon macrocephalus, Cetacea, Whales.
Cat's eye—Precious stones.
Caucasians—Iranian races.
Caucasus. See Imaus.
Cauvery. See Canals; Coleroon; Kavery; Rivers.
Cavamillea Philippensis, Diospyros mabola.
Cavass. See Kaw-was.
Cavatum-pillu, TAM., Lemon grass.
Cave temples. See Buddhist Remains.
Cawnee—Kani.
Ceanothus Asiaticus, Colubrina Asiatica.
Ceanothus paniculatus, Celastrus paniculatus.
Ceara tree. See Caoutchouc.
Cedar, Red cedar, Acrocarpus fraxinifolius.
Cedar wood, Hymenodyction excelsum.
Cedrela odorata. See Cedar.
Cedrus. See Coniferæ.
Ceiba pentandra, Eriodendron anfractuosum.
Celebes. See Archipelago, 138, 139.
Cella. See Rori Barolli.
Celosia nodiflora, Allmannia nodiflora.
Celtis Caucasica.
Cemiostoma fly. See Coffee Planting, 776.
Central India. See Hill Tracts; Hindustan, 77, 82.
Central India Horse. See Armies, 159.
Central Provinces. See Coal, 752; Hindustan, 82.
Cepa sylvestris, Eurycles Amboinensis.
Cephalanthus pilulifer, Nauclea parviflora.
Ceramiaceæ—Sea-weeds.
Cerapterus. See Paussidæ.
Cerasus cornuta, Prunus padus.
Cerbera fruticosa, Calpicarpum Roxburghii.
Cerbura. See Yama.
Cercopithecus. See Macacus radiatus.
Ceriornis satyra, the Argus pheasant.
Ceroxylus laceratus. See Insects; Phasma.
Cervus Aristotelis, the Sambur.
Cervus hippelaphus, Rusa Aristotelis.
Cervus porcinus, Hog-deer.
Cesar Frederich, a merchant of Venice of the 16th century, who wrote of Tenasserim.
Cesara and Cetaca, flowers mentioned in a story about Krishna.
Cesarian era of Antioch, was established there in celebration of Cæsar's victory at Pharsalia, A.A.C. 47.
Cestraccion Philippii, the Port Jackson dogfish, usually 3 to 4 feet long.
Cetacea. See Delphinidæ; Sirenia; Whales.
Cetraria Islandica, Iceland moss.
Cetus macrocephalus, Cetacea.
Ceylon moss, Plocaria candida, Seaweeds.
Chabai, Chabe, MALAY, Capsicum.
Chabai jawa, MALAY, Chavica Roxburghii.
Chaberos, the Cauvery.
Chabina, HIND., Parched gram or maize.
Chabuk, Churi, PANJ., Hiptage madablota.
Chabutra, HIND., a raised platform.
Chachiyon of Kangra, Rhododendron arboreum.
Chachundi, HIND., Soricidæ.
Chachya, HIND., Coarse silver.
Chadr, HIND., a sheet, a dam, a scarf.
Chætodon rostratus, the Archer fish.
Chagai, Desert district of Baluchistan.
Chagal-banti, Ubrun, BENG., Dæmia extensa.
Chagharzai. See Afghanistan.
Chagul, HIND., a leather water-bottle.
Chagul khuri, BENG., Ipomœa pes-capræ.
Chagul nudi, BENG., Sphæranthus hirtus.
Chagul-pati, BENG., Cynoctonum pauciflorum.
Chah, PERS.; a well; Chahi, land irrigated from wells.
Chah, PERS., Six; Chah mahidar, Farm-servants hired for six months.
Chahal Dukhtar. See Opian.
Chahil or Chahira—Rajputs.
Chahl minar. See Persepolis.
Chahuman or Chauhan—Rajputs.
Chai-bin, Khyal, BURM., Semecarpus anacardium.
Chailchalira, HIND., Parmelia chamchadalis.
Chai-ma-pok, BURM., Lead.
Chaitanya. See Hindus, 62; Khurdha; Pran-pralap.
Chaitya. See Architecture, 143; Chod-ten; Dungten.
Chak, HIND., a circle or marked-off plot.
Chakma. See Chittagong.
Chakor, Caccabis chukor.
Chakotra, HIND., Citrus decumana.
Chakowar, HIND., Cassia obtusifolia.
Chakrankatam. See Hindu, 60.
Chakravarti or Chuckerbutty.
Chakra varti kura, TEL., Chenopodium album.
Chaksoo, HIND., Cassia absus.
Chakunda, HIND., Cassia tora.
Chakuri, GOND., Plotus melanogaster.
Chalai of Jhelum, Juniperus excelsa.
Cha-lan-ga-da, BURM., Pterocarpus Indicus.
Chalava mirrialu, TEL., Cubebs.
Chaldæa. See Babylonia, 218; Burial Customs, 517.
Challa, Hali dasul, CAN., Lagerstrœmia reginæ.
Challa, Pillitoga, TEL., Asparagus racemosus.
Chalo-dhona, URIYA? Erythrina Indica.
Chalonwa, BEAS, SUTLEJ, Populus ciliata.
Chalta, HIND., Dillenia speciosa.
Chalukya—Kaliani.
Chama, BHOT, Hordeum cœleste.
Chamach-buza, HIND., Platalea leucorodia.
Chama kuru, TEL., Colocasia antiquorum.
Chamandi pu, TAM., Camomile.
Chamanti, TEL., Chrysanthemum Roxburghii.
Chamar, Dhor, Leather-workers.
Chamaree, MAHR., Premna integrifolia.
Chamba Brahmans, i. 433.
Chambara, MAHR., Premna tomentosa.
Chambeli, Jati, HIND., Jasminum.
Chambra of Ravi—Artemisia.
Chameleons. See Reptiles.
Cham-gadal, HIND., Pteropus bats.
Chamissoa nodiflora, Allmannia nodiflora.
Chamkat, HIND., Desmodium tiliæfolium.
Chamois, Nemorrhœdus Goral.
Chamomile, Anthemis nobilis.
Champ, Taspu, CHENAB, Alnus nitida.
Champa, BENG., Michelia champaca.
Champa nuteya, BENG., Amarantus polygamus.
Champa of Kashmir. See Suttoo.
Chamra—Charmi, Parchment.
Chamra-irak, HIND., a kind of leather.
Chamror, HIND., Ehretia aspera.
Chamuna, HIND., Edible roots of Cyperus bulbosus.
Chamunda. See Sakta.
Chamyari, HIND., Prunus puddam.
Chanaka, TEL., Cicer arietinum.
Chanakya. See Chandragupta.
Chanay kalangu. MALEAL., Tacca pinnatifida.
Chandan, HIND., Santalum album; Lal chandan, Pterocarpus Santalinus.
Chandaree, BOMBAY, Psophocarpus tetragonolobus.
Chandel, HIND., Antiaris innoxia.
Chandel. See Rajputs.
Chandi. See Palliwal.
Chandiari? BENG., Leptoptilos Javanica.
Chandika, Sakta.
Chandna, PANJ., Tetranthera Roxburghii.
Chandnee, HIND., Calonyction Roxburghii.
Chandoo. See Opium.
Chandra, BENG., Ophioxylon serpentinum.
Chandra Drona, the Baba Booden Hills.
Chandragiri. See Bijayanagar.
Chandra-poda, TEL., Argyreia speciosa.
Chandras, HIND., Copal.
Chandravansa. See Pandu.
Chandropterygii. See Fishes.
Chanduse. See Clothing, 748.
Chang, HIND., a beer of Spiti.
Changa. See Cloths.
Chang-chau-fu, CHIN., Camphor.

Chang-kwo-tsz-shu, CHIN., Cathartocarpus fistula.
Changla, TEL., Aucklandia costus.
Changlo. See Bhutan.
Changthani, a wobl.
Changu of Tibet, also Chankodi of Kamaon, Canis laniger, white wolf.
Chani, TEL., Adenanthera aculeata.
Chaniari-dhauk, BENG., Leptoptilos argala.
Chanjanwale. TR.-IND., Asparagus Panjabensis.
Channa, HIND., Cicer arietinum.
Channan of Chenab, Populus alba.
Chanoo, Rhadooni, BENG., Apium involucratum.
Chaori gao, Poephagus gruniens.
Chapa janna, TEL., Fish roe.
Chaplasha, HIND., Artocarpus chaplasha.
Chaptalia gossypina, Oreoseris lanuginosa.
Char, also Chargodar, HIND., Valeriana Wallichiana.
Chara, HIND., Fodder.
Charachi, TEL., Grewia tiliæfolia.
Charadrinæ. See Birds; Plover.
Chara kanda, TEL., Colocasia nymphæfolia.
Charan. See Parasnath.
Charandas. See Hindus, 62.
Char angli, HIND., Boucerosia edulis.
Chara pappu, TEL., Buchanania latifolia.
Charati, SANSK., Ionidium suffruticosum.
Charaz, Charas, DUKH., Bustard.
Chargh, HIND., Falco sacer.
Chari, PUSHTU, Quercus ilex.
Charkhi, Kabul silk.
Charkre of Ravi, Hornbeam.
Char-mughz, PERS., Walnut.
Charon's fee—Kadho-Akha.
Charrah, ARAB., Lagenaria vulgaris.
Charsa, HIND., a skin of land, a leather bucket.
Charvaka. See Mimansa.
Chasa, HIND., Opium, Poppy.
Chasa. See Kisan.
Chasarfo, HIND., a yellow earth of Spiti.
Chasmak, PERS., Cassia absus.
Chatera, HIND., an embosser or chaser of silver and gold work.
Chaterni, HIND., Rhamnus purpureus.
Chatin, BENG., Alstonia scholaris.
Chat-khatai, HIND., Solanum xanthocarpum.
Chatni, HIND., a condiment.
Chatra, HIND., Leucas cephalotes.
Chatr go putr—Hindus, 68.
Chatta matta, Garaga, TEL., Gardenia gummifera.
Chattri, HIND., Agaricus campestris.
Chatur-bhūja, HIND., the four-armed divinity.
Chaubé. See Brahmans, 431.
Chau-chu, Chau-ch'un, Chun-chu, CHIN., Ailantus glandulosus.
Chaughan, HIND. See Hockey.
Chauhan. See Desert; Rajputs.
Chaulai, HIND., Seed of Amarantus frumentaceus.
Chaularaya, NEP., Borax.
Chaulmoogra, HIND., PER., Gynocardia odorata.
Chaumukh. See Palitana.
Chaunch. Mineral Springs.
Chauni ajwain, HIND., Cleome pentaphylla.
Chaunro, SIND., Dolichos Sinense.
Chaupan Pal. See Kashmir; Pahal.
Chau-singha, HIND., Tetraceros quadricornis.
Chavalapuri kada, TEL., Andrographis echioides.
Chavannesia esculenta. See Caoutchouc.
Chavica betel, Piper betle.
Chavica Roxburghii, Piper longum.
Chaw, a small tribe in Arakan.
Chawal, HIND., Oryza sativa, Rice.
Chawa-manu, TEL., Amoora rohituka.
Chawat, BY., Chenopodium viride.
Chawut, MALAY, a garment, clothing from the waist.
Chaya, BENG., Ærua lanata.
Chayau-ka-yoe, BURM., Amoora rohituka.
Chaya veru, TEL., Chay root.
Cheddulu, TEL., White ants.
Cheer. See Pheasant.
Cheeta Meena. See Meena.
Chega gadda, TEL., Vangueria spinosa.
Cheironectes, the frog fish.
Cheiroptera. See Bats; Mammalia; Pteropodidæ.
Chelat pipal, BENG., Stillingia sebifera.
Chelmeri, HIND., Cicca disticha.
Chelmon rostratus. See Archer Fish; Chætodon; Fishes, 1115.
Chelonidæ. See Reptiles.
Chema, Chamakura, TEL., Colocasia antiquorum.
Chem-mara, MALEAL., Amoora rohituka.
Chena—Puna Kad.
Chend potla, Patola, TEL., Trichosanthes cucumerina.
Chengiz. See Khanbalig; Organj.
Chenki, MALAY, Cloves.
Chenna, GUJ., Cicer arietinum.
Chennee chintoo, TEL., Celastrus emarginatus.
Chepang. See Haiyu; Kusunda.
Cheppu tataku, TEL., Asarum Europæum.
Chera, HIND., Thalactrum foliolosum.
Chera of Malabar. See Pandya.
Cherambola, PORT., Cicca disticha.
Cheroli, CHENAB, Prunus Armeniaca.
Cherrapunji, Khassia.
Cherrug, HIND., Falco sacer.
Cheru. See Gorakhpur; Serpent-worship.
Cheru pinnai, TAM., Calophyllum calaba.
Chess. See Chach.
Chestnut, Pavia Indica, Castanea, *sp.*
Chetakum, TEL., Chickrassia tabularis.
Chetippa, TEL., Hymenodyction excelsum.
Che-Tung-Teng. See Boats, 400.
Ch'hatisgarh. See Central Provinces.
Ch'hoto-pan-chuli, BENG., Villarsia.
Chibhali. See Kashmir.
Chichinga, HIND., Trichosanthes anguina.
Chichli. See Feudatory.
Chichri, SUTLEJ, Plectranthus rugosus.
Chichru, HIND.; Himalayan nettle.
Chichua, Sankæur, GOND., Albizzia odoratissima.
Chick-pea, Cicer arietinum.
Chicolee, BENG., Sponia orientalis.
Chiha, HIND., a haul bridge.
Chihaee or Chihanee, HIND. See Chiwana, Hindu Cremation Place.
Chih-choh-yoh, CHIN., Pæonia rubra.
Chih-kiau, CHIN., Lac.
Chih-ku, Ki-ku-tsze, CHIN., Hovenia dulcis.
Ch'ih-shuh, CHIN., Atractylodes rubra.
Chih-tan, Tsze-tan, CHIN., Pterocarpus Santalinus.
Ch'ih-t'u, CHIN., Ochre.
Chijla, Chuj, KANGRA, Fraxinus xanthoxylloides.
Chikankari, HIND., Embroidery.
Chikara. HIND., Gazella Bennettii.
Chikati manu, TEL., Mesua Roxburghii.
Chi-kaya, MAHR., Acacia rugata.
Chiki, JHELUM, Buxus sempervirens.
Chi-kiah-hwa, CHIN., Lawsonia inermis.
Chikonadi, TEL., Cadaba Indica.
Chikri, HIND., Buxus Nepalensis.
Chil or Chir, HIND., Pinus longifolia.
Chil, HIND., Milvus govinda.
Chilah, HIND., Cascaria tomentosa.
Chilaoni, HIND., Current coins.
Chil-binj, DUKH., Fruit of Strychnos potatorum.
Chil-chil, Sil, HIND., Celosia argentea.
Chilgoza, AFGHAN, Pinus, *sp.*
Chilgoza, HIND., Edible nuts of cones of Pinus Gerardiana.
Chili of Chilas, Juniperus excelsa, J. arborea.
Chilka dudugu, TEL., Polyalthia cerasoides.
Chilla ginja chettu, TEL., Strychnos potatorum.
Chilla jaidar, HIND., a silk of Bokhara.
Chilloor, Kilgatch, HIND., Cæsalpinia sepiaria.
Chilrai, HIND., Picea Webbiana, P. pindrow.
Chilu nutiya, BENG., Amarantus polygonoides.
Chi mu, CHIN., Anemarhena asphodeloides.
Chimurudu, TEL., Cadaba Indica.
China. See Aborigines; Boats; Botany; Coal; Coins; Commerce; Food; Hill Tracts; Hot Springs; Languages; Literature.
China grass, ENG., Boehmeria nivea, Rhea.
China naringi, BENG., Triphasia trifoliata.
China root, Smilax Chinensis.
Chinar, HIND., Platanus orientalis.
Chindagu, TEL., Albizzia stipulata.
Chirdeo. See Jain.
Chinese Tartary. See Central Asia.
Chinghar, HIND., Paradoxurus bondar.
Ching-ju, CHIN., Manna.
Ching-pa. See Kakhyen.
Chin-hiang, CHIN., Eagle-wood.
Chinik, MALEAL., Acacia rugata.
Chinjara, HIND., Leptoptilos Javanica.
Chinna avagooda vayroo, TEL., Trichosanthes incisa.
Chinna botuku, TEL., Cordia angustifolia.
Chinna jami, TEL., Acacia cinerea.
Chinna kalabanda, TEL., Aloe litoralis.
Chinna nagi, TEL., Lagerstrœmia parviflora.
Chinna ranabheri, TEL., Anisomeles Malabarica.
Chinna vara-gogu, TEL., Salvadora Persica.
Chin-p'o-lo, CHIN., Citrus bergamia.
Chintamani. See Jain.
Chinta-pundoo, TEL., Tamarind.
Chinvat neretu, the Zoroastrian bridge for souls. See Bridge.
Chipal, HIND., Ulmus erosa.

Chipi, BHOT, Arctomys hemachalanus.
Chippa-gaddi, TEL., Andropogon schoenanthus.
Chippi, also Jhula, HIND., a beggar's scallop of the shell of the sea-cocoanut.
Chipuratige, TEL., Cocculus villosus.
Chir of Chamba, Armeniaca vulgaris, HIND., Acacia Arabica, gum; also Phasianus Wallichii.
Chiragadam, TEL., Batatas edulis.
Chiranndra, Drendu, BEAS, Aclia serrata.
Chirauli, HIND., Buchanania latifolia.
Chirayit, Agathotes cherayta, Exacum tetragonum, Ophelia angustifolia.
Chirchiri, HIND., Achyranthes aspera.
Chiri benda, TEL., Sida cordifolia.
Chiri bikki, TEL., Gardenia gummifera.
Chiri dudduga, TEL., Alphonsea lutea.
Chiri malle, TAM., Jasminum.
Chiriman, Sheriman, TEL., Anogeissus latifolius.
Chirimi, Cheremin, MALAY, Cicca disticha.
Chirindi, Jarimu, RÁVI, Acer cultratum.
Chiri sanagalu, TEL., Ervum lens.
Chirit murai, MALAY, Caoutchouc.
Chirmiti, HIND., Abrus precatorius.
Chirndu, HIND., Elæodendron dichotomum.
Chirongia sapida, Buchanania latifolia.
Chironia centaiiroides. See Chiretta.
Chiru of Tibet, Kemas Hodgsonii.
Chiru dekku, TAM., Clerodendron serratum, Gunta baringa.
Chirugu, TEL., Caryota urens.
Chiru nuti, BENG., Amarantus polygonoides.
Chiru pala, TEL., Oxystelma esculentum.
Chirwi, HIND., Dates, split and dried.
Chit, HIND., Chintz, from Chinte drops; Chit abra, cotton print; Chit pattu, a print woollen wrapper; Chit rah-dar, a striped cotton; Chit bundri, spotted (bunda drop); Buti, sprigged; Marpech, spriggled.
Chita, HIND., Felis jubata, Leopard; Felis pardus, Panther.
Chita-bansa of Panjab, Ipomœa turpethum.
Chital, HIND., Axis maculata.
Chitikeswaram, TAM., Poinciana elata.
Chiti mirak, HIND., Heliotropum brevifolium.
Chitli benda, TEL., Pavonia odorata.
Chitpatra, HIND., Marlea begonifolia.
Chitra, HIND. of HIM., Berberis aristata.
Chitra, HIND., Plumbago Europea.
Chitra of Hazara, Staphylea emodi.
Chitrali. See Afghanistan.
Chitra-mul, HIND., Thalictrum foliolosum.
Chitta amudam, TEL., Castor-oil.
Chitta buti, HIND., Abelia triflora.
Chittagong wood, Chickrassia tabularis.
Chitta yelka, TEL., Leggada lepida.
Chittee jeti, TAM., Marsdenia tenacissima.
Chitti ankudu, TEL., Wrightia tinctoria.
Chittra mulum, TEL., Plumbago Zeylanica.
Chitur mul, DUKH., Plumbago Zeylanica.
Chiun. See Kawan.
Chivan amelpodi, MALEAL., Ophioxylon serpentinum.
Chiviki velama, Ragulu, TEL., Eleusine coracana.
Chloroxylon dupada, Vateria Indica.
Chloroxylon Swietenia, Swietenia chloroxylon.
Choaspes. See Kerkhah.
Chob-China, HIND., Smilax Chinensis.
Chob-i-pân, PERS., Fothergillia involucrata.
Chodten, TIB. See Dungten.
Choka, HIND., Rumex vesicatoria.
Choklu, Halashi, CHEN., Rhus succedanea.
Cholay, NEPAL, Capra ægagrus.
Choli. See Bodice.
Cholia. See Jonakan.
Chon, HIND., Gmelina arborea.
Chondrus crispus, Irish moss.
Chonemorpha antidysenterica, Holarrhena antidysenterica.
Chong—Kariang.
Chook, HIND., Salicornia Arabica.
Choolai, HIND., Spinacia tetrandra.
Chooneria, HIND., Anthistiria anathera.
Choora. See Deserta.
Choo-tsze, Chow-leen-ke. See China, 688.
Chopada, SUMATRAN, Artocarpus integrifolius.
Choppra, CHENAB, Adelia serrata.
Chor, HIND., Coriaria Nepalensis.
Chora, GUJ., Dolichos catjang.
Chora of Simla, Angelica archangelica.
Chora-kanta, HIND., Chrysopogon acicularis.
Chor Ganga. See Churang.
Chosroes. See Khusru; Nowsherwan.
Chota buta, HIND., Abelia triflora.
Chota chand, HIND., Ophioxylon serpentinum.
Chota dhaon, HIND., Grislea tomentosa.
Chota-kanwar, DUKH., Aloe litoralis.
Choto, BENG., Leucas aspera.
Choto-doodhi-luta, BENG., Gymnema sylvestre.
Choto jam, BENG., Eugenia caryophyllifolia.
Choto suddhi, BENG., Nymphæa edulis.
Chough, Fregilus, sp., and Pyrrhocorax, sp.
Chouk maram, TAM., Casuarina equisetifolia.
Choulam. See Hindu, 66.
Choung-tha, a tribe on the Koladyn.
Chowli, Choli, DUKH., Portulaca quadrifida.
Chowlu, DUKH., Dolichos Sinensis.
Chowra, CAN.? Erinocarpus Nimmonii.
Chowree or Kuree, Ceriops Candolleana.
Chow-singha, HIND., Tetraceros quadricornis.
Christians. See Cochin; Philippines, 200; Roman Catholic.
Christians of St. John—Sabæan.
Chrysoberyl. See Precious Stones.
Chrysorrhœa, River of Damascus. See Barrada.
Chu, TIB., Water; Scythian, ku; Assyrian, hu; Greek, eu.
Ch'u, CHIN., Ash tree.
Chudar. See Iliyat.
Chude. See Finn.
Chuen-choh, CHIN, Pæonia rubra.
Ch'uen-kung, CHIN., Levisticum, sp.
Ch'uen-tsiau, CHIN., Xanthoxylon alatum.
Chuen wu-tu, W'u-t'u, CHIN., Aconitum Sinense.
Chu-fen, Hung-tan, CHIN., Minium.
Chuguni. See Kafir.
Chuh, CHIN., Bamboo.
Chuha mar, HIND., Buteo canescens.
Chuhara, HIND., Phœnix dactylifera.
Chuhat, HIND., sp. of owls, owlets.
Chuh-yeh-ts'ai, CHIN., Commelyna polygama.
Chui, PUSHTU, Pyrus communis.
Chu-ka-teng. See Boat, 400.
Chukhia, Khatta-mitha, HIND., Oxalidaceæ.
Chu-kin, Fuh-sang, CHIN., Hibiscus rosa Sinensis.
Chuko, HIND., Rumex acetosa.
Chukri, HIND., Rheum palmatum.
Chukul mara, CAN., Acacia elata.
Chulai, HIND., Amarantus polygamus.
Chu-lan, CHIN., Chloranthus inconspicuus.
Chulchilhera, Borrera ashneh, Dyes.
Chulla charz, HIND., Sypheotidis auritus.
Chulu, HIM., Prunus Armeniaca.
Chu-ma, Chu, CHIN., China grass, Rhea.
Chumati pati, HIND., Papyrus dehiscens.
Chumiari, Amulguch, Cerasus puddum.
Chumli sag, BENG., Amarantus polygamus.
Chunam, Chuna, HIND., Quicklime.
Chunar, HIND., PERS., Platanus orientalis.
Chunday-kai, TAM., Solanum pubescens.
Chundul, HIND., Lepuranda saccidora.
Chungi, Char-ungli, HIND., Boucerosia aucheri.
Chung-peh-lah, CHIN., Wax insect.
Ch'ungwei, CHIN., Leonurus Sinensis.
Chunni maram, TAM., Acalypha betulina.
Ch'un-shu, Chu-pi, CHIN., Cedrela odorata.
Chunu, BEAS, Syringa.
Chuppati ki baji, DUKH., Marsilea quadrifolia.
Chupri alu, BENG., HIND., Dioscorea globosa.
Chura. See Tirah.
Churangada—Pandu.
Churi-ki-bhaji, DUKH., Amarantus campestris.
Churi saroch, SALT RANGE, Asparagus Panjabensis.
Chusam, BHOT, Lutra leptonyx.
Chu-sha, Shin-sha, CHIN., Cinnabar.
Chushal. Hot Springs, 111, 112.
Chu-tan, CHIN., Polyporus.
Chuti, SUTLEJ, Asparagus Panjabensis.
Chutia Nagpur. See Jashpur; Oraon.
Chutra, BENG., Plumbago Zeylanica.
Chu-ya-tsau-kiah, CHIN., Gleditschia Sinensis.
Chu-yu, Hwa-yu, CHIN., Lard.
Cicca disticha, Phyllanthus distichus.
Cicendia hyssopifolia, Adenema hyssopifolia.
Cicendia hyssopifolia. See Chiretta.
Ciconia alba—Storks.

Ciconia calva, *Leptoptilos Javanica.*
Ciconia nudifrons, Leptoptilos argala.
Cinchona excelsa, Hymenodyction excelsum.
Cincinnurus regius, Paradise birds.
Cinnabar. See Vermilion.
Cinnyridæ, Honey-suckers. See Birds.
Circaetus gallicus, Serpent eagle.
Circassia, Tcherkas. See i. 609.
Circumambulation. See Tawwaf.
Cissus quadrangularis, Vitis quadrangularis.
Citron, Citrus medica.
Citrus bergamia, Lime.
Citrus Japonica, Kum-Quat.
Citrus limonum, Lemon.
Civet cats, Viverrinæ.
Clavellinidæ. See Tunicata.
Clearing nut tree, Strychnos potatorum.
Clethropsis nitida, Alnus nitida.
Cleveland's Settlement, Paharia.
Clove pepper, Pimenta officinalis.
Clove tree, Caryophyllus aromaticus.
Club-moss. See Lycopodiaceæ.
Clupea. See Hilsha; Sable Fish.
Clupeonia perforata. See Fishes, 1115.
Cluytia spinosa, Bridelia spinosa.
Cocculus Burmanni, Cyclea Burmanni.
Cocculus cordifolius, Timospora cordifolia.
Cocculus Indicus, Anamirta cocculus.
Cocculus palmatus, Columba root.
Coccus ilicis. See Kermes.
Cochin. See Feudatory; Hindustan, 81.
Cockroach, Blatta orientalis.
Cock sacrifice. See Borneo.
Cockscomb, Celosia argentea.
Cockup, Lates calcarifer.
Codaga pala, MALEAL., Conessi bark.
Coffee leaf disease, Hemileia vastatrix.
Colair Lake. See Lakes.
Colbertia Coromandeliana, Dillenia pentagyna.
Colehan. See Rajputs.
Colerun. See Cauvery; Trichinopoly.
Coleus spicatus, Anisochilus carnosum.
Collegal. See Coimbatore.
Colocasia esculenta, Caladium esculentum.
Colocynth, Citrullus colocynthus.
Colubridæ. See Reptiles.
Colymbea excelsa, Araucaria excelsa.
Colza oil. See Brassica campestris; B. napus.
Comatti kire, TAM., Celosia nodiflora.
Combretum purpureum, Poivrea coccinea.
Commiphora Madagascarensis, Balsamodendron agallocha.
Comoro Islands. See Johanna.
Conchodytes. See Crustacea.
Conessi bark tree, Wrightia antidysenterica.
Conocarpus acuminatus, Anogeissus acuminatus.
Convolvulus batatas, Batatas edulis.
Convolvulus grandiflorus, Calonyction grandiflorum.
Convolvulus nil, Pharbitis nil.
Convolvulus speciosus, Argyreia speciosa.
Convolvulus turpethum, Ipomœa turpethum.
Conyza cinerea, Vernonia cinerea.
Conyza odorata, Blumea balsamifera.
Coongilium, TAM., Rosin.
Cöot, Porphyrio poliocephalus, Fulica atra.
Copalm balsam, Liquidambar styraciflua.
Copal tree, Vateria Indica.
Coppersmith, Megalaima Indica.
Coral. See Zoophyte.
Coral tree, Erythrina stricta.
Corallinaceæ, Sea-weeds.
Corchorus olitorius, Jute.
Cormorants, *sp.* of Graculus.
Cornus sanguinea, Cordia myxa.
Corvus advena, a rare white and black crow of Celebes.
Corvus corax, Raven.
Corvus monedula, Jackdaw.
Corypha umbraculifera, Talipot.
Cossyphus Aucklandia, Pachak.
Costus Arabica, Pachak.
Costus zerumbet, Alpinia nutans.
Cottamalli, TAM., Coriander seed.
Cotton tree, Eriodendron anfractuosum.
Cotum barru, SINGH., Coriander seed.
Coucals, *sp.* of Centropus.
Couch grass, ENG., Triticum repens.
Coulam. See Covelong.
Country gooseberry, Physalis angulata.
Country raspberry, Rubus.
Country walnut, ENG., Aleurites triloba.
Covilham and Alfonso de Payva, Portugal.
Cow-dung—Karshagni.
Cow-sacrifice, Gao-medha.
Cow-tree, Kiriaghuna, Gymnema sylvestre.
Crab. See Cancer; Crustacea.
Crab mungoos, Urva cancrivora.
Crane. See Ardea.
Cranganore or Kodungalur.
Crassocephalum sonchifolia, Emilia sonchifolia.
Cratæva marmelos, Ægle marmelos.
Cratæva vallanga, Feronia elephantum.
Crawfish, Palinurus. See Shrimp.
Creed. See Kalamah; Shraddha.
Creepers, little birds of the subfamily Certhinæ.
Crematogaster—Poneridæ.
Cricket—Acheta. See Insects.
Cricula. See Bombyx, 411.
Crinum nervosum, Eurycles Amboinensis.
Crocodile. See Reptiles.
Crocus. See Dyes.
Cromlech. See Burial Customs, 518.
Crops of Hindustan, 78.
Crossoptilon. See Phasianidæ.
Crotalidæ. See Reptiles.
Croton lacciferum, Rottlera laccifera.
Croton Lawianus, Trigonostemon Lawianus.
Croton sebiferum, Stillingia sebifera.
Crozier molluscs, *sp.* of Spirula.
Crusaders. See Jericho; Old Man.
Csoma de Koros, Kah-gyur, Tibet.
Ctesiphon. See Babylonia.
Cuchoo, HIND., Colocasia, *sp.*
Cuchunar, HIND., Bauhinia, *sp.*
Cuckows, *sp.* of the sub-family Cuculinæ. See Birds.
Cucumber tree, Averrhoa bilimbi.
Cucumis acutangulus, Luffa fœtida.
Cucumis citrullus, Citrullus cucurbita.
Cucumis colocynthis, Citrullus colocynthis.
Cucumis sativus, Cucumber.
Cucurbita cerifera, Benincasa cerifera.
Cucurbita citrullus, Citrullus cucurbita.
Cucurbita lagenaria, Lagenaria vulgaris.
Cumbi, TAM., Gardenia lucida.
Cumbli. See Clothing, 748.
Cumbu, TAM., Penicillaria spicata.
Cummi, TAM., Gmelina arborea.
Cuneiform. See Akkad; Literature.
Cupania canescens, Hemigyrosa canescens.
Cupea cymosa, Canthium didymum.
Cupela, HIND., Rottlera tinctoria.
Cupressus Japonica, Cryptomeria Japonica.
Cupressus thyoides. See Cedar.
Curaya, HIND., Wrightia antidysenterica.
Curb. See Dravidian.
Curcas purgans, Jatropha curcas.
Curculigo superba, Gloriosa superba.
Curculionidæ. See Beetles; Insects.
Curcuma rotunda, Kæmpfera pandurata.
Curkapulli maram, TAM., Inga dulcis.
Curlew, Ibidorhynchus Struthersii. See Birds; Numenius arquata.
Curroopillay, TAM., Putranjiva Roxburghii.
Curruca Jerdonii. See Philomela.
Curry leaf tree, Bergera Konigii.
Curuminga, SINGH., Butocera rubus.
Curu veru, TAM., Anatherum muricatum, Cuscus root.
Curwiya, ARAB., Carum carui.
Cusous, Andropogon muricatus.
Custard apple, Anona squamosa.
Cutch Gandava, level district of Baluchistan.
Cutcha-catta maram, TAM., Lagerstrœmia parviflora.
Cutchu, HIND., Caladium esculentum.
Cuthah varekai, Cyamopsis psoraloides.
Cutta cambu, TAM., Gambier.
Cuvalam, MAL., Ægle marmelos.
Cyanea. See Phosphorescence.
Cybele or Vesta—Parvati.
Cybium. See Fishes, 1118.
Cycle. See Chronology, 717; Hwakea-tsze.
Cyclopean. See Ghorbasta; Mekran.
Cydonia vulgaris, Quince.
Cylas sturcipennis, Weevils. See Insects.
Cylicodaphne sebifera, Tetrameles nudiflora.
Cymbopogon schœnanthus, Andropogon schœnanthus.
Cymothoe. See Crustacea.
Cynanchum extensum, Dæmia extensa.
Cynanchum ipecacuanha, Tylophora asthmatica.
Cynanchum odoratissimum, Pergularia odoratissima.
Cynanchum pauciflorum, Gynoctonum pauciflorum.
Cynnyridæ. See Honey-sucker.
Cynopithecus nigrescens, the baboon of Celebes.
Cynopterus marginatus, Pteropodidæ.
Cynosurus coracanus, Eleusine coracana.
Cyperus Syriacus, Papyrus antiquorum.
Cypræa. See Cowries; Mollusca.
Cyprinus auratus. See Gold Fish.
Cypripedeæ. See Orchiaceæ.
Cypselus Batassiensis, Palm swift.

Cyrus. See Babylonia; Ctesias; Ctesiphon.
Cytisus cajan, Cajanus Indicus.

D

DAAN, HIND., Punica granatum.
Daanga, SINGH., Spathodea longiflora.
Daa woo gass, SINGH., Conocarpus latifolia.
Dab, HIND., Poa cynosuroides.
Dab, BENG., Xyris Indica; HIND., Viburnum nervosum; PANJ., Typha angustifolia.
Daba chettu, TEL., Citrus medica.
Dabar of Nepal, Sypheotidis Bengalensis.
Dabi of Yemen, Antilope Arabica.
Dabishlim. See Bidpai; Panchatantra.
Daboia Russellii. See Reptiles.
D'Abreu. See Portugal.
Dabya. See Deserts, 920.
Dacca. See Cotton Manufactures.
Dactylopterus, Flying gurnard.
Dad, Smriti, HIND., Law.
Dada-hirilla, SINGH., Ulmus integrifolia.
Dadda, HIND. of Salt Range, Acacia eburnea.
Dadde-weddeo, SINGH., Golunda Elliotti.
Dadhuri, HIND., Ficus glomerata.
Dadima, TEL., Pomegranate.
Dad-maree, BENG., Ammannia vesicatoria, also A. auriculata.
Dad murdan, HIND., Cassia alata.
Dadru, HIND. of Hazara, Rhamnus virgatus, R. Persica.
Daduga, TEL., Nauclea cordifolia.
Daduri, HIND., Ficus oppositifolia, also F. Roxburghii.
Daghan of Ladakh, Cucurbita maxima.
Daghauri, HIND., Cæsalpinia sappan.
Dāghestān, i. 609.
Dah, a Burmese short sword.
Dahai, PANJ., Grislea tomentosa.
Dahak, EGYPT., Colocynth.
Daheu, PANJ., Artocarpus integrifolius.
Dahgopa. See Cave Temples, 610.
Dahina or Dakshana, HIND., the left.
Dahir. See Kasim.
Daholia, HIND., Ficus caricodes.
Dahu, HIND., Artocarpus integrifolia.
Dahya, HIND., Trophis aspera.
Daim. See Jhow.
Dajjal, ARAB., Antichrist.
Dajkar, HIND., Flacourtia sepiaria.
Dajla, the River Tigris.
Dak, Dagh, JHELUM, Ribes, *sp.*
Dakachru, HIND., Saxifraga ligulata.
Dak'h, HIND., Butea frondosa.
Dak'hangu, HIND., Delphinium cœruleum.
Dakshina-Bhakta, SANSK., Right-hand castes.
Dakshina ganga, the Cauvery.
Dakshin Raya. See Kalubaya.
Dakuri of Beas, Hedera helix.
Dal, the Kashmir lake.
Dal, HIND., Panicum stagninum.
Dala, HIND. ? Valeriana Wallichiana.
Dalai Lama. See Tsong-kha-ba.
Dalbergia Mooniana, Pericopsis Mooniana.
Dalbergia Oojainensis, Ougeinia dalbergioides.
Dalchini, Taj kalmi, HIND., Cinnamomum albiflorum.
Dali doob, BENG., Xyris Indica.
Dalim, Darim, BENG., Punica granatum; Dalima, MALAY, Carbuncle.
Dal-Khushka. See Dinner.
Dalla, HIND., Carbonate of soda.
Dal-mara, CAN., Chickrassia tabularis.
Dalme-kattea, SINGH., Eumeta Cramerii. See Insects.
Dalosingha, a Ganjam tree.
Daltonganj. See Coal, 752.
Dal-urur, BENG., Cajanus Indicus.
Dam. See Coins, 780.
Dama, HIND., Caragana pygmæa, C. versicolor.
Dama, also Damahan, HIND., Fagonia cretica.
Damalis risia, Portax pictus, Nilgai.
Daman, HIND. of Kahan, Grewia oppositifolia.
Damanaka. See Panchatantra.
Damana suraparna, SANSK., Artemisia.
Daman-i-Koh, PERS., Skirts of hills.
Damar, MALAY, Rosin.
Damascenus. See Barlaam.
Damasonium Indicum, Hydrocharis cellulosa.
Dammara loranthifolia, Agathis loranthifolia.
Dammara nigra, Canarium nigrum.
Dammer trees, Canarium strictum, Vateria Indica.
Damodar. See Hugli.
Damoh. See Central Provinces.
Damon and Pythias. See Anaxagoras.
Dampa, TEL., Dioscorea aculeata.
Dampa bachali, TEL., Spinacia tetrandra.
Dampara, TEL., Odina wodier.
Dampa rashtrakam, Globba orixensis, and other Scitamineous plants; Dampa rasna, Ophioxylon serpentinum.
Damra shama, BENG., Oplismenus frumentaceus.
Damtura of Tr.-Indus, Hyosciamus niger.
Damuda, Hot Spring, 113; Sirguja.
Damuda. See Coal, 752.
Dam-ul-akhwain, ARAB., Dragon's blood, Calamus draco; Pterocarpus draco, ARAB., Kino.
Dan, BURM., Lawsonia inermis.
Dana, HIND., Anabasis multiflora, also Suæda fruticosa.
Danadhol, HIND., Polynisia viscosa.
Danau, Tasek, MALAY, Lakes.
Dancing girls, Deva-dasa.
Dancora, BENG., Sapindus danura.
Dand alam, BURM. ? Hyperanthera moringa.
Danda-let, BURM., Impatiens, *sp.*
Dandam. See Hindu, 70.
Dandan-dana, HIND., Seeds of Ricinus communis.
Dandan-i-fel, PERS., Elephant ivory.
Dandhu Punt, Nana Rao. See Cawnpur.
Dandi. See Siva.
Dand khani, HIND., a white wheat.
Dandura, CHENAB, Hyosciamus niger.
Danga. See Boat, 393.
Dangri of Gujerat, Cajanus Indicus.
Dan kotti, JAV., Phyllanthus niruri.
Dan-ky-wai, BURM., Cassia tora.
Dan-mo of Tibet, Capra Sibirica.
Danri, HIND. of Gujerat, Cajanus flavus.
Dan-sol-ga, MALAY, Abrus precatorius.
Dant, HIND., Baliospermum Indicum.
Danti, HIND., Artemisia elegans.
Danti chettu, TEL., Celastrus montana.
Dant-ki-bhaji, DUKH., Amarantus oleraceus.
Dant sago or Sago nar? Sanseviera Zeylanica.
Dantu pesalu, TEL., Dolichos catjang.
Danusha. See Dhanuk.
Daolatzai. See Afghanistan.
Daora, also Daoura, MAHR., Conocarpus latifolia.
Daoun-shaitan, TIMOR? Urtica crenulata.
Dapoo, BENG., Polypodium proliferum.
Da-rakdar, a hereditary public officer.
Darakh, GUJ., Raisins, Grapes.
Darali of Sutlej, BEAS, Cedrela toona, *var.* serrata.
Daramu, TEL., Nar tash, Cordage.
Daran, HIND., Fagopyrum emarginatum.
Dara Nuri. See Kafir.
Daraun, HIND., Buckwheat, Fagopyrum polygonum.
Darbha, HIND., Eragrostis cynosuroides.
Darboji, TEL., Cucurbita citrullus.
Darchikna, HIND., Corrosive sublimate.
Darchil, HIND. of Chamba, Pinus excelsa.
Dar-chini, HIND., Cinnamomum iners, Laurus cinnamomus.
Dar-chob, Dar-hald, HIND., Berberis aristata; Dar-mothi, Cajanus bicolor.
Dard—Kashmir.
Dardar, HIND., Cinnabar.
Dardu. See Arniya.
Darengri, a leaf used in Kashmir for dyeing.
Dar-filfil, ARAB., Chavica Roxburghii.
Darga, HIND., Juglans regia.
Dari gummadi, TEL., Pueraria tuberosa.
Darim pushpu, HIND., Punica granatum.
Darius. See Babylonia; Persepolis; Suevi.
Darkuti. See Hill States.
Daroo, PANJ., Quercus incana.
Darsini, ARAB., Cinnamomum Zeylanicum.
Darsook mara, CAN., Grewia obliqua.
Dartu, PUSHTU, Amarantus anardana.
Daru, HIND., Arrack.
Daru, also Daruni, HIND., Punica granatum.
Daruk of Salt Range, Gynaion vestitum.
Darvesh. See Dervis; Eesawiyah; Faqir; Owais-bin-Aamir; Sufi.
Darwaz. See Afghanistan, 30.
Darya-ka-kaf, HIND., Cuttle-fish bone.
Darya-ka-kekra, DUKH., a crab.
Darya-ka-narel, HIND., Sea-cocoanut of Seychelles, Lodoicca. Seychellarum; Darya-ka-shekhra, Whiting fish.
Dasa, TEL., Panicum fluitans.
Dasa Kamaracharita. See Dandi.
Dasana, also Japa pushpamu, TEL., Hibiscus rosa-sinensis.
Dasawri, HIND., Barley.
Dash bahoo, BENG., Pardanthus Chinensis.

Dashri of Panjab, Ficus glomerata.
Dasht-i-be-Daulat, Valley of Baluchistan.
Dasht-i-Kipchak. See Kalmuk.
Dashtupa chettu, TEL., Dæmia extensa, Asclepias echinata.
Dasre, TEL., Cucumis utilissimus.
Dass, HIND., Colebrookia oppositifolia, also Elsholtzia polystachya.
Dasta, NEPAL., Spelter.
Dastar, HIND., a turband. See Clothing, 748.
Dastparisha, SANSK., Trágia involucrata.
Datchanayanam. See Hindu, 66.
Date-plum of China, Diospyros kaki, D. lotus.
Da-tha-lwon, BURM., Moringa pterygosperma.
Dati. See Parkhar.
Datira, MAHR., Urostigma t'siela.
Datisca. See Dyes.
Dat-ki-bhâji, DUKH., Amarantus oleraceus.
Datoke? Grislea tomentosa.
Datuphal, HIND., Emblica officinalis.
Datura stramonium, Thorn apple, Stramonium.
Daucus carota, Carrot.
Daud Khani, Bearilless white wheat.
Daula Bore. See Bore.
Daun kitsjil, MALAY, Melaleuca cajaputi.
Daun lacca, MALAY, Lawsonia alba.
Daurani. See Afghanistan, 30; Ahmad Shah.
Dava-datsi, TEL., Vitis vinifera.
Davahdarum, Erythroxylon monogynum.
Davanamu, TEL., Artemisia.
Dava-pu, MALEAL., Guettarda speciosa.
Davette, SINGH., Carallia Zeylanica.
Davodee, ARAB., a coat of mail.
Davolia, HIND., Eragrostis cynosuroides.
Dawa-i-Mubarak, HIND., PERS., Clerodendron siphonanthus.
Dawaniya, SINGH., Grewia tiliæfolia.
Dawanum, TEL., Southernwood.
Dawari. See Afghanistan.
Dawata gaha, SINGH., Carallia lucida.
Da-way-hmi-ne, BURM., Quisqualis Indica.
Dawezai clan. See Afghanistan.
Dawi, HIND., Grislea tomentosa.
Daw-nêe, BURM., Eriolæna, *sp.*
Dawudputra. See Deserts, 926.
Dawu-gas, SINGH., Conocarpus latifolia.
Dawul kurundu, SINGH., Cassia lignea.
Dawura, MAHR., Conocarpus latifolia.
Dawwar-us-Shams, Turnsol.
Dayal, HIND., Copsychus saularis.
Dead Sea. Hot Springs, 111.
Death's-head moth, Acherontia satanas. See Insects.
Debar of Nepal, Sypheotidis Bengalensis.
Debdari, BENG., Guatteria longifolia.
Deb-dhaniya, BENG., Sorghum vulgare.
Deb-kancham, BENG., Bauhinia purpurea.
De Boigne. See Perron.
Deb raja. See Bhutan.
Debul. See Dabul.
Decapodes. See Crustacea.
Decapolis. See Commerce, 789.
Decaschistia crotonifolia, Girardinia Leschenaultiana.
De Conto, Portugal.
Dedes, Kasturi, Rase, MALAY, Castor, Civet.
Ded'h. See Cutch.
Deer tribe, *sp.* of the genera Axis, Cervulus, Moschus, Memimna. See Cervidæ; Mammalia.
Defrunoos yunani, Cannabis sativa.
Degar, BEAS, Ficus oppositifolia.
Dehgan, a name of the Tajak race.
Dehi, SINGH., Citrus bergamia, Lime.
Dehra. See Himalaya.
Dein, Tani, KASH., Rice, Oryza sativa.
Dekhan. See Horse, 105; Hyderabad.
Dekhani hemp, Bombay. See Ambari; Hibiscus cannabinus.
Del, SINGH., Artocarpus hirsuta, also A. pubescens and A. nobilis.
Dela, HIND., Jasminum hirsutum.
Delabechia rupestris and Brachychiton Delabechei. See Bottle Tree.
Deladha, the reputed tooth of Buddha.
Dela kura, TEL., Amarantus polygamus.
Dele, Dela, HIND., Capers, Capparis plant.
Delight of the Woods, Hiptage madablota.
Dellamadoo, TEL., Terminalia tomentosa.
Delphinæ, Dolphins, Cetacea, Sirenia, Whales.
Delphinium. See Dyes.
Delphinus phocæna, Phocæna communis.
Demer, HIND., TURK., Tamarind.
Demetrius. See Bactria, 222.
Demoiselle crane, Anthropoides virgo.
Demons. See Deserts, 926.
Demons of Tang-Chan. See Bore.
Dendlu, HIND., Hypericum perforatum.
Dendrobium, Orchiaceæ.
Dendrocalamus monadelphus, Oxytenanthera Thwaitesii.
Dendrophidæ. See Reptiles.
Dendru, HIND., Lonicera quinqueloculatis.
Dengooya khara, BENG., Amarantus lividus.
Denthar, HIND., Callicarpa incana.
Dentura, HIND., Hyoscyamus niger, also Phytolacca decandra.
Deodar, BEAS, SUTLEJ, Cupressus torulosa, Cedrus deodara; Devidar, Juniperus excelsa. See Coniferæ.
Deodaru, DUKH., Sethia acuminata.
Deo-dhan, BENG., Andropogon saccharatum.
Deogarh. See Coal, 752.
Deoghar. See Dowlatabad.
Deo kanchanamu, TEL., Bauhinia acuminata.
Deokhadir, HIND., Mimosa rubicaulis.
Deo-koti, HIND., Celosia argentea.
Deo-mooga, HIND. See Bombyces; Insects.
Deo-Tal. See Lakes; Yunam.
Dephal, BENG., Artocarpus lacoocha; Dephal dampel, BENG., Xanthochymus pictorius.
Derajat Canals. See Canals.
Dermatochelys coriacea. See Reptiles.
Dermatophilus, Pulex penetrans.
Dervis. See Faqir; Rafai.
Deshasth. See Brahman, 432.
Deshi mullika, BENG., Jasminum sambac.
Deshmanthus cinereus, Dichrostachys cinerea.
Desideri. See Tibet.
Desi gokru, BENG., Tribulus alatus.
Desmodium gyrans, Telegraph plant.
Detander of Pliny, Lepidium sativum.
Detara, BENG., Lipeocercis serrata.
Detardana, HIND., Seed of Uraria picta.
Dev. See Spirit-worship.
Devachan (abode of the blessed)—Sukhavati.
Deva-daru, TAM., Guatteria longifolia.
Deva-dasa. See Basavi.
Deva-dasa, SANSK., Dancing girls.
Deva-dhupa, HIND., Benjamin.
Deva kanchan, BENG., Bauhinia.
Devala. See Divination.
Devata-dhanyamu, TEL., Sorghum saccharatum.
Devatadi dhettu, TEL., Lipracercis serrata, Andropogon serratum.
Devata-malle, TEL., Randia uliginosa.
Devatharam, TAM., Erythroxylon areolâtum?
Devil nettle, ENG., Laportea crenulata.
Devil-priest—Kattadia.
Devil's salep, Cicuta virosa, also Conium maculatum.
Devil-worship. See Hindu, 64.
Dewadari, TEL., Sethia Indica.
Deva-dhari, Damsels of wisdom.
Dewadooroo, SINGH., Fennel seed, Fœniculum panmori, written also Dewadurio.
Dewak, HIND., White ants, Termes.
Dewantsi pilli, TEL., Lemuridæ, Loris gracilis.
Dewasthan. See Inam.
Dewata-gass, SINGH., Carallia lucida.
Dewul, SINGH., Feronia elephantum.
Deya-danga-gass, SINGH., Spathodea Rheedii, *sp.*
Deyamiddella, SINGH., Barringtonia racemosa.
Deyngan, HIND., Hemigymmia Macleodii.
Dha, also Dhai and Dhaiti, HIND.; Grislea tomentosa.
Dhabbar, HIND., Anagallis arvensis.
Dhae, Dhub, Dhanga, BENG.; Grislea tomentosa.
Dhak'h of Kashmir, Phaseolus lunatus.
Dhal kalmi, BENG., Calonyction Roxburghii.
Dhama, Damiya, N.W.H., Fagonia cretica.
Dhaman, HIND., *sp.* of Grewia and Pennisetum cenchroides.
Dhami. See Hill States.
Dhamin, MAHR., Butea Gibsonii.
Dhamma, SANSK., Law.
Dhamni, DUKH., Helicteres isora.
Dhamni, Falsa, HIND., Grewia Asiatica.
Dhamur of Ladakh, brick tea, green tea.
Dhan, BENG., HIND., Oryza sativa.
Dhangar. See Berar.
Dhanicha, Dunchi, HIND., Sesbania aculeata.
Dhaniya, HIND., Coriandrum sativum.
Dhantika, Sulambra, BEAS, Odina wodier.
Dhanur-vidya, SANSK., Archery, the art of war.

Dhanya-bhedam, TEL., a variety of wheat.
Dhanyali, HIND., Adelia serrata.
Dhao of Kangra, Conocarpus latifolia.
Dhaoli Dhar. See Kangra.
Dhar-karela, HIND., Momordica dioeca.
Dharma, SANSK., Law, Ordeal.
Dharmaraja or Choigyal. See Bhutan.
Dharmarcha. See Divination.
Dharmsala. See Kangra.
Dhataki-kusumamu, TEL., Grislea tomentosa.
Dhatri-phal, HIND., Emblic myrobalan.
Dhatura, HIND., *sp.* of Datura, D. fastuosa and D. stramonium.
Dhawa, HIND., Grislea tomentosa.
Dhena, BENG., Vitis elongata.
Dhengi, a boat of the Ganges river.
Dhengun, HIND., Cordia Macleodii.
Dhenrus, BENG., Abelmoschus esculentus.
Dher, HIND. See Pariah.
Dher-hay, Felis pardus.
Dherwara. See Cave Temples, 610.
Dhimal. See Boro, 420.
Dhindaga, CAN., Pterocarpus marsupium.
Dhingra kundi of Kangra, Cajanus Indicus.
Dhivus, MAHR., Dalbergia Ujjainensis.
Dhobi's earth. See Alkali.
Dhobia chil, BENG., Haliastur Indus.
Dhokeswar, i. 612.
Dhole, SINGH., Cuon rutilans.
Dholpur. See Hindustan, 80.
Dhol shumoodra, SANSK., Leea, *sp.*
Dhon-patta, HIND., Conocarpus latifolius; used in tanning and dyeing.
Dhooli-bans, BENG., Dendrocalamus balcooa.
Dhoona resin, HIND., Vatica robusta.
Dhoondool, BENG., Luffa pentandra.
Dhor, HIND., Leather-workers.
Dhote or Dhat. See Deserts, 920.
Dhoti. See Clothing, 747, 748.
Dhoulee of Kumaon, Hymenodyction excelsum.
Dhoul papri in Kumaon, Ulmus integrifolia.
Dhoura, HIND. of Kumaon and Panjab, Lagerstrœmia parviflora.
Dhoura, HIND., Swietenia chloroxylon.
Dhourra, Shair, ARAB., Hordeum distichon?
Dhowna, Mustaru, HIND., Wormwood.
Dhritarashtra. See Duryōdana; Pandu.
Dhūb, HIND., Agrostis cynosuroides.
Dhudi, BEAS, Ficus virgata.
Dhummul. See Dami-i-Madar.
Dhumnar. See Cave Temples, i. 610.
Dhunnes, HIND., Buceros Tickelli.
Dhun siris, PANJ., Albizzia elata.
Dhunu, HIND., Picea pindrow, Silver fir, also Taxus baccata.
Dhun-ul-kherwa, ARAB., Castor-oil.
Dhup, CAN., Canarium strictum.
Dhup, Dhupa, PANJ., Dolomiea macrocephala.
Dhura, HIND., Ficus caricoides.
Dhura or Zura, ARAB., Sorghum vulgare.
Dhureecha—Kurao.
Dhurri panch ranga, Carpet, Rug.
Dhūrū, HIND., Buddleia crispa.
Dhyan, Deyngan, HIND., Cordia Macleodii.
Dial bird, Copsychus saularis.
Diar of Hazara, Cedrus deodara.
Diarbakr. See Orfa.
Diardigallus. See Phasianidæ.
Dias. See Bartholomew Dias; Portugal.
Diatomaceæ. See Hasan Yusuf.
Dib, HIND., Typha angustifolia, also Eragrostes cynosuroides.
Dib grass, Typha, *sp.*
Dibang river, i. 437.
Dibya. See Divination.
Dicæinæ. See Sun Birds.
Did-band, HIND., also Makhi, the sight at the breech of a cannon.
Diddani, HIND., Astragalus multiceps.
Didelphis macrotarsus, Tarsius spectrum.
Didrian, HIND., Cæsalpinia sepiaria.
Didriar of Ravi, Mimosa rubicaulis.
Didropsis gutta, Isonandra acuminata.
Dichrostachys cinerea, Acacia cinerea.
Dicliptera repens, Rungia repens.
Die-du-let, BURM., PANJ., Cotton tree, Bombax heterophylla.
Dier, Farid-buti, HIND., Cocculus villosus.
Dier hier, HIND. of Kash., Menispermum hirsutum.
Digambara, or Sky-clad. See Jain.
Dihang river, i. 437.
Dikamalli, DUKH., GUJ., HIND., Gardenia lucida.
Dila, HIND., Odina wodier, Arundo phragmites, Cyperus tuberosus, Scirpus maritimus.
Dila khafak, PUSHTU, the marten.
Dilli. See Mount.
Dil-pasand, Citrullus vulgaris, *var.* fistulosus.
Dilwarra. See Jain.
Dimmuk, HIND., Solenanthus, *sp.*
Dimocarpus lichi, Nephelium litchi.
Dimocarpus longana, Euphoria longana.
Dimorphanthus edulis, Aralia edulis.
Dimorphocalyx glabellus, Trigonostemon Lawianus.
Dimri, PANJ., Cedrela tuna.
Din, HIND. See Creed.
Dinar. See Coins, 780.
Dindasa, HIND., Juglans regia.
Dinduga, CAN., Conocarpus latifolius.
Ding Dings. See Malay Peninsula.
Dinkard. See Parsee.
Dinkur Rao. See Sindia.
Dinsa, HIND., Ilex dipyrena.
Dintena, TEL., Clitorea ternatea.
Dio, HIND., Pteris aquilina.
Diodotus. See Bactria, 221.
Diomedea. See Albatross.
Diomedes. See Bactria, 222.
Dionæa. See Carnivorous Plants.
Dionysius. See Bactria, 222.
Dionysus. See Soma.
Diospyros mollis. See Dyes.
Dipa, PANJ., Typha angustifolia.
Dipa, SANSK., Dipam, TAM., a lamp.
Diphyllodes speciosa, Paradise birds.
Dipsadidæ. See Reptiles.
Dipteryx odorata, Tonkin Bean.
Dirasana, TEL., Acacia odoratissima, also A. speciosa, also Albizzia lebbek.
Dirgavartaka, SANSK., Brinjal.
Divi divi, Libi libi, Sumach.
Divi-kaduru, SINGH., Tabernæmontana dichotoma.
Divi Ladner. See Kaduru.
Divination. See Roman; Son.
Div-kina, wife of Hoa, i. 642. See Chaldees.
Divorced woman—Jehur.
Diwaniyah. See Chaldæa; Mesopotamia.
Diya rat mayl, SINGH., Jonesia Asoka.
Dizfal. See Karun River.
Doab—Jumna.
Doanniya—Khampti.
Dobe. See Brahmans, 431.
Dobsoon-noor. See Lakes.
Doda, HIND., Papaver somniferum, also Pyrus Kumaonensis; Gul doda, Mal doda, Leucas cephalotes.
Dodak, HIND., Sonchus ciliatus.
Dodal-konga, TEL., Leptoptilos Javanica.
Doddi pashanam, TEL., Sulphuret of arsenic.
Dodhan, HIND., Sapindus acuminatus, S. detergens.
Dodru, HIND., Ilex dipyrena.
Dodur, HIND., Cæsalpinia sepiaria.
Dœdi-gaha, SINGH., Memecylon ramiflorum.
Dog, wild, Cuon rutilans. See Canidæ.
Doggali kura, TEL., Amarantus polygamus.
Dogra. See Kashmir; Rajputs.
Dogwood, Cornus macrophylla.
Dok, JAV., Arenga saccharifera.
Dokeswa, HIND., Elettaria cardamomum medium.
Dokhma. See Parsee.
Dokhn, ARAB., Setaria Italica.
Dok-ka-det, BURM., Connarus monocarpus.
Dok-ta-tsha, BURM., Sulphate of copper.
Dolichandrone Rheedii, Spathodea Rheedii.
Dolichos bulbosus, Pachyrhizus angulatus. See Fibres.
Dolichos cultratus, Lablab cultratum.
Dolichos ensiformis, Canavalia gladiata.
Dolichos lablab, Lablab vulgare.
Dolichos psoraloides, Cyamopsis psoraloides.
Dolichos soja, Soja hispida.
Dolichos tetragonolobus, Psophocarpus tetragonolobus.
Dolichos virosus, Canavalia virosa.
Dollar. See Coins, 780.
Dolmen. See Cromlech; Kistvaën.
Dolomite. See Cement.
Dolphins. See Cetacea; Delphinus.
Dom. See Kashmir.
Dom, Tafi, ARAB., Borassus flabelliformis.
Domba gass, SINGH., Calophyllum inophyllum.
Dombeya excelsa, Araucaria excelsa.
Dome. See Architecture, 144, 145.
Do-mooti, BENG., Hydrocera biflora.
Dona, SANSK., Wormwood.
Donda, TEL., Coccinea Indica; Donda kura, Byronia grandis.
Donga. See Carriage.
Dongi dongi, MAL., Eucheuma spinosum.
Do-ni, BURM., Nipa fruticans.
Donkia Pass. See Ashneh; Borrera.
Doodh-kalmi, Ipomœa turpethum.
Doodi, TAM., a coin=10 cash.
Doodi. See Coins.
Doodia picta, Uraria picta.
Dookken, ARAB., Sphæranthus hirtus.
Doolal-champa, BENG., Hedychium coronarium.
Dooli-champa, BENG., Sphenocarpus grandiflorus.

Doomoor, BENG., Ficus carica.
Doona Dammar, HIND. See Resins.
Doongarpur. See Hindustan, 80.
Doop, Baga doop, S. CAN.; Ailantus Malabaricus.
Doopada oil—Oils.
Doosiu—Torika.
Do-paharya, HIND., Pentapetes Phœnicea.
Do-patta, a scarf. See Clothing, 747; Cotton Manufactures.
Do-patte-luta, HIND., Ipomœa pescaprae.
Dor, HIND., Spiræa Lindleyana, also Arum curvatum.
Dorana, SINGH., Dipterocarpus glandulosus.
Dorian, ENG., Durio zibethenus.
Dorla, DUKH., Solanum Jacquini.
Doronicum scorpoides. See Darun.
Dorville. See Tibet.
Dosa kaia, TEL., Cucumis sativus.
Dotus, JAPAN., Termes, White ants.
Double cocoanut, Lodoicea Seychellarum.
Douk loung, BURM., Dalbergia reniformis; Douk-ta-loung, D. glauca; Douk-ya-mah, Dalechampia pomifera; Douk-yat, Photinia serratifolia.
Doum palm, Hyphæne thebaica.
Douranelle, EGYPT., Holcus spicatus.
Dowaniya, SINGH., Grewia Asiatica.
Drab, Dimri, PANJ., Cedrela serrata.
Draco. See Reptiles.
Dracocephalum Royleanum. See Balungu.
Dracunculus, Guinea-worm.
Dragon boats. See Boats, 400.
Dragon's blood, Pterocarpus draco. See Calamus.
Drakhya, BENG., Vine, Vitis vinifera.
Drakri of Beas, Cissus carnosa.
Draksha, SANSK., Vitis vinifera.
Drandu, HIND., Ilex dipyrena.
Drangdra. See Bhownuggur; Kattyawar.
Drange, HIND., Sageretia oppositifolia.
Drangu, HIND., Berchemia, *sp.*
Dranguli, JAV., Cathartocarpus fistula, Cassia fistula.
Drannoo, SIND., Crotalaria burhia.
Dravida Prabandha, the Tamil Veda. See Aluvar.
Dravidian. See Aborigines; Architecture, 144; Central India; Central Provinces.
Dravira—Tamil.
Dress and clothing, 73. See Hindu; Khilat.
Drimycarpus racemosus, a timber tree of Chittagong.
Drinkhari, HIND., Datisca cannabina.
Drin-mor, LADAKH, Ursus, *sp.*
Drishadvati, the modern Caggar or Hakra. See Caggar.
Dro, Do, Tro, To, LADAKH, Triticum æstivum.
Dromaius. See Emu.
Dromedary. See Camel; Camelus.
Drongo, *sp.* of Shrikes. See Birds.
Drosera. See Carnivorous Plants.
Drought. See Famine; Food.
Drumbi, Dwarena, TR.-INDUS, Arundo karka.
Drun, TIBET., the Marmot.
Druse. See Karmati; Lebanon.
Dryiophidæ. See Reptiles.
Dryobalanops camphora. See Camphor.
Duarte Pacheco. See Portugal.
Dub, ARAB., Bear.
Dûbh, also Durbha, HIND., Cynodon dactylon.
Dubha-dibh, EGYPT., Cucurbita lagenaria.
Duca, TEL., Conocarpus latifolia.
Duchesnea fragarioides, Fragaria Indica.
Duchid parah, KASH., Flying squirrel.
Ducks, *sp.* of Anas, Dafila, Aythya.
Dudal, also Dudh-batthal, HIND., Taraxicum officinale.
Duddhi, HIND., Euphorbia thymifolia.
Duddu, also Dudi, TAM., KARN., MAHR., a copper coin, a fourth part of a paisa. See Cash.
Dudduga, TEL., Guatteria cerasoides.
Dude-kula-vadu, TEL., a cotton-cleaner.
Dud-fras, HIND., Populus ciliata.
Dudha-par, HIND., Euonymus fimbriata.
Dudhi, HIND., Wrightia mollissima, W. antidysenterica.
Dudhia, HIND., Aconitum napellus; Dudhia-maura, A. ferox.
Dudhika, HIND., Nyctanthes arbortristis.
Dudhlak, HIND., Microrhynchus nudicaulis.
Dudh-luta, Oxystelma esculentum.
Dudi chettu, TEL., Abutilon Indicum.
Dudigapu chettu, TEL.; Jatropha glandulifera.
Dudipa, TEL., Hymenodyction excelsum.
Dudi pala, Nela pala, TEL., Oxystelma esculentum.
Dud-ippi, TEL., Careya arborea.
Dudiya-kalmi, BENG., Calonyction Roxburghii.
Dudla, Dudla jamu, HIND., Prunus padus, also Syringa emodi.
Dud-shambar, HIND., Desmodium tiliæfolium.
Dugga. See Boats, 393.
Dughdika, HIND., Sonchus orixensis.
Dugkenti, HIND. of Kaghan, Indigofera arborea.
Dugong, Halicore dugong. See Cetacea; Delphinidæ.
Duk, Eju, Gomuti, JAV., Arenga saccharifera.
Dukar, MAHR., Hog, Sus scrofa.
Dukhn, ARAB., Millet.
Dukh-nirbisee, HIND., Cissampelos pareira.
Dukkon, ARAB., Sphæranthus Indicus.
Dukout. See Joshi.
Dula, HIND., Abelmoschus ficulneus.
Dulagondi, TEL., Tragia involucrata; Pedda dulagondi, Mucuna prurita; syn. of Carpopogon pruriens; Dula-govela, Aristolochia Indica; Dulakanda; Arum campanulatum; Dula-kanchan, MAHR., Bauhinia acuminata.
Dulchirram, TEL., Acacia kalcora, an enormous tree on the Godavery; wood hard and reddish.
Dulgasses. See Kaotsche.
Dulha, ARAB., a bridegroom; Dulhan, a bride.
Dulia jhar. See Husbandry, 126.
Dul-mara, CAN., Chikrassia tabularis.
Dum, Tali, KASH., Adiantum capillus veneris.
Dumba Sheep. See Wool.
Dumbar, HIND., Ficus goolerea.
Dumba-stacam, TEL., Alpinia galanga.
Dumki mirchi, DUKH., Piper cubeba.
Dumnar, a place famed for its Brahmanical rock-cut temples.
Dumsi, NEPAL., Hystrix leucura.
Dun of Kashmir, Juglans regia.
Duna, Marwa, HIND., Artemisia Indica.
Dund, PERS., ARAB.; Croton tiglium.
Dunda. See Boats, 393.
Dunda-pu, TEL., Nyctanthes arbortristis.
Dundhwar, a name of amber.
Dundi birri, ARAB., Jatropha curcas.
Dundilapu, TEL., Calosanthes Indica.
Dun doommale resin, Gum-resin of the Doona Zeylanica tree.
Duneeadar or Danyadar, a mode of address among fakirs.
Dunga. See Boats, 393.
Dung-beetle. See Insects; Lamellicorn beetles.
Duni-kaduru, Tabernæmontana dichotoma.
Duniya, HIND., Coriander seed.
Dunshing, HIND., Abies Webbiana.
Dun-siris, HIND., Acacia elata.
Dunti, BENG., Croton polyandrum.
Duntu pesala-kaia, TEL., Dolichos Tranquebaricus.
Dunuk, HIND., Aralia Cachemirica; Dunuk-dopaharia, Pentapetes Phœnicea.
Dupada, TEL., Vateria Indica.
Dupi, TEL., Axis maculatus.
Dup-salai, HIND., Boswellia thurifera, Olibanum.
Dur, HIND. of Kangra, Cedrela serrata.
Durbha, HIND., Cynodon dactylon.
Durbura (Dehli), a powder formed of disintegrated felspar.
Durdar, Hingur, HIND., Cinnabar.
Durga. See Parvati.
Durga Puja. See Jar.
Durgari, PANJ., Albizzia stipulata.
Duriamaddi, TEL., Bridelia retusa.
Duri-har. See Jogi or Yogi.
Durio Zeylanicus, Cullenia excelsa.
Durma, BENG., Amphidonax karka.
Durmur, HIND., Xanthoxylon alatum.
Durra, ARAB., Sorghum vulgare.
Duru, SINGH., Cumin seed.
Durua. See Oman.
Durunga, TR.-INDUS, Artemisia.
Durunga, HIND., Artemisia elegans.
Durva, SANSK., Cynodon dactylon.
Dusara-tiga, Kattie-tige, TEL., Coculus villosus.
Dusbichundi, BENG., Morea Chinensis.
Duson. See Borneo, 419.
Dusta, HIND., Leptoptilos argala.
Dustoor. See Parsee.
Dutch rush or Horse tail, Equisetum hyemale.
Dutchna. See Parvati.
Dutt, from Datta, a gift. See Datta.
Duttea. See Hurdour.
Duyong, MALAY, Halicore dugong.
Du yun yaing, BURM., Durio zibethenus.
Duz, Soa grandal, SALT RANGE, Asparagus Panjabensis.
Dwaita. See Charvaka.
Dwar. See Bhutan; Binji; Kamrup.
Dwarena, HIND., Arundo donax.
Dwarf almond, Cerasus Japonica.
Dwarf palm, Chamærops Khasiana.
Dwarpal, a door-keeper.
Dwija, HIND., twice born.
Dwipagustia, SANSK., Cassia alata.
Dyak. See Borneo.

Dynasties of S.E. Asia. See Chronology.
Dyupeti—Indra.
Dza-wet-tha, BURM., Ammonia, Hydrochlorate.
Dzightai, Equus hemionus.

E

EAGLES. See Aquilinæ; Birds.
Eagle-stone, Hajr-ul-Akab.
Eagle-wood, ENG., Aquilaria agallocha.
Eagre, CHIN., Bore.
Ear shells, *sp.* of Haliotidæ.
Earth-nut, Ground-nut, Arachis hypogea.
Earth-oil, Petroleum.
Earthenware. See Ceramic Manufactures; Porcelain.
Eastern Archipelago. See Archipelago.
Eastern Ghats—i. 449.
Eatty maram, TAM., Dalbergia sissoides.
Ebony—Diospyros, Bauhinia.
Ecballion elaterium, the Squirting cucumber.
Echa maram, TAM., Phœnix sylvestris, Urostigma tsiele.
Echeneis naucrates. See Fishes, 1115.
Echidna hystrix, Porcupine Anteater.
Echinodermata. See Zoophyte.
Echites antidysenterica, Holarrhena antidysenterica.
Echites dichotoma, Vallaris dichotoma.
Echites frutescens, Ichnocarpus frutescens.
Echites Malabarica, Chonemorpha Malabarica.
Echites spinosa, Carissa carandas.
Edagai kula, KARN., Left-hand caste.
Eda-kula-ariti, TEL., Alstonia scholaris.
Eddi, TEL., Andropogon contortus.
Eddo, of the Gold Coast, Colocasia antiquorum.
Eddu matta, TEL., Justicia tomentosa. The name signifies 'bullock-trampled plant.' Eddu mukku dumpa, also Eddu mutte dumpa, Pouzolzia tuberosa, meaning bullock-muzzle plant; Eddu nalike, Elephantopus scaber; Eddu toka dumpa, Dioscorea glabra.
Edentata. See Pengolin.
Edessa. See Orfa.
Edible nest, Swiftlet, Collocalia nidifica.
Edible sea-weed, Agar-agar, Ceylon moss.
Eed-uz-zoha, ARAB. See Baqr-eed; Buckr Eed.
Eelachee, HIND., Cardamoms; a Muhammadan ceremony.
Eelandei, TAM., Zizyphus jujuba.
Eeloopei, TAM., Bassia longifolia.
Eel tenki, TEL., Ætobatis nari nari.
Eenth, MALEAL., Phœnix farinifera.
Eepaatta, SINGH., Alangium decapetalum, A. Lamarkii.
Eepetta, SINGH., Cyathocalyx Zeylanicus.
Eerpilakai, TAM., Artocarpus pubescens.
Eesara, TEL., Aristolochia Indica.
Eesha-nungula, BENG., Gloriosa superba.
Eeswara mamidi, SINGH., Xanthochymus pictorius.
Eetcha maram, TAM., Phœnix sylvestris.
Egg plant, Solanum melongena.
Egilbir, HIND., Datisca cannabina.
Egisa, TEL., Pterocarpus marsupium.
Egret, *sp.* of Herodias; Demiegretta, Buphus ardeola, Butorides nycticorax. See Heron; Paddy-birds.
Egyptian lotus, Nelumbium speciosum.
Ehrabadra, a name of Virabadra.
Ehram, ARAB., the pilgrim's habit.
Ehretia arenaria, Sand-binding plants.
Ehrh, PUSHTU, Pyrus Kamaonensis.
Eilan, Eilaur, RAVI, Andromeda ovalifolia.
Eimu, PANJ., Nemorrhœdus bubalina.
Ein, HIND., Urtica heterophylla.
Eing-gyin, BURM., Vatica robusta.
Eiyar, TAM., a father. See Ayar.
Eka. See Carriage.
Eka-bhogam. See Gram.
Eka-dasi. See Dit'hwan.
Ekkudatige, TEL., Cardiospermum halicacabum.
Ekruk tank of Sholapur, i. 564.
Ekteer, BENG., Ophioglossum reticulatum.
Elachi, HIND.; Ela cheddi, TAM., Elettaria cardamomum.
Elachi, DUKH., HIND., Amomum cardamomum.
Elæocarpus copalliferus, Piney tree.
Elæococca montana, Vernicia montana.
Ela-imbul, SINGH., Cochlospermum gossypium.
Elamite. See Babylonia, 218.
Elanji mara, CAN., Zizyphus jujuba.
Elapidæ. See Reptiles.
Elater, a click beetle.
Elate sylvestris, Phœnix sylvestris.
Elavam, Pula maram, TAM., Salmalia Malabarica.
Elavum maram, TAM., Eriodendron anfractuosum.
Elburz, 17,746 ft. See Assassin; Caucasus, i. 609.
El-caja, Roka, ARAB., Trichilia emetica.
Elchi, HIND., PERS., an ambassador.
El-dak-l-mirza, ARAB., Anthemis nobilis.
Eleane of Egypt, Coffee berry.
Elemais. See Persepolis.
Elephant-apple tree, Feronia elephantum.
Elephant creeper, Letsomia nervosa.
Elephant goad, Ankus, HIND.
Elephant grass, ENG., Typha elephantina.
Elephant thorn, Acacia tomentosa.
Elephanta, i. 612.
Eleuth. See Kalmuk.
Elias. See Karund; Khizr.
Elika chavi kura, TEL., Hydrocotyle Asiatica.
Elimitcham, TAM., Citrus bergamia, Lime tree.
Elizm saghma, TURK., Rainbow.
Elk, Alces machlis.
Ella. See Ikshwacu.
Ellal, HIND., Andromeda ovalifolia.
Ella midella, SINGH., Barringtonia acutangula.
Ellee wanderu, SINGH., Presbytis thersites.
Elle kalli, TAM., Euphorbia nivulia.
Ellendi, TAM., Zizyphus jujuba.
Ellora. See Architecture; Cave Temples; Sculpture, 610.
Ellu, CAN., Gingelly seed.
Ell-ulli, Vellulli, TEL., Allium sativum.
Ellupa, TAM., Bassia longifolia.
Elm—Ulmus.
Elmyus. See Carex arenaria.
Elo of Chenab, Hordeum cœleste.
Elton, John. See Caspian Sea.
Elugu, TEL., Ursus labiatus.
Emba river. See Central Asia.
Emberiza hortulana, Ortolan.
Emblica officinalis, Phyllanthus emblica, Myrobalan. See Dyes.
Embroidery. See Filigree; Gold Embroidery.
Embryopteris. See Diospyros.
Embudi, TEL., Pisonia villosa.
Embural, TAM., Chay root.
Emerald. See Precious Stones.
Emeu. See Struthionidæ.
Emmenta, Hemanto, TEL., Ficus nitida.
Emyda. See Reptiles; Tortoise.
Enamel. See Arts; Colour.
Endaru, SINGH., Ricinus communis.
Endie. See Flores.
Endra, CHENAB, Hiptage madablota.
Eng, En, Ain tha, BURM., Dipterocarpus grandiflora.
English lady worshipper. See Central Provinces.
Engraulis. See Fishes, 1115.
Eng-yin, BURM., Hopea suava.
Enkasing, HIND., Berberis aristata.
Ennai carrai maram, TAM., Bassia longifolia.
Enoch, the same with Kapila, an incarnation of Vishnu.
Enos, ARAM., Adam and Enos, the names of the first men.
Ensete, of Bruce, the Hindu Padma, the Lotos of the Nile.
Enuga bira, TEL., Elephant gourd, a large cucurbitaceous plant, Elephantopus scaber.
Enuga dula gandi, Mucuna gigantea; Enuga palleru, Pedalium murex.
Eonycteris spelæa. See Pteropodidæ.
Eopaata, CAN., Alangium decapetalum.
Epander. See Bactria, 222.
Epe, Nara epe, TEL., Hardwickia binata.
Epi, Ippa, TEL., Bassia latifolia.
Epicarpurus orientalis, Trophis aspera.
Epidendreæ. See Orchiaceæ.
Epidendron vanilla, Vanilla aromatica.
Epimachus magnus, Paradise birds.
Equidæ, Horse, Mammalia.
Equula. See Fishes, 1115.
Equus. See Asinus.
Equus onager, Gorkhar.
Erabadu gass, SINGH., Erythrina Indica.
Eram-naiko, GOND., Cuon rutilans.
Eran, Ellal, BEAS, Andromeda ovalifolia.
Erandi, HIND., Ricinus communis.
Eratosthenes. See Chronology, 717.
Erech. See Babylonia, 218.
Erfuddi, a Bedouin tribe in Najd.
Ergot or Spur (Sclerotium clavus) is elongated in form, black externally, white and horny within, exceedingly deleterious in its properties, if long taken; in large doses acts specially on the womb. See Blight.
Ericene-veejo. See Hindu; Sakya Muni.
Erika, MALEAL., Calotropis gigantea.
Erikata, TEL., Celastrus paniculata.
Erima pavel, MALAY, Momordica dioica.
Erim-pannah, TAM., Caryota urens.
Eriobotrya Japonica, Loquat.

Eriocheir Japonicus. See Crustacea.
Eriophorum cannabinum, Cotton grass.
Ermina-kullie, TAM., Cacalia kleinia.
Erool of Malabar, Inga xylocarpa.
Eroombala maram, TAM., Ferreola buxifolia.
Eros, GR., the Hindu Kama.
Erpetoninæ. See Hydridæ.
Erra, TEL., Red colour, fair colour, as that of a man, or tawny complexioned.
Erranoboas. See Chandragupta; Pataliputra.
Ertoghrul. See Othman.
Eruca sativa, LAM., Brassica.
Eru maddi, TEL., Pentaptera Berryi, P. angustifolia.
Erumbala, TAM., Maba buxifolia.
Erumitchi narakum, MALEAL., Citrus bergamia.
Eru pichcha, TEL., Clerodendron inerme.
Eruvalu maram, TAM., Inga xylocarpa.
Eruvanga, TEL., Solanum, *sp.*
Ervi, HIND., Caladium esculentum.
Erycidæ. See Reptiles.
Erysimum perfoliatum. See Oils.
Erysiphe taurica. See Fungus.
Erythrina monosperma, Butea frondosa.
Erythroxylon. See Coca.
Erzari or Orzari. See Turkoman.
Esar-Haddon. See Babylonia, 218.
Esbu, Esbi, of Sutlej, Hemitragus jemlaicus.
Esculapian rod. Serpent-worship.
Esculent caladium, Caladium esculentum; Esculent cyperus, Cyperus esculentus; Esculent okro, Abelmoschus esculentus.
Eshwurmul, BENG., Aristolochia Indica.
Eskamra. See Bhuvaneswara.
Eskar, CAN., a village servant, generally a Mhar; a low-caste man.
Esobh, of Scripture, supposed to be the Capparis Egyptiaca.
Espettas, SINGH., Cyathocalyx Zeylanicus.
Esukadanti kura, TEL., Gisekia pharnacioides.
Etamba (wild) mamidi, TEL., Mangifera Indica.
Ethiopian sour gourd, Adansonia digitata.
Eti chilla, TEL., Diliwaria ilicifolia; Eti malle, Polygonum tomentosum; Eti palla, Salix tetrasperma; Eti-pisinika, Clerodendron inerme; Eti puchcha, Citrullus colocynthis.
Etymander, the Helmand river.
Etzel, the Attila of historians.
Euchema spinosum, Gigartina spinosa. See Sea-weeds.
Eucratides. See Bactria, 221.
Eudemus. See Bactria, 221.
Eugenia aquea, Jambosa aquea.
Eugenia caryophyllata, Caryophyllus aromaticus.
Eugenia jambolana, Calyptranthes caryophyllifolia.
Eugenia pimenta, Pimenta officinalis.
Eugenia racemosa, Barringtonia acutangula.
Eulophia. See Orchiaceæ.
Eupatorium. See Ayapana.
Eupholi, Beautiful beetles of the Papuan Islands.
Euphrates. See Frat; Rivers.
Euplæa splendens, Dragon-fly.
Euplectella aspergillum, Venus flower-basket.
Eupodotis Edwardsii. See Bustard.
Euprepes Chinensis. See Reptiles.
Euproctis virguncula. See Drepana.
European plants. See Botany, 423.
Euterpe caribæa, Oreodoxa oleracea.
Euthydemus. See Bactria, 222.
Eve. See Havvah.
Everest. See Mount.
Everlasting flower, Gomphrena globosa.
Evodia triphylla, Xanthoxylon triphyllum.
Exacum bicolor. See Chiretta.
Exacum hyssopifolium, Cicendia hyssopifolia.
Excœcaria insignis, Falconeria insignis.
Exorcism. See Dawat.
Ezion-geber. See Commerce, 789.

F

FABA VULGARIS, Vicia faba.
Face-plant, Graptophyllum hortense.
Fadan, a predatory Bedouin tribe.
Fadaniya, HIND., Urinary and intestinal calculi, the bezoar stones.
Faduj, also Hajr-ul-bucher, ARAB., Bezoar.
Fagara piperita, Xanthoxylon piperitum.
Fagara triphylla, Xanthoxylon triphyllum.
Fagu, Phagwara, CHENAB, Ficus carica, F. virgata.
Fakhta, HIND., any dove, turtle-dove.
Fakus, EGYPT., Cucumis sativus.
Falconry. See Hawking.
Falcons, *sp.* of Falco, Erythropus, Hierax.
Falez, HIND., a field of melons.
Fallow deer, Dama vulgaris.
Falsa, HIND., Grewia Asiatica; its acid berry used to make a sherbet.
Falus, a coin. See Cash.
Falus mahi, ARAB., Strychnos nux vomica.
Falwa, also Farri, HIND. of Salt Range, Grewia clastica.
Famine. See Cuttack; Food; Orissa.
Fan, CHIN., Barbarian.
Fan-fish, Histiophorus, Sailor-fish.
Fanam, TAM., a coin=80 cash.
Fang-chang, CHIN., a Buddhist abbot.
Fang-tang-san, CHIN., the radicles of a campanula, used in syphilis.
Fan-hung-hwa, CHIN., Crocus sativus, Saffron.
Fan-kia, CHIN., Lycopersicum.
Fan-kwai, CHIN., aboriginal imp.
Fan-lan-mo, CHIN., Brahma.
Fan-lih-chi, CHIN., Anona squamosa.
Fannas, MAHR., Artocarpus integrifolius.
Fan-palms, Corypha umbraculifera, Talipot; Livistonia rotundifolia.
Fan-shi, CHIN., Pumice stone.
Fan-shih-liu, CHIN., Psidium pyriferum.
Fantail, Birds of the genera leucocerca, chelidorhynx, cryptolopha.
Fan-tal, in China, the Superintendent of Finance. See Kwang-tung-chi.
Fan-yan-na, the Chinese name of Bamian. Chinese remark that in the winter season the inhabitants take refuge in caverns cut out of the rocks.
Faras, PANJ., Tamarix articulata.
Farayga, ARAB., the night of discernment.
Farentit, ARAB., Guinea-worm.
Farfun, Akal-nafzah, ARAB., Euphorbium.
Farid Kot. See Cis-Sutlej.
Farid-ud-Din Attar—Sufi.
Fariyab. See Talikan.
Farri, Phalwa, HIND., Grewia vestita.
Fars. See Khogilu.
Farz, ARAB. See I'd.
Fa-shun. See Boats, 400.
Fast-days. See Phalaha.
Fatimide. See Karmati.
Fatsia papyrifera, Rice-paper plant.
Fazl Abu Ali, Talikani. See Sufi.
Feather Star, Comatulæ.
Feathers. See Bird Feathers.
Fei-tsan-kiah, CHIN., Acacia rugata.
Fennel, Fœniculum vulgare.
Fennel flower, Nigella sativa.
Fenny, a river in Noakally district.
Fen tree, Sethia Indica.
Fenugreek, ENG., Trigonella fœnum-græcum.
Fen yuen, CHIN., White lead, Cerusse.
Ferash, Farash, Jhao, HIND., Tamarix gallica.
Fergusson, James. Architecture.
Ferishta. See Bijpur.
Feronia pellucida, Ægle marmelos.
Ferraria crocea, Pardanthus Chinensis.
Ferreola buxifolia, Maba buxifolia.
Ferula orientalis, Dorema ammoniacum.
Feshuk, AR., Dorema ammoniacum.
Fever nettle, Laportea crenulata.
Feverfew, ENG., Anthemis pyrethrum.
Ficus-elastica is indigenous to Assam; the foot of the Metur Hills in Nowgong, as well as the Chardwar Forests in Durrung, abound with this tree.
Ficus glomerata, Covellia glomerata.
Ficus oppositifolia, Covellia oppositifolia.
Fida, Sadqa, ARAB., Sacrifice.
Fieldfare, Planesticus pilaris.
Figure-stone, or Agalmatolite.
Filaria medinensis, Guinea-worm.
Filfil-ahmar, AR., Cayenne pepper.
Filfil aswad, ARAB., Black pepper.
Filfil-mooeh, ABAB., Pepper root.
Filfil-u-daraz, ARAB., PERS., Chavica Roxburghii.
Filigree. See Gold Filigree.
Filuka, ARAB. See Boat, 392.
Finches, *sp.* of Fringillinæ.
Fin-whale, Balænopteras Indica. See Cetacea; Whales.
Firebacks. See Gallus; Phasianidæ.
Fireclay. See Clay.
Fire-fish, Scorpæna ruber.
Fire springs. See Ho Tsing.
Firman, PERS., Royal letters; literally an order.
Firozabad. See Chandwar.
Firozbadi, author of a Kamus.
Firoz Kohi. See Iranian Races.
Fisanni of Chenab, Hamiltonia suaveolens.
Fish roe. See Alausa Toli; Trubu.
Fish sounds, Air-bladder, Isinglass.
Fishing eagles, Pandion, Haliætus.
Fitan, HIND., a pelican.
Fitch or Vetch. See Tare.
Fitch, Ralph. See Palibothra.

Fitrasuliun fitura, PUSHTU, Pranges pabularia.
Flacourtia stigmarota, Phoberos Roxburghii.
Flamingo, Phœnicopterus roseus.
Flassu, CHENAB, Populus ciliata.
Fleabane, Serratula anthelmintica.
Flea-killer, Plectranthus rugosus.
Flindersia Australis. See Cedar.
Floralia. See Phul.
Florentine iris, Oriss root.
Florikin. See Bustards; Otididæ; Sypheotides Bengalensis.
Fly. See Deburah; Insects.
Fly-catchers, *sp.* of the family Muscicapidæ.
Flying cat, *sp.* of Galeopithecidæ and Lemuridæ.
Flying fish. See Exocetus.
Flying fox, *sp.* of Galeopithecidæ and Lemuridæ; Pteropus, *sp.*, Bats.
Flying lemur, Flying macaco. See Lemuridæ.
Flying squirrels, *sp.* of Pteromys, Pt. sciuropterus.
Fo, the Chinese name of Buddha.
Foal foot, Asarum Europæum.
Fœniculum panmori, Anethum panmori.
Food-grain produce. Hindu, 72; Hindustan, 83; Husbandry, 127.
Food-offerings, Prasada.
Fooful, ARAB., Betel nut.
Foot-print, Parasnath.
Forbidden fruit, Tabernæmontana dichotoma; also Citrus paradisi.
Formica, a genus of Ants.
Fossil remains. Geology; Siwalik.
Four-horned antelope, Tetraceros quadricornis.
Fowls. See Gallus; Phasianidæ.
Fox, Vulpes, *sp.*
Fox bats, *sp.* of Pteropus.
France. See Cochin-China; Commerce, 793; East India Company.
Frangipani trees, Plumeria rubra? *sp.*, Pl. acutifolia.
Frankincense. See Boswellia.
Frigate bird, Attagen aquilus.
Fringing or shore reefs. See Coral and Barrier Reefs.
Frogmouth, Batrachostomus moniliger and Otothrix Hodgsonii.
Frontier of Hindustan, 83.
Fucaceæ. See Laminaria; Seaweeds.
Fucus lichenoides, Ceylon moss; Gigartina spinosa.
Fucus spinosus, Eucheuma spinosum.
Fuh, Madder.
Fuh-kia-rh, CHIN., Datura stramonium.
Fuh-kung, CHIN., Levisticum.
Fuh-ling, CHIN., Pachyma cocos.
Fuh-yih, CHIN., Bat.
Ful, EGYPT., Vicia faba.
Ful, ARAB., Jasminum zambac.
Fulah, in Africa, a race estimated at eight millions.
Fule-he. See China, 688.
Fullers' teasel, Fullers' thistle. See Teasel.
Funarus, YUNNANI, Cyperus hexastachyus.
Fung-fo-shan—Kum Fa.
Fung-hiang-chi, CHIN., Storax.
Fungi. See Coffee Planting, 776–77; Phosphorescence.
Fung-mih, CHIN., Honey.
Fu-p'ien, Tseh-tsze, CHIN., Aconitum variegatum.
Furbiune, MOROCCO, Euphorbia Canariensis.
Furj-baj, BENG., Spilornis cheela.
Furrud pangra, HIND., Erythrina Indica.
Fu-sang, CHIN., Althæa rosea.
Fu-yu-kiah, CHIN., Haliotidæ.
Fu-yung, Mu-fu-yung, CHIN., Hibiscus mutabilis.

G

GAARLA PHALLA, MALEAL., Anamirta cocculus.
Gab, HIND., Diospyros embryopteris.
Gabbelay, TEL., Flying fox.
Gab'r, a Parsee.
Gabra, Gulga, BENG., Nipa fruticans.
Gach, HIND., Coriaria Nepalensis.
Gachcha chettu, TEL., Guilandina bonduc.
Gach mirich, BENG., Capsicum annuum.
Gadabuni, HIND., Trianthema decandrum.
Gadancha, BENG., Tinospora cordifolia.
Gadang-castila, BALI, Carica papaya.
Gadara. See Alakh; Mendicants.
Gadda kanda, TEL., Colocasia esculenta.
Gadda nelli, TEL., Celtis orientalis.
Gadda-pisinka, TEL., Grislea tomentosa.
Gaddi, a Kashmir tribe.
Gadhul, HIND., Cheiroptera; Flying Fox; Pteropodidæ.
Gadi, HIND., Pillow, Throne.
Gadide-gadda-pu, TEL., Aristolochia bracteata.
Gadi sugandhi, TEL., Hemidesmus Indicus.
Gærtnera racemosa, Hiptage madablota.
Gagra, Kanaujia, Rivers.
Gahala, Tadala, SINGH., Colocasia antiquorum.
Gaharu, Alua-tan, MALAY, Aloes.
Gairun, DUKH., Calculus cysticus.
Ga-ja chinno, TEL., Celastrus montana.
Gaja-nimma, TEL., Citrus bergamia.
Gajapati. See Kalinga.
Gaja pippali, TEL., Scindapsus.
Gaji, Godari, TEL., Grislea tomentosa.
Gajooloo-balija, TELING, Banglemakers.
Gaju chettu, TEL., Solanum pubescens.
Gal, BHOT., a glacier.
Gal, or Mitha kaddu, HIND., Benincasa cerifera.
Galancha, BENG., Tinospora cordifolia.
Galanga cardamoms, Alpinia galanga.
Galcha State. See Central Asia; Karatagin.
Galedupa Indica, Pongamia glabra.
Galega purpurea, Tephrosia purpurea.
Galeopithecus. See Flying Cats.
Galicha, HIND., Carpet, Rug.
Galijeru, TEL., Trianthema obcordatum.
Galim, Zuli, ARAB., Carpets.
Galla of Sutlej, Cupressus torulosa.
Galla race. See Semitic Races.
Gallinæ. See Phasianidæ.
Gallinago. See Scolopacidæ; Snipes.
Gallophasis. See Pheasant.
Gal-marium, HIND., Adiantum capillus veneris.
Galmendora gass, SINGH., Cynometra ramiflora.
Galung-gong Mount. See Java.
Gambe, EAST CELEBES, China grass.
Gambir, MALAY, Uncaria gambir.
Game birds. See Birds; Gallinæ.
Gammiria, SINGH., Piper nigrum.
Gampina, TEL., Odina wodier.
Ganapati—Parvati, Warangal.
Ganda biroza, HIND., Boswellia thurifera, Olibanum.
Gandamani, TAM., Abrus precatorius.
Gandangi, TEL., Presbytis priamus.
Gand bel? HIND., Andropogon nardus.
Gandharassamu, TEL., Gendarussa vulgaris.
Gandharvachanda—Indradwipa.
Gandho-bhadhuli, BENG., Pæderia fœtida.
Gandibuti, HIND., Glinus litoides.
Gandla, Gardala, KANJ., Bergera Konigii.
Gandlena, Gundalun, RAV., Daphne oleoides.
Gandno, Bina, BENG., Andropogon schoenanthus.
Gando-gaula, BENG., Viverra Malaccensis.
Ganer, Gandol, PANJ., Avena fatua.
Ganesa. See Saiva.
Ganes gumpha Cave, i. 612.
Ganga Bul. See Haramuk.
Ganga Chil, Ganges kite.
Ganga-jala. See Divination.
Gangaravi, TEL., Thespesia populnea.
Gangi, Inzare, TR.-IND., Grewia betulæfolia.
Gangotri. See Hot Springs, 111.
Gangri (Mountains). See Kailasa.
Ganhar, JHELUM, KANGRA, Amarantus anardana.
Ganhila, CHENAB, Premna mucronata.
Ganja, Bhang, HIND., Cannabis sativa.
Ganj-i-bar. See Manjha.
Ganpurgee, HIND., Arnotto.
Gan Talana—Kandelai.
Ganthian, HIND., Ipomœa reptans.
Ganti malle, of Salem, Chickrassia tabularis.
Gan-yan-pa-too, BURM., Clerodendron nutans.
Gaola. See Dhangar.
Gao Medha, SANSK., Cow sacrifice.
Gao zaban, PERS., Cacalia coccinea.
Hart's ear, Anisomeles Malabarica, Trichodesma Indicum.
Gara or Gari chettu, TEL., Balanites Ægyptiaca.
Garass, BENG., Ceriops Roxburghianus.
Garden. See Bun-Otsarg.
Gardenia dumetorum, Randia, *sp.*
Gardi gavapu, TULU, Aristolochia bracteata.
Garges, Nikki, PANJAB, Grewia Rothi.
Garhwal. See Hot Springs; Lakes.
Garika kasuvu, TEL., Cynodon dactylon.
Gari kulay, BENG., Soja hispida.
Gariti kamma, TEL., Vernonia cinerea.
Garjan, BENG., Dipterocarpus turbinatus.
Garlic pear, Cratæva Roxburghii.
Garm-ab. See Jell.
Garm-massala, HIND., Spices.
Garna, Garunda, HIND., Carissa diffusa.
Garo Hills, i. 449. See Gardokh.
Garu, Kayu-garu, MALAY, Aloes-wood.

Garuda, CAN., Haliastur Indus.
Garuda Basavi. See Basavi.
Garur of Purniah, Leptoptilos argala.
Gashtasp. See Darius.
Gas-miris, SINGH., Cayenne pepper.
Gasr-kural-sabo, SINGH., Achyranthes aspera.
Gass-kahambillya, SINGH., Gerardinia, *sp.*
Gass-kappiteya, SINGH., Croton lacciferum.
Gast-freund, GER. See Brother-making.
Gatha. See Parsee.
Gatte, TEL., Zizyphus xylopyra.
Gau-jangli, PERS., Gavæus frontalis.
Gaur, Gauri-gai, HIND., Gavæus gaurus.
Gauri—Parvati.
Gautama. See Josaphat; Zaydee.
Gauzereh, PERS., Bezoar, Calculus cysticus.
Gavæus. See Bison; Bovidæ.
Gavialis. See Crocodile; Reptiles.
Gawsher, PERS., Opoponax.
Gaya, a town of Bengal. Gayalese widowers are barred the privilege of wiving after the death of their first wife, as Hindu widows are barred the privilege of taking a husband after the death of their first lord.
Gayal, HIND., Gavæus frontalis.
Gaz, HIND. See Ilahi; Weights and Measures.
Gazella sub-gutturosa?—Antilopinæ.
G'beig, TIB. ? Goitre.
Geaster. See Fungus.
Gebang, Corypha gebanga.
Gebantæ—Okells.
Geckotidæ—Reptiles.
Gedda, TEL., Kites.
Geer. See Kattyawar.
Geese, *sp.* of Anser, Sarkidiornis.
Gehela, MAHR., Randia, *sp.*
Gehlote. See Kach'hwaha.
Gelam butter. See Oils.
Gelasimus. See Crustacea.
Gems. See Precious Stones.
Genda, HIND., Rhinoceros.
Gendi, HIND., Chrysanthemum Roxburghii.
Gendoe, JAV., Galeopithecidæ, Lemuridæ.
Genetta Manillensis. See Civet; Mammalia; Viverra.
Gengaru, HIND., Cratoegus crenulata.
Gengwa, HIND., Excœcaria agalocha.
Gennæus. See Phasianidæ.
Gentiana cheyrata, Agathotes cherayta.
Gentiana hyssopifolia, Cicendia hyssopifolia.
Geodia Japonica, Venus flower-basket.
Geophilus fulgens. See Phosphorescence.
Georgia, i. 609.
Gesu Daraz. See Kulburga.
Gete — Sacæ, Indo-Scythi, Sun-worship.
Ghaias-ud-Din, Kai-Khusru.
Ghaias-ud-Din-bin Humam-ud-Din. See Kondamir.
Ghajar, Ghajari, ARAB., Gypsy.
Ghallah, ARAB., Grain.
Ghalme, HIND., Anabasis multiflora.
Gharat, Gani, of Ravi, Oxystelma esculentum.
Ghar-i-Jamshid. Arghandab; Kandahar.
Gharikun, ARAB., Agaric; Boletus igniarius, Agaricus igneus, Polyporus, *sp.*, used in medicine.
Gharra River—Hyphasis.
Ghasi. See Kol.
Ghas-kachoo, BENG., Typhonium flagelliforme.
Ghasvel, HIND., Cuscuta reflexa.
Ghata, SANSK., a flight of steps. Ghati, Races belonging to the Ghats of the Syhendri.
Ghatka patra, MAHR., Clepsydra.
Ghatwali. See Bhumij.
Ghaylulah. See Kaylulah.
Ghebu nelli, TEL., Premna integrifolia.
Ghega, Ghenga, HIND., Goitre.
Ghekool, TEL., Typhonium orixense.
Ghelani. See Abdul Kadar.
Ghenasa, CAN., TEL., Batatas edulis.
Gheru mitti, PERS., Bole Armenian.
Ghes, a Bedouin tribe.
Ghet-kuchoo, BENG., Typhonium orixense.
Ghiaturai, HIND., Luffa pentandra.
Ghidan, Biluch, a black tent.
Ghidro, SIND., Cucumis melo.
Ghi-gowar, HIND., Aloe Indica.
Ghi-ka-gadda, DUKH., Isoetes Coromandeliana.
Ghi-kumar, HIND., Agave perfoliata.
Ghilghirinta, TEL., Crotalaria verrucosa.
Ghimasag, Pharnaceum mollugo.
Ghinalita-pat, BENG., Corchorus capsularis.
Ghita-puja, Hindu, 65.
Ghongu kuru, TEL., Hibiscus cannabinus.
Ghoont. See Horse, 105.
Ghooty, trap-door spider, Cteniza, *sp.*
Ghorbasta. See Cyclopes.
Ghore-pore, HIND., DUKH., Iguana.
Ghore-sun, BENG., Crotalaria juncea.
Ghor-khar, Koulan, HIND., Equus onager.
Ghota-mar, HIND., Kingfishers.
Ghous, Gaoj, BENG., Rusa Aristotelis.
Ghous-ul-azam. See Abdul Kadar; Muhammadanism.
Ghrito-kumari, BENG., Aloe Indica.
Ghugu, HIND., *sp.* of Owls, genera Otus, Urria, Ketupa, Huhua.
Ghunia, TEL., Salvadora Persica.
Ghurghuria, HIND., Gryllotalpa vulgaris.
Ghur-hay, HIND., Felis pardus.
Ghus, HIND., Mus bandicota.
Ghuyan, Kachalu, PANJ., Colocasia antiquorum.
Ghwardza, PUSHTU, Cratægus oxyacantha.
Ghwareja, HIND., Edwardsia mollis.
Ghwarga, HIND., Arundo donax.
Ghylong, Lama priests. See Bhutan.
Gialbo, Tsong-kha-ba.
Giam, HIND., Cedrus deodara.
Gian, HIND., Premna mucronata.
Giana, TIB., Cervus Wallichii.
Gianhan, HIND., Elæagnus conferta.
Giant, the Rakshasa of the ancient Hindus, generally translated so.
Giant clam, Tridacne gigas.
Giant Petrel or Break-bones, Ossifraga gigantea, is the Nelly or Stinker of sailors.
Gibbon—Hoolock, Hlyobates.
Gi-changi, TEL., Celastrus montana.
Gidar-dak, Cissus carnosa, Sageretia oppositifolia, Prunus padus.
Gidarmar, a vagrant and thief in Upper India (lit. a jackal-killer).
Gidar-tamaku of Shahpur, lit. jackal's tobacco, Philiphœa calotropidis, Heliotropium Europæum, Verbascum thapsus.
Giddarkumb, HIND., a fibre of Kangra.
Gidi, HIND., Francœuria crispa.
Gidia, HIND., Vagrants and thieves in Upper India.
Gidugudu, TEL., Casearia tomentosa.
Gigantic crane of Australia, the Mycteria Australis, or New Holland Jaberu.
Gigantic stork, Leptoptilos argala.
Gigantic swallow-wort, Calotropis gigantea.
Gigartina tenax, Eucheuma spinosum.
Gihain, HIND., Elæagnus conferta.
Gila-gacha, BENG., Entada pursetha.
Gila gaddi, Goli midi, TEL., Coix barbata.
Gila goranta, TEL., Crotalaria verrucosa; Gilheri, DUKH., Sciurus palmarum; Gil'heri-mar, Aquila pennata, lit. squirrel-killer.
Gilakara, TEL., Cumin seed.
Gil Armeni, PERS., Bole Armenian.
Gilas, PANJ., Cerasus vulgaris.
Gilban, EGYPT., Lathyrus sativus.
Gilgit. See Iskardo.
Gilgiti, HIND., a kind of wheat.
Gillur ka patta, HIND., Laminaria saccharina.
Gilt-head, a fish of the S. Pacific of the genus Sparus.
Gilugudu, TEL., Casearia tomentosa.
Gima, BENG., Lady's bed-straw, Erythrœa centauroides.
Gindol of Sumatra, Tapirus Malayanus.
Gingaru, HIND., Cratægus crenulata.
Gingelly oil, Sesamum Indicum.
Ginger-bread tree, Hyphæne Thebaica.
Gingko, Jinko, JAP., Salisburia adiantifolia.
Gira, Ghuzhbe, TR.-INDUS, Alnus nitida.
Girardinia Leschenaultiana, Urtica heterophylla.
Giri karnika, TEL., Alhagi maurorum.
Gir-khat, PERS., Galbanum officinale.
Girnar. See Architecture, 145; Jain; Junagarh.
Girthan, HIND., Fluggea leucopyrus, Sageretia oppositifolia.
Gita Govinda. See Jayadeva.
Gitti gadda, TEL., Isoetes Coromandeliana.
Gityarya, a Sanskrit metre.
Giur, HIND., Salix Babylonica.
Giwain, HIND., Elæagnus conferta.
Glam tree, Melaleuca viridiflora.
Glapa, TIB., Cultivator.
Glas, Altah, TIB.-TANGUT, Moschus moschiferus.
Glass Eel, *sp.* of Leptocephalus of Shaw, found on the Australian coast. It is from 4 to 8 in. in length. There are eighteen species of this genus, one of the Leptocephalidæ of Bonaparte.
Glass nautilus. See Carinaria; Mollusca.
Glass rope, Hyalonema Lusitanicum.
Glat-chandul, HIND., Gloriosa superba.
G'ling-gang, MALAY, Cassia alata.
Globba sylvestris, Alpinia nutans.
Globe flower, Sphæranthus hirtus.
Globeocephalus. See Cetacea; Whales.
Glogos, GR., Milk; Gala-duah, SANSK., to milk; Duhitar, SANSK., a maiden daughter who milks (duh) the go (cow); hence Dochter, Tochter, Daughter, and Dug, the teat.

Gloriosa superba, Methonica superba.
Glossina morsitans. See Fly; Tse-Tse.
Glow-worm. See Phosphorescence.
Gluga, JAV., Broussonetia papyrifera.
Glycine Sinensis, Wistaria Sinensis.
Glycine viscosa, Dolichos glutinosus.
Gna-pi, BURM., Balachan.
Gnari, Western Tibet.
Gnayan patoò, BURM., Clerodendron nutans.
Gna yoke, BURM., Capsicum minimum.
G'ne-ta-thay, BURM., Bird nests.
Gnoo gyee, BURM., Cathartocarpus fistula.
Gnow, TIB., Ovis ammon.
Gnung-myeet, BURM., Chrysopogon acicularis.
GNWÆ-BAN, BURM., Graptophyllum hortense.
Goa, TIB., Procapra picticaudata.
Goa beans, Psophocarpus tetragonolobus.
Goa potato, Dioscorea aculeata.
Goat antelope, Gazella Bennettii.
Goat pepper, Capsicum frutescens.
Goats and sheep. See Bovidæ; Caprinæ.
Goats'-foot creeper, Ipomœa pes-capræ.
Goatsucker. See Caprimulgidæ.
Gobay goru, BENG., Gaveus frontalis.
Gobi. See Deserts, 920; Kalmuk.
Gobur-chumpa, DUKH., Plumiera acuminata.
Godu mahangl, SINGH., Auckl ndia costus.
Goduma-pindi, TEL., Flour of wheat.
Godwit, *sp.* of Limosa, L. macrorhampus.
Goga. See Deserts.
Gogam, TEL., Choloroxylon dupada.
Gogawut. See Dhondal.
Gogi. See Bijapur.
Gogird, PERS., Sulphur.
Gogi-sag, HIND., Malva parviflora.
Go-go of Manilla, Acacia abstergens.
Goia, TAM., TEL., Guava tree.
Goitre. See Galloor-ka-patta.
Gokak. See Cataracts; Waterfall.
Gokan, PANJ., Alhagi maurorum.
Gokantaka, SANSK., Asteracantha longifolia.
Gokaru, HIND., Pedalium murex; Gokru kalan, Xanthium strumarium.
Gokats Seku festival. See Oki-don-Tako.
Gokiura, Gokshura, HIND., Asteracantha longifolia.
Gokkar. See Kashmir.
Gokkatu, SINGH., Gamboge.
Goklen. See Turkoman; Yamut.
Gokshara, HIND., Asteracantha longifolia.
Gola gandi, TEL., Tradescantia axillaris.
Golaka. See Kunda-Golak.
Golakonda, TEL., Capsicum frutescens.
Golapilly. See Diamond.
Golaroo, SIND., Coccinea Indica.
Golatta koku, TEL., Nesokia Indica.
Goldar, DUKH., Sterculia guttata.
Golden berenice. See Ophir.
Golden eagle, Aquila chrysaetos.
Golden orange, Citrus Japonica.
Golden stream, Chrysorrhæa of the ancients, Barrada river of Damascus.
Golden-thread root, Coptis teeta.
Goliga, Mantika, MALAY, Bezoar.
Golive, Korimidi, TEL., Coix barbata.
Gol-kakra, BENJ., Momordica Cochin-Chinensis.
Golkamila sama, JHELUM, Glochidion velutinum.
Gol-kundru, PANJ., Coccinea Indica.
Golu-mora, CEYLON, Cryptocarya floribunda.
Golunda Ellioti. See Coffee Planting, 774.
Gombroon. See Bunder Abbas; Harmozia.
Gomcha. See Clothing.
Gome, JAV., Rice.
Gomez, Lorenzo de. See Borneo.
Gond. See Central Provinces; Dravidian.
Gondar. See Insects.
Gond-badustar, HIND., Civet.
Gondni, Lasura, HIND., Cordia obliqua.
Gondopherres. See Bactria, 224.
Gonerdiya dynasty. See Kashmir.
Gongen Sama. See Oki-don-Tako.
Gooral, HIND., Nemorrhœdus goral.
Gooseberry, country, Cicca disticha.
Gooseberry tree, Averrhoa carambola.
Goowa mooree, BENG., Fœniculum panmori.
Gopala, a name of Krishna.
Gopura. See Architecture, 143.
Gor, ASSAM, Rhinoceros.
Gora. See Bhairava.
Gora-bach, BENG., Acorus calamus.
Gorak amli, HIND., Adansonia digitata.
Gorakhnath, a name of Siva.
Goranta, Iveni, TEL., Lawsonia inermis.
Gor-bacha, DUKH., Leopard.
Gori. See Hasn Gori.
Gorilla, Orang-utan.
Gor-ka-gu of Kashmir. See Pheasant.
Gorkhar, HIND., Equus onager, Wild ass of Cutch.
Gorkhee, BENG., Solanum pubescens.
Gorochana, SANSK., Bezoar.
Gorre chimidi, TEL., Andrographis echioides.
Goru chettu gadda, TEL., Euphoria virens.
Goru-chikudu, TEL., Cyamopsis psoraloides.
Gos-hawk, Astur trivirgatus.
Gossampinus rubra, Bombax Malabaricum.
Gossampinus Rumphii, Eriodendron anfractuosum.
Gotho, URIYA, Carissa carandas.
Gotti chettu, TEL., Zizyphus xylopyrus, Z. elliptica, and Z. caracutta.
Gouari, Gour, DUKH., HIND., Cyamopsis psoraloides.
Goughia Neilgherrense, Daphniphyllum Roxburghii.
Goundhan, MAHR., Diospyros cordifolia.
Gour, Gauri-Gai, HIND., Gavæus gaurus.
Goura coronata. See Pigeons.
Gourd, Benincasa cerifera; Cucurbita maxima, Trichosanthes cucumerina.
Gourd, wild, Colocynth.
Gour-gia, PERS., Andropogon schoenanthus.
Govardhan. See Mount.
Govila, BENG., Vitis latifolia.
Govind. See Nanak.
Govind Kund. See Brindaban.
Gowreephal, DUKH., Rubus, *sp.*
Gowr-gia, PERS., Lemon grass.
Goyar, BENG., Plotus melanogaster.
Gozang, Kasamm, CHENAB, Avena fatua.
Gracillaria tenax, Eucheuma spinosum. See Agar-agar; Sea-weeds.
Graculidæ. See Phalacrocoracidæ.
Gradul, DUKH., Entada pursetha.
Græco Parthian. See Bactria, 223.
Grahana, SANSK., an eclipse.
Grahastasramam, Hindu, 66.
Grahilote—Kach'hwaha.
Grail. See Holy Fig Tree; Patra.
Gram, Dolichos uniflorus is Madras gram; Red gram is D. catjang; Bengal gram is Cicer arietinum; Green gram is Phaseolus mungo; Manilla gram is Arachis hypogea.
Grama-karana, SANSK., Accountant.
Grampus. See Cetacea; Delphinidæ.
Granatum litoreum, Xylocarpus granatum.
Graphite. See Black Lead; Plumbago.
Graptophyllum hortense, Caricature plant.
Grass cloth—Urticaceæ.
Grass oil of Nemaur, ENG., Andropogon Martini.
Grassya. See Cutch; Pramara.
Gratiola portulacacea, Herpestris monniera.
Grebe, *sp.* of Podiceps, Colymbidæ.
Grihashta, Householder.
Grimnas, BHOT., Hordeum cœleste.
Grosbeaks, *sp.* of Fringillinæ.
Grotte aux fées. See Cromlech.
Ground-nut, Earth-nut, ENG., Arachis hypogea.
Grouse, rock and sand, the family Pteroclidæ. See Tetraonidæ.
Grubs. See Bug; Coffee Planting; Crane; Insects.
Gryllotalpa Phanga. See Crickets; Insects; Phanga.
Gua, Kuthi? BENG., Areca catechu.
Guatteria coffeoides, Polyalthia coffeoides.
Guchi, HIND., Mushroom.
Guddi—Kohistan.
Gudi kum, also Gudia, HIND., Meconopsis aculeata.
Guduchi, SANSK., also Amrit, Tinospora cordifolia.
Gudumbat, HIND., Rhus vernifera.
Guelder rose, Viburnum opulus.
Gugaira. See Canals.
Gugal, HIND., Gugalun. See Resins.
Gugal, Dup, BENG., Canarium strictum.
Gugal, SUTLEJ, Dolomæa cauliflora.
Gugala, SANSK., HIND., Balsamodendron agallocha.
Guggala, TEL., (resin) Vatica robusta, B'dellium.
Guguli, DEKHAN, Letsomia nervosa.
Gui, Sisterhood. See Brother-making; Oraon.
Guia-leggra, BENG., Sturnus cineraceus.
Guinea grains. See Melegueta Pepper.
Guinea-worm, Filaria Medinensis.
Gujerati. See Languages.
Gulandi, CAN., Golunda Elliotti.
Gulbadan. See Cloths.
Gul-bahar, HIND., Grislea tomentosa.

Gul baji, Gul abbas, HIND., Mirabilis jalapa.
Gul-chand, HIND., Gardenia florida.
Gul-dawadi, HIND., Chrysanthemum Indicum.
Guler, HIND., Ficus glomerata.
Guli, HIND., Argyreia speciosa.
Guli, TEL., Capparis grandis.
Gul-i-ajaib, HIND., Hibiscus mutabilis.
Gulimara, CAN., Zizyphus jujuba.
Gulivenda, TEL., Abrus precatorius.
Gul jafari purnka, KAGHAN, Villarsia.
Gul khaira, HIND., Althæa rosea.
Gullem chettu, TEL., Capparis grandis.
Gulli, DUKH., Coral.
Gulls, *sp.* of Larus, Kroikocephalus, Xema.
Gul-maidah—Jacynth.
Gul mukhmul, HIND., Gomphrena globosa.
Gul mumanni, Gul sparlei, HIND., Arnebia echioides.
Gul-shabu, HIND., Polianthes tuberosa.
Guluga, MALAY, Cinnabar.
Guluwair. See Kashmir.
Gul-wail, DUKH., Tinospora cordifolia.
Gumaddi kaia, TEL., Cucurbita maxima.
Gumbari, BENG., Gmelina arborea.
Gumpana, TEL., Odina wodier.
Gumti—Kankrowlee Lake.
Gumudu-teku, TEL., Gmelina arborea.
Gumudu tige, TEL., Latatas paniculata.
Gunch, Retti, KASH., Abrus precatorius.
Guncha, HIND., Abrus precatorius.
Gund, Goondi, HIND., Cordia angustifolia.
Gundala, Gundra, TEL., Cyperus hexastachyus.
Gunddai, Kira-mar, DUKH., Aristolochia bracteata.
Gund barungi, DUKH., Gunta barenga.
Gund bel, Ollachs, HIND., Lemon grass.
Gundha-goorma, BENG., Andropogon glabar.
Gundho-bena, BENG., GUJ., Lemon grass.
Gunthuraja, SANAK., Gardenia florida.
Gurdi-mar, DUKH., Wormwood.
Gurjalu medo, TEL., Celastrus paniculatus.
Gurjun, MAHR., Elæotis ovalifolia.
Gurjun-ravi, TEL., Rosewood.
Gurjong Benjun. See Binga.
Gurnami. See Fishes 111.
Guruparu. See Trivoni.
Guranya alu, HIND., Dioscorea purpurea.
Gurasman Bahasht. See Parsee.
Gurayi, Guriya, GOND., Portax pictus.
Gurgan. See Hyrcani.
Gurga-naru, HIND., Bryonia laciniosa.
Gurha Mundala. See Durgontee.
Gurmalla, GUJ., Cathartocarpus fistula.
Gurnard, *sp.* of the Triglidæ, Fishes.
Gurrapu gatte aku, TEL., Clerodendron viscosum.
Gurrayin of Hurriana, Bustard.
Guruginja, TEL., Abrus precatorius.
Gurugu kura, TEL., Celosia albida.
Gurukatta, KANSK., Bole Armenian.
Guru Kot. See Kotegurh.
Gurusmaff. See Parsee.
Gurz, HIND., Mace.
Gushura, HIND., Root of Barleria longifolia.
Gusrah of Cis-Sutlej, sandy, unculturable soil.
Gutchka, Gudgega, DUKH., Guilandina bonduc.
Gutimar, HIND., Aquila hastata.
Gutti gunneru, TEL., Calpicarpum Roxburghii.
Guva gutti, TEL., Trichodisma Indicum.
Guvar-phalli, GUJ., Cyamopsis psoraloides.
Guya babula, HIND., Vachellia farnesiana.
Guzanjabin, HIND., Manna.
Gwai-douk, BURM., Connarus speciosa.
Gwalior. See Cave Temples, 611; Hindustan, 80-83; Sindia.
Gwal kakri, HIND., Bryonia umbellata.
Gya, TIB., a Barbarian.
Gymnodontidæ—Diodon, Fishes.
Gymnopleurus. See Copridæ.
Gynaion vestitum, Cordia vestita.
Gypaetus barbatus, Vulture.
Gyraspur. See Architecture.

H

HABAK, ARAB., Ocimum, *sp.*
Habash, a race in Africa; an Abyssinian.
Habilzai. See Afghanistan.
Hadar, Khadri, BEAS, Ribes.
Hadramaut. See Arabia.
Haenun, a name of Amoy.
Haft Khaneh—Karna-chapara.
Haft Tan. See Baba Yadgar.
Haiga. See Brahmans, 432.
Hai-hung, Hai-t'ang-li, CHIN., Cydonia Japonica.
Haikalzai. See Afghanistan.
Hai-kau, CHIN., Beaver.
Haik-khyæ, BURM., Sapindus emarginatus.
Hai-nah, CHIN., Lawsonia inermis.
Hai-piau-siu, CHIN., Cuttle-fish bone.
Hai-rh-cha, CHIN., Catechu.
Hai-tsai, Hai-tsau, CHIN., Agar-agar.
Hai-tsau, Tu-ja-tsai, CHIN., Algæ, Sea-weeds.
Hai-tsung, CHIN., Squill.
Haiyu—Kusunda.
Hajam, HIND., a barber in Central India; the village barbers, particularly the Muhammadan ones, have some knowledge of medicine; they also set broken limbs, and their wives usually act as midwives.
Hajong. See Borneo, 420.
Hajr-Armeni, ARAB., Bole Armenian.
Hajr-ul-Aswad, the black stone at Mecca.
Hajr-ul-Bucher, ARAB., Bezoar.
Hajr-ul-Musa, ARAB., Asphalte, Mommai.
Hakeem, a physician. See Hakim.
Hakin, Hakun, HIND., Croton polyandrum.
Hakorch, BENG., Dilivaria ilicifolia.
Hakuch, BENG., Psoralea corylifolia.
Hala, Halai, Halashi, RAVI, Rhus succedanea.
Halas. See Binua.
Halbeh, Shimlet, ARAB., Trigonella fœnum-græcum.
Haldi, HIND., Curcuma longa.
Haldi-algusi-luta, BENG., Cuscuta reflexa.
Haldi-ka-jhar, DUKH., Coscinium fenestratum.
Halela zard, HIND., Terminalia chebula, Myrobalan.
Haleluj, ARAB., Balanites Ægyptiaca.
Haleo, Harin, Hadu, PANJ., Cornus macrophylla.
Hal-gass, SINGH., Vateria Indica.
Hali. See Dom.
Haliastur Indicus, i. 437. See Birds.
Halicore. See Cetacea; Delphinidæ; Dugong.
Halim, Tara-tezak, HIND., Lepidium sativum.
Hali mara, CAN., Chrysophyllum Roxburghii.
Hali-moong, BENG., Green gram, Phaseolus mungo.
Halispongia, a genus of sponges, the genus Halichondria.
Haliun, HIND., Asparagus racemosus.
Hallabid. See Architecture, 146.
Halmililla, Hammaniel, SINGH., Berrya ammonilla.
Halwa kaddu? HIND., Cucurbita maxima.
Halyun, Yeramya, ARAB., Asparagus officinalis.
Hamadan. See Esther.
Hamah. See Ismail Abulfida.
Hamat. See Gamut.
Hamaz, ARAB., Rumex acetosa.
Ha-mi. See Colquhoun.
Hamites in Africa, estimated at 20 millions.
Hamranzai. See Afghanistan.
Hamsa padi, TEL., (*a*) Heliotropium Coromandelianum, (*b*) Coldenia procumbens.
Hanbal, See Imam.
Hancornia speciosa. See Caoutchouc.
Hand-gul; KAGHAN, Cichorium intybus.
Hang-chow-fu. See Bore, 417.
Hangul, Honglu, KASH., Cervus Wallichii.
Hanja, PUSHTU, Acacia farnesiana.
Hanjika, also Chiri teku, TEL., a *sp.* of Clerodendron, a medicinal root.
Han-shwin-shih, CHIN., Calcareous spar.
Hansraj, PANJ., Adiantum caudatum.
Hanuman, HIND., Presbytis entellus. See Mammalia.
Hanway, Jonas. See Caspian Sea.
Hanzal, HIND., Acer cultratum, also root of Citrullus colocynthis.
Hapurmali, BENG., Vallaris dichotoma.
Har. See Basant.
Har, Harhar, HIND., Terminalia chebula.
Harbarah, DUKH., Cicer arietinum.
Harbarala, SINGH., Colocasia antiquorum.
Har charrul, HIND., Flacourtia sepiaria, Flagellaria Indica.
Hardaur. See Hurdour.
Hardwicke, General. See Birds, 367.
Harfaruri, HIND., Cicca disticha.
Hargela, Hurgela, HIND., Leptoptilos argala.
Har Govind. See Nanak.
Hari, HIND., Aristolochia Indica.
Hariali, Grass, Cynodon dactylon.
Hari Dass. See Tansen.
Hari Kiri. See Japan.
Hari-mandhakamu, TEL., Cicer arietinum.
Hari-Rud. See Herat.

Harischandra. See Sunahsephas.
Haritaka, SANSK.; Terminalia chebula.
Harita manjari, TEL., Acalypha Indica.
Haritha, HIND., Sapindus detergens, S. acuminatus.
Harjora, HIND., Cissus quadrangularis.
Harka, CAN., Harmala ruta?
Harkuch kanta, HIND., Dilivaria ilicifolia.
Harmal, Isband, HIND., Peganum harmala.
Harmala ruta, Peganum harmala.
Harmuchi, PANJ., Bole Armenian.
Harn, Antilope bezoartica.
Harna mus, HIND., Gerbillus Indicus.
Harpodon. See Fishes, 1116.
Har-puja. See Husbandry, 126.
Harput, KASH., Ursus, *sp.*
Harriers, *sp.* of Circus. See Birds.
Harrin-hara, HIND., Amoora rohituka.
Hartal, HIND., Orpiment.
Hartighsea spectabilis. See Cedar.
Harun-tutiya, HIND., Ophelia.
Hasalban-achsir, ARAB., Rosmarinus officinalis.
Hasan—Imam.
Hasani Syed, Descendants of Hasan, son of Ali.
Hasani Yusuf. See Diatomaceæ.
Hasan-us-Saba. See Assassin; Old Man.
Hasek. See Hud.
Hasha, ARAB., Thymus vulgaris.
Ha-sih-ni, MONGOL, Asafœtida.
Hasni, HIND., Cichorium intybus.
Hasn-ul-Hilla. See Sufi.
Hasse luban, Husse-ul-jawi, PERS., Styrax, Benzoin.
Hasti kasaka, TEL., Elephantopus scaber.
Hastinapur. See Jumna.
Hat'h, HIND., Cubit.
Hathajooree, HIND., Cyclamen.
Hatial-Sir-kap.
Hatkar. See Dhangar.
Hatmul, HIND., Ophelia alata.
Hattian, Safed simal, HIND., Eriodendron anfractuosum.
Hauran. See Bedouin.
Havanga, MALEAL., Cassia lignea.
Hawk eagles, *sp.* of Limnaetus.
Hawks, the sub-family Accipitrinæ. See Birds.
Hay, Arthur, Marquess of Tweeddale. See Birds, 367.
Hazara. See Afghanistan.
Hazel, Corylus colurna, Hamamelideæ.
Haziz-Hindi, ARAB., Berberis aristata.
Head-hunting. See Borneo.
Heart-pea, Cardiospermum halicacabum.
Heather, Himalayan, Andromeda fastigiata.
Hebalsu, CAN., Artocarpus hirsutus.
Hecatæus of Miletus, B.C. 509–486, the first Greek who speaks of India by name.
Hedera racemosa, Heptapleurum racemosum.
Hedgehogs, *sp.* of Erinaceus. See Mammalia.
Hedychium coronarium. See Gandasuli.
Hedysarum alhagi, Alhagi maurorum.
Hedysarum lagenarium, Æschynomene aspera.
Hedysarum prostratum, Indigofera enneapylla.
Hedysarum sennoides, Ormocarpum sennoides.
Hedysarum trifl., Desmodium triflorum.
Heen ambilla gas, SINGH., Antidesma alexiteria.
Heen-tambala. SINGH., Ehretia buxifolia.
Heggin, CAN., Mus bandicota.
Heh-fu-tszi, Tsin-hiung, CHIN., Aconitum variegatum.
Helbeth, ARAB., Fenugreek seed.
Heliadæ of India. Hindustan, 80; Rama; Solar Race.
Helianthemum. See Cistaceæ.
Helianthus oleifer, Guizotia oleifera.
Helianthus tuberosus, Jerusalem artichokes.
Heliconidæ. See Insects.
Helicteres isora, Isora corylifolia.
Helij-i-Kabuli, ARAB., Terminalia chebula, Myrobalan.
Heliocles. See Bactria, 222.
Heliocopis cupido. See Insects.
Heliopolis. See Baalbec; Sun-worship.
Heliopsis platyglossa, Guizotia oleifera.
Heliothis armigera. See Insects.
Heliotrope. See Bloodstone.
Heliotropium Indicum, Tiaridium Indicum.
Helmand. See Aryan, 176.
Helmet crab, Limulus longispina.
Hemba, ARAB. See Oxalidaceæ.
Hemidactylus coctœi. See Reptiles.
Hemigymma Macleodii, Cordia Macleodii.
Hemileia vastatrix. See Coffee Planting, 775; Insects.
Hemiramphus. See Fishes, 1116.
Hemitelia horrida, Tree-fern.
Hemitragus. See Bovidæ, 425.
Hemlock, Conium maculatum.
Hemp, Cannabis sativa, Crotalaria juncea.
Hemroo. See Clothing.
Hendel kakora, BENG., Rhizophora gymnorhiza.
Hendon. See Raffles.
Hengar. See Palitana.
Heng-chung-ha-po, CHIN., China grass or Rhea.
Henna, Mhendi, HIND., Lawsonia inermis.
Henna gorivi, CAN., Ixora parviflora.
Henna-ul-koresh, ARAB., Lichen rotundatus.
Hera. See Hora.
Hercules. See Baldeo.
Herear du, a deity of the Korambar.
Herenso, SANSK., Pisum sativum.
Hermæus. See Bactria, 222.
Hermann. See Botany.
Hermit crabs, *sp.* of Paguridæ.
Hermon—Mount.
Herodias. See Egret.
Herons, *sp.* of Ardea.
Herpestes griseus. See Viverridæ; Ichneumon.
Herpeton, a genus of harmless snakes. See Reptiles.
Hessonite, or Kaneel stone, Cinnamon stone. See Garnet.
Heterophragma Roxburghii, Spathodea Roxburghii.
Hevea Benthamiana. See Caoutchouc.
Hewar, MAHR., Acacia leucophlœa.
Hia-hi, SANDWICH ISLANDS, Santalum album.
Hiang-ch'-un, Chun-pi, CHIN., Cedrela odorata.
Hiang-fu-tze, CHIN., Cyperus esculentus.
Hiang-kwang, CHIN., Mushroom.
Hiang-ma, CHIN., Hibiscus cannabinus.
Hiang-tsai, CHIN., Parsley.
Hiatilla. See Hun.
Hibbah namah, a deed of gift.
Hibbuk, also Hibbuk nana, ARAB., Mint.
Hibiscus populneus, Thespesia populnea.
Hibiscus similis, Paritium tiliaceum.
Hibiscus subdariffa, Roselle.
Hibiscus Zeylanicus, Pavonia Zeylanica.
Hi-el, the winter solstice.
Hierodulæ of Babylon, Dancing girls.
Hieroglyphics. See Cuneiform.
Hijili badam, BENG., Anacardium occidentale, also Aleurites triloba.
Hijili mehndi, Eugenia bracteata.
Hijjul, HIND., BENG.; Barringtonia acutangula.
Hik-gass, SINGH., Odina wodier.
Hillooya, BENG., Asparagus officinalis.
Hilsa fish, Clupea palasah.
Hiltit, Anjadan, ARAB., Ferula asafœtida.
Himapraya or Himavan, the Snowy Mountains.
Himavat. See Parvati.
Himis, Humuz, ARAB., Cicer arietinum.
Himyar, ARAB., Red—Homaritæ.
Hin-bin-komba, SINGH., Andrographis paniculata.
Hindano, SIND., Citrullus cucurbita.
Hindhi. See Afghanistan, 30.
Hinduba, HIND., Cichorium intibus.
Hindu Kush. See Central Asia; Imaus.
Hindustan, 80—Indore.
Hindwana, HIND., also Tarbuz, the Water-melon, Citrullus cucurbita.
Hineredura, SINGH., Anethum sowa.
Hing, HIND., Ferula asafœtida, Asafœtida.
Hingam, ARAB., HIND., Time, Season; hence Hingami, temporary.
Hingan bet, Hingot, HIND., Balanites Ægyptiaca.
Hingda, also Durdar, HIND., Cinabar.
Hing-gach, BENG., Asafœtida plant.
Hinghudi, SANSK., Terminalia catappa.
Hinglaj. See Kapadi.
Hingoolee, BENG., Solanum melengena.
Hin-gotu kola, SINGH., Hydrocotyle Asiatica.
Hingul, SINGH., Amoora rohituka.
Hingula Devi. See Oritæ.
Hinne koreish, ARAB., Lichen rotundatus.
Hin-pus-wael, SINGH., Entada pursetha.
Hintal, BENG., Phœnix paludosa.
Hippion hyssopifolium, Cicendia hyssopifolia.
Hippobosca equina, Horse-fly.
Hippocampus. See Fishes, 1116; Syngnathidæ.
Hippoglossus olivaceus, Japanese halibut.
Hippomane biglandulosa of Borneo, yields caoutchouc.
Hippopotamus amphibius. See Suidæ.
Hippopus maculatus, Tridacna gigas.

Hippostratus. See Bactria, 222.
Hippotigris. See Equidæ.
Hiptage madablota, Gærtnera racemosa.
Hirabol, SANSK., Balsamodendron myrrha.
Hira dakhun, Pterocarpus draco, Calamus draco, Dragon's blood.
Hirak or Hirek, Diospyros montana.
Hiranyabahu. See Chandragupta.
Hira-tutia, HIND., Green copperas.
Hircus ægagrus, Capra megaceros.
Hirda, DUKH., also Huldah, Terminalia chebula.
Hirek, Pasendu, PANJ., Diospyros montana.
Hirneola. See Fungus.
Hirn-padi, HIND., Convolvulus arvensis.
Hirsuf, BENG., Artichoke, Cynara scolymus.
Hiru, HIND., Cassia tora.
Hirumba, a name of Kachar.
Hissar. See Walking Fishes.
Hitopadesa, Kalila-wa-Damna, Literature.
Hittites—Literature.
Hiu, Yu, CHIN., Citrus decumana.
Hiueh-kieh, Chu-kieh, CHIN., Dragon's blood.
Hiueh-yu, CHIN. (the tallow), Stillingia sebifera.
Hiuen-hu-soh, CHIN., Corydalis ambigua.
Hiuen-tiau-tsze, CHIN., Rubus, *sp.*
Hiung-nu. See Hun; Turk.
Hiun-luh-hiang, CHIN., Olibanum.
Hla, TIB., Musk deer. The finest musk comes from Khoten.
H'lwa-bo, BURM., Eriolæna tiliifolia.
H'man, BURM., Feronia elephantum.
H'man then, BURM., Curcuma Roscoeana.
H'mo, BURM., Agaric.
Hnan, BURM., Nauclea cordifolia.
Hnan bai, Na-bhay, BURM., Odina wodier.
Hnan-ma, BURM., Sesamum Indicum.
Ho—Kol, Mundah, Sun-worship.
Hoa or Hea. See Chaldæa, 642.
Hobby, Hypotriorchis subbuteo and H. severus. See Falconidæ; Laghar.
Hodgson, Bryan. See Birds, 367.
Hodhad, Father of Balkees.
Hog-badger, Arctonyx collaris.
Hog-deer, Hyelaphus porcinus.
Hog-weed, Boerhaavia erecta.
Hoh-huh, CHIN., Quercus, *sp.*
Hoisala. See Architecture; Sculptures.
Hoisala Bellala. See Architecture, 146; Sculptures.
Holcus spicatus, Penicillaria spicata.
Holgeri, MAHR., Holigarna longifolia.
Holkar. See Feudatory.
Holly, Ilex.
Hollyhock, ENG., Althæa rosea.
Holoptelcea integrifolia, Ulmus integrifolia.
Holothuria physalis, Portuguese man-of-war.
Holothuriadæ, Trepang.
Homa. See Soma.
Homalopsidæ. See Reptiles.
Hondapara, CEYL., Dillenia speciosa.
Honey buzzard, Pernis cristata.
Honey guides, Indicator xanthonotus.
Honey-suckers, *sp.* of Æthopyga, Leptocoma, Arachnechthra, Sunbird.
Honeysuckle, Quisqualis Indica.
Hong-lane, CHIN., Coptis tecta.
Honglu, KASH., Cervus Wallichii.
Honnay, CAN., Pterocarpus santalinus.
Honover. See Parsee.
Hor, HIND., Terminalia chebula.
Hora-gaha, SINGH., Dipterocarpus turbinatus.
Hori-kowan, MAHR., Alstonia scholaris.
Horingi maram, also Horingi tanga maram, TAM., Soap-nut trees.
Horitæ. See Ast'hola; Oritæ.
Hormara, Sea-coast district of Baluchistan.
Hormazd. See Parsee.
Hornbills. See Birds; Bucerotidæ.
Hornet. See Insects; Vespidæ; Wasps.
Horse. See Equidæ.
Horu of Surat, Urtica heterophylla.
Ho-san, CHIN., Rhubarb.
Ho-tan-t'u, CHIN., Commelyna Bengalensis.
Ho-t'-au, Sien-kwo, CHIN., Peach.
Hottentot in Africa estimated at 50,000.
Hottonia serrata, Hydrilla verticillata.
Hot wind, Phagwa.
Houbara. See Bustard.
Howa, PERS., Atmospheric air.
How Tsang, Ulterior Tibet.
Hoy-shun, CHIN., Holothuria.
Hsai-than-barah, BURM., Gelonium lanceolatum.
H'sat-ta-phu, BURM., Pandanus odoratissimus.
H'say-dan-shwaywa, BURM., Arsenic.
H'seik-ba-lu, BURM., Nyctanthes arbor-tristis.
H'seik-kyi, BURM., Sapindus rubiginosus.
H'sen, H'sen-way, BURM., Ochna squarrosa.
H'soo-kyan-bo, BURM., Cæsalpinia sepiaria.
H'tein, BURM., Nauclea parviflora.
H'ten-roo, HIND., Casuarina muricata.
H'toung h'pyu, BURM., Calcareous spar.
Hub, ARAB., a fruit.
Hubbuk, ARAB., Mentha sativa.
Hubbuk-ul-bukir, ARAB., Anthemis nobilis.
Hub-ul-ban (seeds), ARAB., Horse-radish tree.
Hub-ul-ghar, ARAB., Laurel berry.
Hub-ul-huber, ARAB., Juniper berries.
Hub-ul-kaking, ARAB., Puneeria coagulans.
Hub-ul-mul, ARAB., Ophelia chirata.
Hub-ul-mushk, ARAB., Abelmoschus moschatus.
Hub-us-Soudan, ARAB., Cassia absus.
Hub-usuferjul, ARAB., Cydonia vulgaris.
Hub-u-zangi, ARAB., Ipomœa turpethum.
Huing-yuen, CHIN., Sarcodactylis odorata.
Hu-kwa, Hwang-kwa, CHIN., Cucumis melo.
Hulang-hik-gas, SINGH., Chickrassia tabularis.
Hulan mara, CAN., Albizzia stipulata.
Hulashing, KASH., Rhus buckiamela.
Hullah, HIND., also Hurla, Huldah or Zungeehur, Terminalia chebula.
Hulsi, BENG., Ægiceras fragrans.
Hu-lu, CHIN., Lagenaria vulgaris.
Hulug, Butairi, PANJ., Rhus semialata.
Huluvi of Neilgherries, Eurya Japonica.
Hulva mahi, DUKH., Pomphret.
Hum, Hamu, of Kangra, Fraxinus floribunda.
Hum, MAHR., Guatteria cerasoides.
Hu-ma-tsze, CHIN., Flax seed.
Humayun namah. See Panchatantra.
Hummatu, MALEAL., Thorn apple, Datura alba.
Humpi. See Bellary.
Humula, BENG., Kaempfera galanga.
Hun. See Hiatilla; Hiung Nu; Ili.
Hun-des or Gnari Khorsum, occupied by Hunia.
Hung-chi-tsze, CHIN., Gardenia rubra.
Hung-kiao. Tibet; Tsong-kha-ba.
Hungrung. See Spiti.
Hung-tau, CHIN., Abrus precatorius.
Hung-tau-k'au, CHIN., Alpinia galanga.
Hunni, HIND., Quercus annulata.
Hunsraj, HIND., Adiantum capillus veneris, A. lunulatum.
Hu-peh, CHIN., Amber.
Hur! the battle shout of the Rajput.
Hur or Hura, HIND., Terminalia chebula, Myrobalan.
Hura-kanda, SINGH., Kurrimia Zeylanica.
Hurfareori, HIND., Cicca disticha.
Hurhurya, BENG., HIND., Polanisia, Achyranthes aspera.
Huri kankra, BENG., Erythrina ovalifolia.
Hurna, Mus, HIND., Gerbillus Indicus.
Hurriphal, Nubi, BENG., Cicca disticha.
Hursing, Hursinghar, CAN., Nyctanthes arbor-tristis.
Huru, ASSAM., Urtica heterophylla.
Huruf-i-tahji, the Arabic alphabet, any alphabet.
Huruya? Sapium Indicum.
Husain. See Imam.
Husn Jaber. See Jaber.
Husse luban, PERS., Styrax benzoin.
Husti. See Cush.
Hu-tau, CHIN., Phaseolus, *sp.*; Heh-t-au, Juglans regia.
Huyer, BENG., Cocculus villosus.
Hwah-shih, Hwah-shwui, CHIN., Agalmatolite, Steatite.
Hwai-hisng, CHIN., Illicium anisatum.
Hwai-hwa-tsing, CHIN., Cathartocarpus fistula.
Hwang-chi-tsze, CHIN., Gardenia radicans.
Hwang-hwa, CHIN., Saffron.
Hwang-hwa-tsai, CHIN., Lily flowers.
Hwang-kia, CHIN., Solanum Indicum.
Hwang-kin-shih, CHIN., Realgar.
Hwang-kung. See Solfatara.
Hwang-liang, CHIN., Rhubarb.
Hwang-lien, CHIN., Andrographis paniculata.
Hwang-ma, CHIN., Hemp.
Hwang-mei, CHIN., Apricot.
Hwang-peh, CHIN., Pterocarpus flavus.
Hwang-ta-tau, CHIN., Soja hispida.
Hwang-yang-muh, CHIN., Buxus sempervirens.
Hwa-tsiau, CHIN., Xanthoxylon alatum.
Hyalonema Sieboldii, Venus flower-basket.
Hy-chy, CHIN., Agar-agar.

Hydrophidæ. See Reptiles.
Hydrophylax maritima. See Sand-binding Plants.
Hydrosaurus salvator. See Reptiles.
Hydrus schistosus. See Reptiles.
Hyelaphus porcinus, Hog-deer. See Cervidæ.
Hy hy, CHIN., Agar-agar.
Hyi-bin, Hzee, BURM., Zizyphus jujuba.
Hylesinus. See Insects.
Hylobates. See Hoolock.
Hymenoptera. See Insects.
Hypericum carneum, Ancistrolobus carneus.
Hypnale nepa, Reptiles.
Hyrax Syriacus, the Coney of Leviticus xi. 5, Deuteronomy xiv. 7.
Hyrcania—Jin, Teheran.

I

I', CHIN., Whales.
Iabadius. See Java.
Iayapala, CAN., Croton seed.
Ibadiyah. See Imam.
Ibex, Hemitragus hylocrius, also Capra Sibirica.
Ibharan-kusha, BENG., Andropogon iwarancusa.
Ibidorhyncus, a curlew. See Scolopacidæ.
Ibis, Tantalus leucocephalus, Anastomus oscitans; *sp.* of Threskiornis, Geronticus, and Falcinellus.
Ibn Haukil. See Ashkal-ul-Balad.
Ibn Kurdadba. See Hindu, 7.
Ibrahim Qutub Shah, one of the Qutub Shahi dynasty of kings, who ruled at Golconda near Hyderabad A.D. 1557. He is buried there, and a large cupola covers the tomb.
Ibu-changke, MALAY, Clove.
Ichi maram? TAM., Ficus t'siela.
Ichneumon. See Herpestes.
Ichthyoxenus. See Crustacea.
Icica altissima of Guiana, Cedar.
Iconoclast, a term often applied to Mahmūd of Ghazni, from his destruction of Hindu idols.
Ichthyœtus bicolor, Polioœtus ichthyœtus.
Idaan. See Borneo, 419.
Idakai, Idangai, Idam, TAM., Left-hand caste.
Idayar. See Khone.
Iddali kallu, TEL., Manganese.
Iddu mulle, TAM. of Ceylon, Pyrularia Wallichiana.
Ides. See Amavasya.
Idols. See Carving.
Idrisi, the Takhallus of Abu Abd-Ullah. See Al Idrisi.
Idylia. See Phosphorescence.
Ig'hir, Waj, Ikaroon, ARAB., Acorus calamus.
Ignatia amara, Strychnos sancti Ignatii.
Ignatius Loyola, Jesuit.
Iguana. See Bish-Kopra.
I-jen. See Colquhoun.
Ijjaman. See Gram.
Ijjul, HIND., Barringtonia acutangula.
Ijœir, EGYPT., Hordeum hexastichyon.
Iju, Siji, MALAY, Gumuti.
Ikan layer, Histiophorus, Sailor-fish.
Ikan leda, MALAY, Pluronectes solea.
Ikan surdudu, MALAY, Arius arius.
Ikara, BENG., Mus bandicota.
Iker, TIB., Felis uncia.
Ikh, SANSK., Sugar-cane.
Iklaki, PANJ., a square scarf of Multan.
Ikl-bir, HIND., Datisca cannabina.
Ikra, RUS., Caviare.
Ikshoo, BENG., Sugar-cane, Saccharum cucullata.
Ikshugandha, SANSK.; Ikshura, HIND., Asteracantha longifolia.
Il. See Chaldæa, 642.
Il, or Ra, i. 642.
Ila. See Ikshwa'cu.
Ilachi, HIND., Alpinia nutans, also Elettaria cardamomum.
Ila-mitcham, TAM., Andropogon muricatus.
Ilavam, TAM., Bombax Malabaricum.
Ilchi. See Khoten.
Ilderim. See Othman.
Ili. See Hun.
Iliazai. See Afghanistan.
Iliyat. See Persia.
Illanun. See Boats, 399.
Illecebrum lanatum, Ærua lanata.
Illecebrum sessile, Alternanthera sessilis.
Illecebrum verticulatum, Portulaca quadrifida.
Illepi, TAM., Bassia longifolia.
Illi. See Rice Beer.
Illicium anisatum, Anise-star.
Illinda, TEL., Diospyros chloroxylon.
Illipi, TAM., Bassia latifolia.
Illukatte, TEL., Ichnocarpus frutescens.
Illumbilli maram, TAM., Ferreola buxifolia.
Ilm-i-Nabatāt, PERS., Botany.
Ilm-i-Shūna, PERS., Divination.
Ilocano. See Philippines.
Imam. See Ismail; Pesh-Imam.
Imambarah. See Palibothra.
Imam Muhammad Touky, Imam Musa Kassim, and Imam Raza. See Kazameen.
Imar, HIND., Carpinus viminea, Hornbeam.
Imarjal, HIND., Iris pseudacorus.
Imaun, Mawar-un-Nahr.
Imaus. See Mount Imaus.
Imbir, HIND., Ulmus campestris.
Imbo, JAV., Azadirachta Indica.
Imboolgas, SINGH., Eriodendron anfractuosum.
Imla, HIND., the Amni of the Salt Range, Zizyphus vulgaris, or common jujube, also PERS., the Emblic myrobalan.
Imli, HIND., Tamarindus Indica.
Imli Khorasani, HIND., Adansonia digitata, also Thespesia populnea.
Imperata spontanea, Saccharum spontaneum.
Imppio, a river of the Panjab; its sands yield gold. See Panjab.
Imrtan. See Afghan; Kafir.
Inachus scorpio—Egeria.
Inakarto Pati, king of Janggolo of the 14th century, is said to have invented the kris.
Inam lands of the Madras Presidency extend to 3,964,394 acres, and the assessment at Rs. 54,89,928.
Inam of Bonoa is the Rhea, China grass.
Incarnations. See Karund.
Incarvillea emodi, Amphicome arguta.
Incarvillea parasitica, Æschynanthus grandiflorus.
Incense, Koondur, Zuchir, HIND., Olibanum, Gugal.
Inchi, MALAY, a respectable affix to names, as Inchi Dawud, Mr. David.
Indak, HIND. of Salt Range, Gynaion vestitum, also Cordia vestita.
Indarba, HIND., Celtis Caucasica.
Indarjao, PANJ., Holarrhena antidysenterica.
Indarume, DUKH., Dragon's blood.
Indian almond, Terminalia catappa.
Indian berry, Cocculus Indicus.
Indian birthwort, Aristolochia Indica.
Indian blackwood. Dalbergia, *sp.*
Indian blistering-fly, Mylabris, *sp.*
Indian buckbean, Villarsia Indica.
Indian bustard, Houbara Macqueenii.
Indian copal tree, Vateria Indica.
Indian corn, Zea mays, Maize.
Indian cress, Nasturtium.
Indian empire. See British India.
Indian fig order, the Cactaceæ, a group of succulent shrubs, variable in form, angular and flattened, and frequently spinous, bearing often large and showy flowers; the Indian fig, Opuntia Ficus Indica, has been naturalized in Southern Europe.
Indian fig tree, Ficus Indica.
Indian fox, Vulpes Bengalensis.
Indian gazelle, Gazella Bennettii.
Indian gum anime, Vateria Indica.
Indian gutta tree, Isonandra acuminata.
Indian ink, a black pigment used for water-colour painting, China ink.
Indian jerboa rat, Gerbillus Indicus.
Indian kino, Dried juice of Butea frondosa.
Indian Maya. See Rama.
Indian mole rat, Nesokia Indica.
Indian myrrh, in Europe the commercial name of a substance surmised to be produced from a species of Amyris. It is supposed to be the googul of the bazars.
Indian sarsaparilla, Hemidesmus Indicus.
Indian shot, Canna Indica.
Indian tamarisk, Tamarix Indica.
Indian tea, Basella alba.
Indian tobacco, Lobelia inflata.
Indian turnsol, Crozophora plicata, also Tiaridium Indicum.
Indian valerian, Valeria jatamansi.
Indian wormwood, Artemisia Indica.
Indian yellow—Hardwari Peori.
Indicatorinæ, a sub-family of birds of the family Picidæ. See Birds.
Indicopleustes. See Cosmas.
Indivara, or Nalla kalava, TEL., Nymphœa stellata—'The blue lotus.'
Indo-Atlantics, Iranian races.
Indong mutiara, MALAY, Mother-of-Pearl.
Indore—Hindustan, 80.
Indo-vansa. See Chandravansa.
Indragiri, or Kuantan. See Johore.
Indrain, HIND., Citrullus colocynthis.
Indrajow, HIND., Conessi seed, Wrightia antidysenterica.
Indraprasthra. See Jumna; Pat.
Indra-subha. See Cave Temples, 611; Jain.
Indratige, TEL., Thunbergia fragrans.
Indravadu, TEL., a toddy-drawer, employed also as palanquin-bearer.

Indrawan, DUKH., Citrullus colocynthis.
Indrayava, HIND., Wrightia antidysenterica.
Indri, HIND., Quercus annulata.
Indu. See Asi; Aswa; Ay; Lunar Race; Yadu.
Induga, BENG., Strychnos potatorum.
Indupu chettu, also Chillu chettu, TEL., Strychnos potatorum.
Indur, BENG., Mus, *sp.*
Indurjuo-i-talkh, HIND., or bitter Indurjao, are the seeds of Holarrhena pubescens, 'Roora,' and H. antidysenterica, the same size and colour, furrowed deeply at one side, very bitter; Indurjuo-i-shereen, mild indurjuo, seeds of Wrightia antidysenterica, about ¾ inch long, brown, nearly tasteless.
Indus. See Boats; Canals; Rivers.
Ing, BURM., Lakes.
Inga dulcis, Pithecolobium dulce.
Ingani or Injni, HIND., Oxide of manganese.
Inga xylocarpa, Xylia dolabriformis.
Inghilikam, TAM., Inghulam, SANSK., Cinnabar.
Ingini gaha, also Ingivi, SINGH., Strychnos potatorum.
Ingomaas of Mañilla, Pachyrhizus angulatus.
Ingrach, also Yang, also Tash of Kangra, Fragaria vesca.
Ingromaniyus. See Ahriman; Aryans.
Ingu, MALAY, Asafœtida.
Ingudi, SANSK., Terminalia catappa.
Inguva, Hingu-patri, TEL., Ferula asafœtida.
Initiation, of Brahmans, i. 434; of Sikhs. See Pahal.
Injani, HIND., Cymbopogon iwarancusa.
Ink, a Japanese long measure, nearly 75 inches.
Inkitriun, ARAB., Amber.
Insect powder, Chrysanthemum roseum.
Insects. See Ants; Argas Persicus; Beetles; Butterfly.
Insra, HIND., Rubus biflorus.
Intakal, ARAB., Transfer, Passage from life to death, Death.
Intalas, Kimxa, MALAY, Brocade.
Intan, MALAY, Diamond.
Intha, MALEAL., Phœnix farinifera.
Inub, ARAB., Vitis vinifera. The grape.
Inundation. See Floods.
Inuus silenus. See Papioninæ.
Inyana. Sae Kabir Panthi; Vaishnava.
In-yong, CHIN., Mandarin teal.
Inzar, HIND., Ficus caricoides, F. virgata.
Inzarra, HIND., Grewia betulæfolia, G. Rothii.
Ionia. See Javan.
Ipar, HIND., Thymus vulgaris.
Ipi, CAN., Bassia longifolia.
Ipoh, MALAY, the upas tree.
Ipomœa batatas, Batatas edulis, Sweet potato.
Ipomœa bona nox, Calonyction speciosum.
Ipomœa bracteata, Argyreia bracteata.
Ipomœa nil, Pharbitis nil.
Ipomœa quamoclit, Quamoclit.
Ipomœa speciosa, Argyreia speciosa.
Ippu, the Antiaris toxicaria tree of Borneo, from which is obtained the poison with which the Idaan tribe poison their darts; its effects are similar to those of the Llana and Ticiuma of S. America.
Ira, or Sura, in Hindu cosmogony, the sea of intoxicating liquor which surrounds the Cusadwipa.
Irak, also Miswak, PERS., Salvadora Indica.
Irakkadan, TAM., the Rakshasa of Hindu mythology.
Irambu, TAM. See Maleal; Pali.
Iranian family—Languages:
Iranian race. See Central Asia.
Irani-korte of Mahadeva Patnam. See Jews.
Iraotes. See Saraswati.
Irawadi, Rivers.
Ir-elli-palai, TAM., Alstonia scholaris.
Iriartea exorhiza. See Palms.
Iri babool, MAHR., Vachellia farnesiana.
Iridæa. See Sea-weeds.
Ir-illay-palai, Pala, TAM., Alstonia scholaris.
Irkamula, SANS., Aristolochia Indica.
Irkuli, TAM., Elæodendron Roxburghii.
Irmpanna, CAN., Caryota urens.
Iron-oxide. See Dyes.
Iron-wood, Inga bigemina, Inga xylocarpa, Mesua Roxburghii, Xylia dolabriformis.
Irool, TAM., Xylia dolabriformis.
Irr, HIND., Chenopodium album.
Iru-bogum, MALABAR, Hopea parviflora.
Irugudu chettu, TEL., Blackwood, Dalbergia latifolia.
Irular. See Dravidian.
Irul maram, TAM., Mesua ferrea.
Irumleli, TAM., Maba buxifolia.
Irun, HIND., Volkameria fragrans.
Isafghol, HIND., Plantago amplexicaulis, also P. ispaghula and P. major.
Isaka dasari kura, TEL., Gisekia pharnaceoides.
Isakarasi manu, TEL., Sapindus rubiginosus.
Isapabora gaddi, also Chippa bora gaddi, TEL., Panicum corymbosum.
Isara, TEL., Aristolochia Indica.
Isarmel, also Israbel, Ishurmool, HIND., Aristolochia Indica.
Isatis. See Dyes.
Isatis tinctoria, Woad. See Dyes.
Isband, HIND., Seeds of Corchorus olitorius, Jute; also C. trilocularis.
Isband lahouri, HIND., Paganum harmala.
Isfand, PERS., Rue, Ruta graveolens.
Ishk-pecha, HIND., Pharbitis nil; the name means love's ringlet.
Ishrak, ARAB., Prayer at sunrise.
Ishta, SANSK., from Ish, to desire; Ishta devata, the chosen or elected deity; the deity whom a Hindu elects to worship; a personal or tutelary deity.
Ishtar. See Chaldæa, 643; Sun-worship.
Ishurmul, HIND., Aristolochia Indica.
Isiapangam, also Vuttunghy, TAM., Cæsalpinia sappan, Sappan wood.
Isinglass. See Air-bladder; Capoeta macrolepidata; Polynemus; Swim.
Ism, HIND., PERS., Charms, Zakat.
Ismad, Kohl, ARAB., Antimony, Sulphuret of antimony.
Ismaili. See Karmati; Old Man.
Isodon plectranthoides, Plectranthus rugosus.
Isonandra acuminata, Pauchontee.
Isopodes. See Crustacea.
Isora corylifolia, Helicteres isora.
Issyk-kul. See Lakes.
Istaflin jazr, ARAB., the Carrot, Daucus carota.
Istakhr. See Persepolis.
Iswara chettu, TEL., Aristolochia Indica.
Iswara mamadi, TEL., Xanthochymus pictorius.
Ita chettu, TEL., Phœnix sylvestris.
Itch insect, Sarcoptus, *sp.*
Itch plant. See Kaukaro.
Ivory nut, Phytelephas macrocarpa.
Iwaran-kusha, BENG., Andropogon iwaranchusa.
Ixora paniculata, Pavetta Indica.
Ixos. See Birds; Bulbul.
Iyu, also Yu, MALAY, Sharks' fins.
Izarqi? PERS., Strychnos nux vomica.
Izar-band. See Clothing, 748.
Izashne, Izeshine, or Yassen, a religious book of the Zoroastrians.
Izhar, ARAB., Representation.
Izkhar, HIND., Andropogon iwarancusa; Gul-i-izkhar, the flower used in flavouring spirits.

J

JABA, SANSK., Hibiscus rosa Sinensis.
Jabat, MALAY, Castor, Civet.
Jabl-Ilal, name of Mount Arafat.
Jabl-us-Shaikh. See Mount.
Jacana, Metopodius Indicus, Hydrophasianus chirurgus, Parra.
Jack, William. See Botany.
Jackanachari, Somnathpur.
Jack-fruit tree, ENG., Artocarpus integrifolius.
Jack snipe; Gallinago gallinula. See Scolopacidæ.
Jadikaia, TAM., TEL., Myristica moschata.
Jadran. See Afghanistan.
Jadwar-khatai, PERS., Curcuma zedoaria.
Jafar Sadiq. See Ismail.
Jafar Sharif. See Games.
Jafferi gundi, DUKH., Gomphrena globosa.
Jafra chettu, TEL., Bixa orellana.
Jaganath Subha. See Jain; Puri.
Jagari palm, Caryota urens.
Jagera Abyssinica, Guizotia oleifera.
Jageria calendulacea, Wedelia calendulacea.
Jaggar, Laghar, HIND., Falco jugger.
Jagguri, CAN., Antiaris innoxia.
Jahannam, TURK., Hell.
Jahez, ARAB., a trousseau.
Jaihun, a name of the Oxus.
Jaina caves. See Architecture; Cave Temples, 144–45.
Jaintia Hills, i. 449, Khassya Hills.
Jaipal. See Peshawur.
Jaiphul, HIND., Nutmeg.
Jaiswal. See Oswal.
Jaiwantry, Jaiputri, HIND., Mace.
Jaji kaia, TEL., Nutmeg.
Jajpur. See Architecture, 147.
Jaka mara; Halasu, CAN., Artocarpus integrifolius.
Jakhur. See Deserts, 920.
Jakun. See Binua.
Jakun. See Gunong; Malay Peninsula.
Jala, PANJ., Hydrilla verticillata.
Jala. See Ordeal.
Jalaga, TEL., Leeches.
Jalal-ud-Din. See Akbar.
Jalal-ud-Din Rumi. See Sufi.
Jalasayah? SANSK., Andropogon muricatus.

Jalazai. See Afghanistan.
Jaldaru, SUTLEJ, Prunus Armeniaca.
Jalenus. See Galen.
Jalidar, RAVI, SUTLEJ, Rhamneæ.
Jali-nim, SANSK., Herpestris moniera.
Jalli, CAN., Acacia farnesiana.
Jal-pipi, BENG., Jacana.
Jam, DUKH., Psidium pomiferum, P. pyriferum.
Jamalgiri. See Cave Temples, 611.
Jamalgota, HIND., Croton tiglium.
Jamal-ud-Din. See Abd-ur-Razzaq.
Jamba, CAN., MAHR., Inga xylocarpa.
Jambi, Panang, JAV., MAL., Betel nut.
Jambo, BENG., Jambosa aquea.
Jambo, Iring of Sumatra, Anacardium occidentale.
Jambool, BOM., Eugenia jambolana.
Jamboola, SINGH., Citrus decumana.
Jambu biji, also Jambu klampuk, MALAY, Guava tree.
Jambu-monat, MALAY, Anacardium occidentale.
Jambya, HIND., a form of dagger.
Jamcana, TEL., Carpets.
James and Mary. See Hugli.
Jami. See Yusuf.
Jamir of Ravi, Ficus carica, F. virgata.
Jam-johara, HIND., Ortolan.
Jam kalam, TAM., Carpets.
Jammu gaddi, TEL., Typha elephantina.
Jamoa, PANJ., Elæodendron Roxburghii.
Jamshid. See Takht-i-Jamshid.
Jamshidi. See Iranian Races.
Jamu. See Feudatory.
Jamun, HIND., Eugenia jambolana, Calyptranthes caryophyllifolia.
Jamuna, PANJ., Cerasus cornuta.
Jamuna. See Rivers.
Janaka. See Sita.
Janakua, MALEAL., Costus speciosus.
Janapa, Shanapa-nar, TAM., Sunn.
Jana palaseru, TEL., Antidesma pubescens.
Janavi, SANSK., Zonar, Pavita, Poita.
Jand, HIND., Indigofera arborea.
Janeo, HIND., Zonar.
Jangar. See Boats, 393.
Jangli akrot, HIND., Aleurites triloba.
Jangli ananas, Jangli Kanwar, HIND., Agave Americana.
Jangli badam, Sterculia fœtida, Canarium commune.
Jangli bakra, Cervulus aureus, also Tetraceros quadricornis.
Jangli-bhendi, Erinocarpus Nimmonii.
Jangli billi, HIND., Felis chaus.
Jangli bulgar, KASH., Boletus igniarius.
Jangli kaboot, HIND., Bustard.
Jangli khulga, Gavæus gaurus.
Jangli kuta, Cuon rutilans.
Jangli munghi, Ormocarpum sennoides.
Jangli-pat, Corchorus fascicularis.
Jangli-powar, Cassia obtusifolia.
Jangli rai am, Tetranthera monopetala.
Jan-i-Adam, PERS., Ajuga bracteosa.
Janipha manihot, Manihot utilissima.
Janji, BENG., Utricularia fasciculata.
Jantri, HIND., Almanac. See Astronomy, 195.
Janwez, MAHR., Zonar.
Jao, HIND., PERS., Barley, Hordeum, *sp.*
Jap'hara, TEL., Rottlera laccifera.
Jarak, MALAY, Ricinus communis.
Jar-beri, HIND., Zizyphus nummularia.
Jardi, HIM., Rusa Aristotelis.
Jarnang, MALAY, Dragon's blood.
Jarool, HIND., Lagerstræmia reginæ.
Jaruklegi, MALAY, Orange; Jaruk nipis, Lime.
Jaru teka, MALEAL., Clerodendron serratum.
Jashpur. See Oraon.
Jassoondi of Konkan, Jonesia asoka.
Jasun, HIND., Hibiscus rosa Sinensis.
Jat. See Afghanistan, 30; Caste; Kashmir.
Jatakas. See Josaphat.
Jateorrhiza calumba, Calumba root.
Jati, HIND., Justicia ecbolium.
Jati. See Oswal.
Jatropha curcas. See Dyes.
Jat widow. See Kurao.
Jauhar. See Johar.
Jau-irisi, Kua maoo, TAM., Arrowroot.
Jau tsau, CHIN., Cornus officinalis.
Java. See Archipelago, 137; Architecture, 147.
Javad, DUKH., Civet.
Jaya Loka, SANSK., the sphere of the sons of Brahma. See Loka.
Jave, PUSHTU, Grislea tomentosa.
Jawan, PANJ., Alhagi maurorum.
Jawashir, ARAB., Opoponax.
Jaya Deva. See Hindus, 62.
Jayapala, CAN., Croton tiglium.
Jays, *sp.* of Garulinæ and Dendrocittinæ.
Jazar, Istufiin, ARAB., Carrot.
Jedaa, a Bedouin tribe.
Jeebun, BENG., Sponia orientalis.
Jeengha, HIND., Prawn.
Jegura, TEL., Cluytia patula.
Jehr of Simla, Hemitragus jemlaicus.
Jei (Hi), PANJ., Avena fatua.
Jelabrimmi, SANSK., Herpestris monniera.
Jelas, a Bedouin tribe in Najd.
Jelinghi river. See Hugli.
Jemuju? MALAY, Anethum graveolens.
Jerboa rat, Gerbillus Indicus.
Jeriam kottam, MALEAL., Antidesma pubescens.
Jer-monal. See Pheasant.
Jerrow, HIND., Rusa Aristotelis, Sambur.
Jeru kat narigam, MALEAL., Limonia acidissima.
Jerusalem artichoke, Helianthus tuberosus.
Jerusalem thorn, Parkinsonia aculeata.
Jesso. See Japan.
Jetawana. See Pallonarua.
Jetimadh, Malathi, HIND., Glycyrrhiza, Liquorice.
Jettamansi chebur, GUJ., Spikenard.
Jewellery. See Arts; Bracelet, 427. Chandan-har and Chand-bina are articles of female jewellery.
Jews. See Josephus.
Jew's ear. Horneola.
Jew's mallow, Corchorus olitorius, Jute.
Jeypur. See Feudatory; Hindustan, 80; Hot Springs, 113; Kand'h.
Jeypur horses. Horse, 105.
Jeysulmir. See Desert.
Jhaki, PANJ., Fagopyrum esculentum.
Jhal, Pilu, HIND., Salvadora Persica.
Jhala. See Cutch; Feudatory.
Jhalawan, a district of Baluchistan.
Jhalawar. See Kattyawar.
Jhaloca, Monastery near Bhynsror.
Jhand, Khand, HIND., Prosopis spicigera.
Jhandiam, Zendiam, SANSK., Zonar.
Jhangh, PANJ., Hydrilla verticillata.
Jhangi, Thangoli, PANJ., Corylus colurna.
Jhao, Lai, Kachlei, PANJ., Tamarix dioica.
Jharal, HIND., Hemitragus jemlaicus.
Jhareja. See Kala-Patta; Kattyawar; Rajputs.
Jharia, people of Central Provinces.
Jhariah. See Coal, 752.
Jhar-ka-kuta, HIND., Paradoxurus.
Jhar-katchura, MAHR., Strychnos nux vomica.
Jharya. See Jharikari.
Jhau, Lasaj of Kangra, Artemisia.
Jheend. See Cis-Sutlej.
Jhenku indur, BENG., Gerbillus Indicus.
J'hong-nua, ARAKAN, Gavæus frontalis.
Jhil, HIND., Lakes.
Jhula, HIND., a bridge.
Jhula of Kanawar, Hemitragus jemlaicus.
Jhunjhunian-kari, HIND., Ervum hirsutum.
Jibilika chettu, TEL., Grewia Rothi.
Jiburai, TEL., Flying fox.
Jidi ghenzalo, TEL., Marking nut.
Jidi mamedi, TEL., Anacardium occidentale.
Jidu palung, BENG., Salicornia Indica.
Jigha, PERS., an aigrette of jewels on the turbands of nobles of India. It is worked on all the Kashmir shawls.
Jih-pen-lah, Japan wax.
Jijhotias. See Kanaujia.
Jillaka, SANSK., Amarantus tristis.
Jillakara, TEL., Fennel seed.
Jilledu, TEL., Calotropis gigantea.
Jilpai, HIND., Ixora parviflora.
Jimmudu, TEL., Cacalia coccinea.
Jimuta. See Vahana.
Jinas. See Jain.
Jintan, MALAY, Cumin seed.
Jin-tung. See Honeysuckle.
Jirāga, CAN., Cumin seed.
Jira-manis, MALAY, Aniseed.
Jiritch, ARAB., Gingelly oil.
Jirugu, TEL., Caryota urens.
Jiru kaneli, MALEAL., Casearia esculenta.
Jiul. See Hyul.
Jivak pat, HIND., Aloe Indica.
Jiva praias-chittam. Hindus, 68.
Jiyal, Jeevula, SANSK., Odina wodier.
Jiya putra, HIND., Putranjiva Roxburghii.
Joannes Damascenus. See Barlaam; Damascenus; Josaphat.
Joasmi—Oman.
Job's tears, Coix lacryma.
Jodhpur. See Hindustan, 80; Solar Race.
Jodu palung, BENG., Salicornia Indica.
Joe-boe, BURM., Walsura piscidia.
Joḥ, a liquor prepared from sugarcane, among the Teita tribe of Eastern Africa.

Jogi—Mendicants.
Jogim. See Basava; Rori Barolli.
Jogin, TEL., Dancing Girls; Devadasa.
John of Capua, Panchatantra.
John Dory, the Fish, Zeus auratus.
Johore. See Archipelago, 141; Binua.
Joji Khel. See Afghanistan.
Jokati, TAM., Gomphia angustifolia.
Joki, a nomade Baluch tribe in the hills west of Tatta; their chief is termed the Jam.
Joktan. See Arabia, 125.
Jombi, JAV., Areca catechu.
Jong. See Junk.
Jonk, GUJ., HIND., Leeches.
Joojar'h. See Jugar.
Jordan valley. See Hot Springs, 111.
Joree, HIND. Bombyces; Insects.
Jors, ANGLO-PORT., Toys, Jewels; from Portuguese Jaya, a jewel, or French Jouets.
Josaphat. See Barlaam.
Josephus. See Jew.
Jotish—Joshi.
Jou, a barley-corn; in India, as in many other countries, the primary unit of measures of length.
Jou, Western section of Baluchistan.
Joundela, HIND., Æchmanthera gossypina.
Jouz-i-Hindi, ARAB., PERS., Cocos nucifera.
Jouz khusif, ARAB., Walnut.
Jouz-mazil, ARAB., Datura alba.
Jouz-ul-fota, ARAB., Puneeria coagulans.
Jouz-ul-kueh, ARAB., Randia.
Jouz-ul-teib, ARAB., Nutmeg.
Jovana amelpodi, MALEAL., Ophioxylon serpentinum.
Jovana aralj, MALEAL., Nerium odorum.
Jovanna-pula toli, MALEAL., Crinum latifolium.
Jova pushpamu, TEL., Hibiscus rosa Sinensis.
Jowaki, a pass leading through the Afridi Hills to Kohat.
Jowang. See Kamrup.
Joyha. See Rajputs.
Juanga. See Puttua.
Jubar. See Kolita.
Jubbul. See Hill States.
Jubbulpur. See Central Provinces.
Juda-tel-olu, SINGH., Nymphæa pubescens.
Judgali or Jethgali, the language of Lus, almost similar to that of Sind. The name is evidently derived from that of the tribe.
Judi mara, MALEAL., Graptophyllum hortense.
Jugani-chukar, HIND., Gmelina arborea.
Juglans camirium, Aleurites triloba.
Juglans catappa, Terminalia catappa.
Jugut mudum, BENG., Gendarussa vulgaris.
Juhi, HIND., Jasminum.
Ju-hiang, T'au-ju, CHIN., Olibanum.
Juh-kwo, Yuh-kwo, also Juh-tauk'-au, CHIN., Nutmeg.
Jui pani, Jui pona, BENG., Rhinacanthus communis.
Jujuya doomoor, BENG., Ficus glomerata.
Jumna river, i. 450.
Jumnotri. Hot Springs, 111.
Jumpaloo, TAM. See Jewellery.
Jumpti. See Boats, 393.
Junagarh. See Bhownagar.
Jungle fowl. See Gallus; Phasianidæ; the red jungle fowl, Gallus ferrugineus. The jungle fowl is about the size of a bantam, and is probably the original of the domestic stock, though said to be incapable of being domesticated.
Jungle nail tree, Acacia tomentosa.
Jungle sheep, Cervulus aureus. See Cervidæ, also Tetraceros quadricornis.
Juniperus. See Coniferæ.
Juniperus excelsa, Chandan.
Juniperus Virginiana, J. Barbadensis, Bermudiana. See Cedar.
Junjum, TEL., the zonar or sacred thread of the Hindus.
Junk. See Boats, 399-400.
Juno Móneta of Romans, the goddess Lakshmi. See Cartaka.
Jupiter. See Indra.
Jurea or Jariya, one of the seven divisions of the Lodh tribe.
Jurjan. See Chorasmia.
Juspur. See Chutia Nagpur.
Jussiæa caryophyllæa, Ludwigia parviflora.
Justicia adhatoda, Adhatoda vasica.
Justicia echioides, Andrographis echioides.
Justicia gendarussa, Gendarussa vulgaris.
Justicia nasuta, Rhinacanthus communis.
Justicia paniculata, BURM., Andrographis paniculata.
Justicia picta, Caricature plant, Graptophyllum hortense.
Justicia procumbens, Rostellaria procumbens.
Justicia repens, Rungia repens.
Jut. See Deserts, 920.
Jut, a race in the Panjab, Sind, and N.W. India. See Gete; Jat.
Juta, HIND., False; Juta-kanchura, Commelyna communis; Juta-mangsee, Spikenard, Valeriana jatamansi; Juta-salpanee, Dicerma pulchellum.
Jutatoo, SANSK., from Jata, a bunch of hair, and Ayoo, life-time; properly Jatayoo.
Jute. See Fibres, 1093.
Juthe karande, DUKH., Flacourtia sepiaria.
Juti, HIND., Putranjiva Roxburghii.
Jutka. See Carriage.
Jutuga, TEL., Dæmia extensa.
Juvani, BENG., Ajwain seed.
Juvasa, Juivassa, BENG., Alhagi maurorum.
Juvo, BENG., Hordeum hexastichon.
Juvvi, TEL., Ficus nitida, F. venosa; Pedda-jovi, Ficus t'siela.
Juwansa, HIND., Manna of Alhagi maurorum.
Juwifeh, ARAB., Ferula asafœtida.
Juwur, KASH., Euryale ferox.
Juwur, KASH., Annesleya horrida, common in the lake of Kashmir. Its broad round leaf lies on the water like that of the lotus, its under-surface being covered with numerous hard, sharp, and hooked spiculæ.
Juya, SANSK., from Jee, victory, properly Jaya, Jye, Jei, Juy.
Juyanti, BENG., SANSK., from Jee, to conquer, Sesbania Ægyptiaca, Æschynomene sesban.
Juz, ARAB., a part of a book.
Juzoogri, MAHR., Antiaris innoxia.
Jy, this word in Pehlavi and Sanskrit means pure.
Jyantika, HIND., Sesbania Ægyptiaca.
Jyda-roomee, HIND., Pterocarpus draco.
Jye, SANSK., Victorious.
Jyenagar. See Hot Springs, 114.
Jye Samudra. See Debar.
J'yi-jin, CHIN., Coix lacrima.
Jyoi pana, BENG., Rhinacanthus communis.
Jyoti-Sastra, SANSK., Astronomy.
Jyotishmati, HIND., Anthistiria anathera.
Jypal, Rechuk, BENG., Croton tiglium.

K

KAAB. See Chaab.
Ka-awi of Pacific, Dioscorea aculeata.
Kabara, SINGH., Empagusia flavescens.
Kabarra, TR.-INDUS, Capparis spinosa.
Kabir. See Kuvera; Muhammadanism.
Kablai Khan. See Arghun-Khan.
Ka-bong, MALAY, Cycas circinalis.
Ka botang, LADAKH, Juglans regia.
Kabra-goya. See Cobra-tel.
Kabutar ka-jhar, HIND., Rhinacanthus communis.
Kabuto-gani, JAP., Limulus longispina.
Ka-by-ain, BURM., Ceriops Roxburghianus.
Kacham, of Ambala, Ulmus integrifolia.
Kachang-tanah, MALAY, Arachis hypogea.
Ka-chan-pa. See Ladakh.
Kachcha manu, TEL., Xanthoxylon rhetsa.
Kach'ha ghara, HIND. See Divination; Ordeal.
Kachoram, TEL., Kaempfera galanga.
Kachu-bong, MALAY, Datura fastuosa.
Kachura, HIND., Curcuma zedoaria.
Kadalay, TAM., Cicer arietinum.
Kadali, TAM., Lagerstrœmia reginæ.
Ka-dat, BURM., Cratæva Roxburghii.
Kadavi, Kadaba, CAN., Rusa Aristotelis.
Kadawah porasham, TAM., Chloroxylon Swietenia.
Kaddam, BENG., HIND., Nauclea cadamba, N. parviflora.
Kaddu, HIND., Lagenaria vulgaris.
Kader. See Puliar; Pulney Hills.
Kadesia. See Khalifah.
Kadewar, SUTLEJ, Gymnosporia spinosa.
Kadizai Khel. See Afghanistan.
Kadphises. See Bactria, 223, 224; Coins, 780.
Kadukai, TEL., Terminalia chebula.
Kadul, SINGH., Carapa Moluccensis.
Kadumbaireya gass, SINGH., Diospyros sylvatica.
Ka dwæoo, BURM., Dioscorea fasciculata.
Kafi, BEAS, Oreoseris lanuginosa.
Kaf-mariam, ARAB., Rose of Jericho.
Kagshi, PANJ., Cornus macrophylla.
Kahaatta, SINGH., Careya arborea.
Kaha-gaha, SINGH., Bixa orellana.
Kaha-kaala, SINGH., Diospyros toposia.
Kaha sau-kanda, SINGH., Kaempfera rotunda.
Kahlur. See Hill States.
Kahtan. See Arabia, 125; Himyar.
Kahu, HIND., Olea cuspidata.

Kahu, SIND., Saccharum spontaneum.
Kaibartta. See Tamluk.
Kai-dai-bi, COCHIN-CHINA, Blumea balsamifera.
Kail of Beas and Sutlej, Pinus longifolia.
Kailas temple. See Cave Temples, i. 610.
Kairwan. See Carpets.
Kaiun, N.W. HIM., Faba vulgaris.
Kai vartaka musta, TEL., Cyperus hexastachys.
Kajal, Siahi, PERS., Lamp-black.
Kajaman. See Borneo, 419.
Kajireh, BENG., Carthamus tinctorius.
Kajo mar, JAV., Ophiorhiza mungos.
Kaju, HIND., MALAY, Anacardium occidentale.
Kaka-jangha, BENG., Leea crispa.
Kakalas, SINGH., Cyathocalyx Zeylanicus.
Kakap. See Boats, 399.
Kakar, an Afghan tribe.
Kakara, TEL., Momordica charantia.
Kaka-tati, Atcham, TAM., Diospyros ebenum.
Kakkita, Kokkita, TEL., Argyreia speciosa.
Kakmari, HIND., Anamirta cocculus.
Kaknuj, PERS., Physalis angulata; HIND., Puneeria coagulans.
Kakrin, Kulashing, RAVI, Rhus succedanea.
Kaku-kukulalu, SINGH., Dioscorea aculeata.
Kakuna-gass, SINGH., Canarium Zeylanicum.
Kakur, HIND., Cervulus aureus.
Kala aja, BENG., Ehretia serrata.
Kalabanda, TEL., Aloe vulgaris.
Kalabatun. See Filigree.
Kala-dana, HIND., Pharbitis nil.
Kaladi, MALAY, Colocasia esculenta.
Kala-goru, TEL., Stereospermum chelonoides.
Kala-Jerablus. See Car-chemish.
Kala-jira, HIND., Nigella sativa.
Kalaka, Kalapa, TAM., Carissa carandas.
Kala kantala. SANSK., Agave Americana.
Kalambak, JAV., Eagle-wood.
Kala-megh, BENG., Chiretta.
Kala-namak, HIND. See Bit-laban.
Kalanos, his immolation, i. 434.
Kalapa, Nur, MALAY, Cocos nucifera.
Kalasi puja. See Jar.
Kalazai. See Afghanistan.
Kaldera bush—Screw pine.
Ka-le thee, BURM., Coix lacryma.
Kalhora. See Hyderabad, 135.
Kalhoti, HIND., a cylindrical vessel of mud-plaster for storing grain.
Kali, HIND., Black, female of Kala.
Kali bhui, MAHR., Black soil or regur of the Dekhan. The crops grown on it are cotton, dhangar or dry rice, moong, rape, Bengal gram, sorghum, taur, wheat, castor-oil.
Kalichi maram, TAM., Guilandina bonduc.
Kalidasa. See Literature.
Kalij. See Phasianidæ; Pheasant.
Kali jarri, Salvia lanata.
Kali jiri, Vernonia anthelmintica.
Kali kasturi, Abelmoschus moschatus.
Kali kikar, Acacia Arabica.
Kali kulti, Phaseolus radiatus.
Kali kutki, HIND., Picrorrhiza kurrooa.
Kalikutki, DUKH., Helleborus niger.
Kalila-wa-Damna. See Bidpai; Panchatantra.
Kali mort, Desmodium tiliæfolium.
Kali mung, Phaseolus mungo.
Kali ring, Quercus dilitata.
Kali sarson, Sinapis dichotoma.
Kali shumbali, DUKH., Gendarussa vulgaris.
Kali sirin, Albizzia lebbek.
Kali siwal, Amarantus anardana.
Kali tori, Luffa acutangula.
Kali tulsi, Ocimum basilicum.
Kali veem, Stezolobium altissimum.
Kali zar, also Kowa titi, Clitoria ternata.
Kali zewari, HIND., Bupleurum marginatus.
Kaljunga, HIND., Aquila nævia.
Kalki. See Avatar.
Kallaki pitta, TEL., Plotus melanogaster.
Kallat. See Chliatæ.
Kalli chemudu, TEL., Euphorbia tiracalli.
Kalli-tang-shing, LEPCH., Tupaia Peguana.
Kalloo, Kardi-aru, PERS., Amygdalus Persica.
Kalo, BENG., Kala, Kali, HIND., black.
Kaloe of Sumatra, China grass.
Kaloi, Kalovee of Sumatra, China grass.
Kalo-jamun, Eugenia jambolana.
Kalo-kera, Capparis brevispina.
Kalo-kunch, Abrus precatorius.
Kalo-megha, Andrographis paniculata.
Kalon or Kelu of Chamba, Cedrus deodara, Deodar or Himalayan cedar.
Kalong, MALAY. See Pteropodidæ.
Kalonja, HIND., Nigella Indica.
Kaloo-habaraleya-gass, SINGH., Macreightia buxifolia.
Kalo-shim, Canavalia virosa.
Kalo tulsi, Ocimum sanctum.
Kalsia. See Sutlej.
Kal-sipi, MAHR., Gazella Bennettii.
Kalu gachcha, TEL., Psoralea corylifolia.
Kalugudu, TEL., Garuga pinnata.
Kalumawul ætiya, SINGH., Guilandina bonduc.
Kalupnath, HIND., Andrographis paniculata.
Kaluwara gass, SINGH., Diospyros ebenum.
Kalwat. See Langha.
Kalyan. See Chalukya; Lingaet.
Ka-ma-a-pæ, BURM., Azadirachta Indica.
Kama-denu, HIND., 65. See Cow; Surabhai.
Kama-guchu, Hindu, Mushroom.
Kamaksha-pilli, TAM., Andropogon Martini.
Kamala, Narija, TEL., Citrus aurantium.
Kamala, Padma, HIND., Nelumbium speciosum.
Kamala Devi. See Dewala Devi.
Kama-luta, HIND., Quamoclit.
Kamanan, Manan, MALAY, Frankincense.
Kamaranga, HIND., SANSK., Averrhoa bilimbi.
Kamari, Kamira, MALAY, Aleurites triloba.
Kamba, Moksha, HIND., Mushroom.
Kamba, HIND., Careya arborea.
Kam-ba-la, BURM., Sonneratia apetala.
Kambar Khel. See Afghanistan.
Kamba suhu, LEPCH., Presbytis schistaceus.
Kamiah, KHAS., Acer sterculiaceum.
Kamikhya—Kameswari.
Kamila, HIND., Rottlera tinctoria.
Kaminan, Minian, MALAY, Benjamin.
Kamini, BENG., Murraya exotica.
Kamjoo, TIB., Capra ægagrus.
Kamma-regu, TEL., Artocarpus lacoocha.
Kampong, MALAY, Compound.
Kampule kiray, TAM., Ærua lanata.
Kamr Khel. See Afghanistan.
Kam-ruk, HIND., Averrhoa carambola.
Kana, HIND., Commelyna, *sp.*
Kanae kya-tha, BURM., Artocarpus echinatus.
Kana-kachu, HIND., Morchella fungus, Tuber ciberium.
Kanakan—Slave.
Kanak champa, BENG., Pterospermum acerifolium.
Kanarak. See Black Pagoda.
Kanaregu, TEL., Flacourtia sepiaria.
Ka-na-za, BURM., Heritiera minor.
Kanchan, MAHR., Bauhinia, *sp.*
Kanchi, Conjeveram.
Kanchkuri, DUKH., Tragia cannabina.
Kanda, HIND., Squill.
Kandalanga, TAM., Xylocarpus granatum.
Kanda-murga-rattam, TAM., Calamus, Dragon's blood.
Kandar, HIND., Cornus macrophylla.
Kandeh Rao. See Jejuri.
Kandero, SIND., Alhagi maurorum.
Kandh. See Orissa.
Kandi, DUKH. Dracontium polyphyllum.
Kandiara, HIND., Carthamus oxyacantha.
Kandur, Luban, ARAB., Olibanum.
Kaner, Kharuba, HIND., Nerium odorum.
Kanera, Pudari of Beas, Hamiltonia suaveolens.
Kanerki. See Bactria, 224.
Kangaroo grass, Anthistiria ciliata.
Kangla mandar, CHENAB, Acer creticum.
Kangni, Kunju, BENG., HIND., Panicum, *sp.*; Millet.
Kango-jai, Chaughan-Hockey.
Kangra. See Himalaya.
Kangya, Kanguya, BENG., Urena lobata.
Kan-hzee, BURM., Zizyphus œnoplia.
Kania-danam. See Hindu; Marriage, 67.
Kanjir, HIND., PERS., Cynara scolymus.
Kanjon-bura, BENG., Kaempfera angustifolia.
Kankari, DUKH., Cucumis sativus.
Kankhora, Gamb, BENG., Rhea, China grass.
Kan-kiang, Peh-kiang, CHIN., Zingiber officinale.
Kankli. See Chliatæ.
Kankra, BENG., Bruguiera Rheedii.
Kannadi. See Canarese.
Kan-phul, Dudli, BEAS, Taraxacum officinale.
Kanrew, TEL., Flacourtia sapida.
Kansalar. See Artisans; Hindu, 70.
Kan-spin, BHOT., Acer sterculiaceum.

Kansu, HIND., Bell-metal.
Kanta-alu, BENG., HIND., Dioscorea pentaphylla.
Kanta-koolika, BENG., Asteracantha longifolia.
Kantal, BENG., Artocarpus integrifolius.
Kan-thunti, BENG., Phœnicopterus rosens.
Kantiliya, a name of Chanakya.
Kanuga, TEL., Pongamia glabra.
Kanur of Kangra, Acer cultratum.
Kanya Kubja—Kanauj.
Kanya Kumari—Parvati.
Ka nyeen phyu, BURM., Dipterocarpus lævis.
Kan-zan, BURM., Bassia longifolia.
Kanzar of Jhelum, Fragaria Indica.
Kao-lin, CHIN. See Ceramic Manufactures; Clay; Péh-tun-tze.
Kaoorwa. See Deserts, 920.
Kapahka. See Kerari.
Kapa laga, MALAY, Amomum cardamomum.
Kapa mavakum, MALEAL., Anacardium occidentale.
Kapas, Booi, HIND., Gossypium herbaceum.
Kapchak. See Chliatæ.
Kapi, SINGH., Ape.
Kapila. See Sankhya.
Kapila, Kapilapodi, TAM., Rottlera tinctoria.
Kapu kinaissa, SINGH., Abelmoschus moschatus.
Kapu mūkagu, MALEAL., Capsicum Nepalense.
Kapupa of Ptolemy—Kurur.
Kapur-kichili, TAM., Curcuma zedoaria.
Kapurthalla. See Feudatory.
Karafs, ARAB., Apium graveolens.
Karahhi lena. See Divination; Ordeal.
Karai, TAM., Webera tetrandra.
Karaita, BENG., Cicendia hyssopifolia.
Karak, PANJ., Celtis orientalis.
Kara Kalpak. See Central Asia.
Kara-kartan, TAM., Clitoria ternatea.
Kara-korum. See Central Asia.
Kara Koyi. See Orfa.
Kara-kul. See Oxus.
Karalla, Bilodar, BEAS, Falconeria insignis.
Ka-ra-mai, BURM., Sandal-wood.
Karamani, Bobbarlu, TAM., Dolichos Sinensis.
Karambak, JAV., MAL., Agallocha wood.
Karambu, Par-jamb, MAHR., Olea dioica.
Karanas. See Almanac; Panchanga.
Karanda, BENG., Carissa carandas.
Karanfal, ARAB., Caryophyllus aromaticus.
Karang, Sajor-karang, MALAY, Eucheuma spinosum.
Karang, BENG., Dalbergia arborea.
Karangalli, TAM., Acacia sundra.
Karang cottay, TAM., Ixora parviflora.
Karanj, HIND., Pongamia glabra.
Karao, Tsjo, Mao, JAP., China grass.
Karas, Karil, LADAKH, Lathyrus sativus.
Karataka. See Panchatantra.
Kar-atchi, Kat udugu, TAM., Hardwickia binata.
Kara vella, MALEAL., Gynandropsis pentaphylla.
Karay cheddi, TAM., Webera tetrandra; TEL., Canthium parviflorum.
Karela, HIND., PERS., Momordica charantia.
Karen potato, Dioscorea fasciculata.
Kareo, of N.W. Provinces, Albizzia elata.
Karer, RAVI, Rubus, *sp.*
Karez—Kanat, Irrigation.
Kari, Tadru of CHENAB. See Rhamneæ.
Kariari, HIND., Gloriosa superba.
Karik, Amal-bel, CHENAB, Cissampelas pareira.
Karil, SIND., Capparis aphylla.
Karinga, TEL., Gardinia latifolia.
Karí nuchi, TAM., Gendarussa vulgaris.
Karisiye nagara. See Opian.
Kar-itti, TAM., Dalbergia sissoides.
Karka puli, TAM. Pithecolobium dulce.
Karkarra, HIND., Anthropoides virgo.
Karkava, TAM., Elæodendron Roxburghii.
Kar-kona, CAN., Gavæus gaurus.
Karku, BEAS, Ajuga bracteosa.
Karkum, Abir, PERS., Crocus sativus, Turmeric.
Karli cave. See Cave Temples, 610.
Karma-bres, HIND., Buckwheat.
Karmru of Beas, Albizzia odoratissima.
Karnafuli of Chittagong. See Rivers.
Karnataka. See Canarese.
Karne, TAM., Dracontium polyphyllum.
Karoa. See Curao; Jat; Marriage.
Karpugum, TAM., Psoralea corylifolia.
Karpura benda, TEL., Abelmoschus moschatus.
Karrak. See Babylonia, 218.
Karra-marada, TAM., Terminalia tomentosa.
Karripak, HIND., Bergera Konigii.
Karri-vembu maram, TAM., Garuga pinnata.
Karroo vaga, TAM., Albizzia odoratissima.
Kars. See i. 609.
Kart of Kulu, Hemitragus jemlaicus.
Kartakeia. See Ganapati; Parvati.
Kartelania. See Iberia.
Karun chembai, TAM., Sesbania Ægyptiaca.
Karun tuti, TAM., Sida retusa.
Karupale, TAM., Putranjiva Roxburghii.
Karupu veraul, TAM. See Ophiocephalidæ.
Karur. See Pandya; Scythia.
Karusa, i. 612.
Karvel, Kawel, JAV., Arch., 99.
Karwai, Karwye, MAHR., Hymenodyction obovatum.
Karwarei, TR.-INDUS, Rubus, *sp.*
Karwat, CAN., Antiaris innoxia.
Kasakasa, TAM., TEL., Papaver somniferum.
Kasb-uz-zarireh, ARAB., Ophelia chirata.
Kashanda, Kasinda, TEL., Cassia occidentalis.
Kashastali. See Brahmans, 431.
Kashgar. See Central Asia; Turkestan.
Kashgoi. See Iliyat.
Kashgul-i-Ali—Parashawara.
Kashida, Zardozi, HIND., Embroidery.
Kashivi. See Husain bin Ali; Bidpai.
Kashmal, Sumlu, HIND., Berberis lycium.
Kasibeck, 16,546 ft. Caucasus, i. 609.
Kasina, TEL,, Rottlera laccifera.
Kasinatha. See Pran-pralap.
Kasir, PANJ., Cornus macrophylla.
Kasi Raja. See Dhanwantari.
Kasr. See Babylonia; El Kasr.
Kassar, HIND., Vitis carnosa.
Kas-shin, BHOT., Juglans regia.
Kastak, PERS., Aucklandia costus.
Kastura, HIND., Moschus moschiferus.
Kasturi, Munai, TAM., Castor, Civet.
Kasturi manjal, TAM., Curcuma zedoaria.
Kasyapa. See Ikauna.
Kat, also Kaat, Kat'h, Katu, Kattu, and Katta, in several of the tongues of India and Ceylon, means wild, pseudo, uncultivated.
Kata, TAHITI, Inocarpus edulis.
Katak. See Cuttack.
Kataka, SANSK., Strychnos potatorum.
Katalli-kai, TAM., Capparis horrida.
Kat-amal, Syzygium jambolanum.
Kat-amanaku, Jatropha curcas.
Kat-ambalam, Spondias mangifera.
Kat-andar, Acacia leucophlæa.
Kataping, Bali, JAV., Amygdalus communis.
Kat arali, Cerbera odallam.
Kat arasan, Ficus, *sp.?*
Katas, HIND.; Felis chaus, Viverra zibetha.
Kat-asha, MALEAL., Aloes.
Kat-atti, Bauhinia tomentosa.
Katayayana. See Patanjali; Vararuchi.
Kat-berral, BENG., Sciurus maximus.
Kat-chandan, HIND., Santalum album.
Katauli of Rajput women, a corset. See Bracelet; Brother-making.
Kat ellamicha, Atlantia monophylla.
Ka-tha khyae, BURM., Syndesmis Tavoyana.
Kat'ha kikar, DUKH., Acacia catechu.
Kat'ha-sarit-sagara. See Baital Pachisi; Literature.
Kath-bel, BENG., Jasminum hirsutum; HIND., Feronia elephantum.
Ka-theet, BURM., Erythrina Indica.
Kath gular, Ficus cunia.
Kathi. See Cathi; Comani.
Kathia-nyal, NEPAL., Mustela kathiah.
Kat'h-shim, BENG., Canavalia virosa.
Kat'h sola, Æschynomene aspera.
Kathu, Bres, PANJ., Fagopyrum esculentum.
Katijan, Kartichey, TAM., Gloriosa superba.
Kat-illupa, Bassia latifolia and B. longifolia.
Kat-jerakam, Vernonia anthelmintica.
Kat-juti, Atropa acuminata and A. mandragora.
Kat kadugu, Polanisia icosandra.
Katkalija, Guilandina bonduc.
Kat kalungu, Dioscorea aculeata.
Kat-karahi, a kind of sugar-cane.
Katkaranga, HIND., Guilandina bonduc.
Kat-karkalum, Anisochilus carnosum.
Kat-karnay, Dracontium polyphyllum.
Kat kirba, Hyæna.
Kat koduku, Gynandropsis pentaphylla.
Kat-koli, Gallus Sonneratii.
Kat kolingi, Tephrosia purpurea.
Kat konna, Inga bigemina.
Kat kranar, HIND., Brassica, *sp.*

Kat kumbha, CAN., Trewia nodiflora.
Kat-kuto, SIND., Upupa epops.
Katl-chettu, TEL., Chrysopogon aciculatis.
Kat milalu, Vitex arborea.
Kat mitha, HIND., Rumex vesicarius.
Kat-mulingi, Sonchus oleraceus.
Kat pohu, BENG., Manis pentadactyla.
Kat-sai-nai, BURM., Urena lobata.
Kattale, TAM., Aloe Indica.
Katta terpali, MALEAL., Chavica Roxburghii.
Katti Karan. See Slave.
Kattimandu, TEL., Euphorbia cattimandu.
Kattoi, Karatiya, BENG., Jacana.
Kattoo-bodde, SINGH., Cullenia excelsa.
Kattu puvaasu, TAM., Rhus decipiens.
Katu, Katu trao, RAVI, Buckwheat.
Katu, a wilderness.
Katu alu, Ficus citrifolia.
Katu-badam, Terminalia catappa.
Katu bala, Canna Indica.
Katu bodde, SINGH., Cullenea excelsa.
Katu-elikai, Capparis horrida.
Katu imbal, Bombax Malabaricum.
Katu-indel, Phœnix sylvestris.
Katu-inshikua, Curcuma zerumbet.
Katu iriki, Asteracantha longifolia.
Katu-jadikai, Pyrrhosia Horsfieldii.
Katu jeram, Jasminum hirsutum.
Katu-jeru, Holigarna longifolia.
Katu jolam; also Katu-jiruni, Kaempfera galanga, K. rotunda.
Katu kadali, or Katala, Osbeckia aspera.
Katu-kapel, Sanseviera Zeylanica.
Katu karogani, Helleborus niger.
Katu-karua, Cinnamomum iners.
Katu-karundu, Trichilia spinosa.
Katu-kasturi, Abelmoschus moschatus.
Katu-kata-kalla, Bridelia montana and B. spinosa.
Katu-katsjil, Dioscorea bulbifera.
Katu-katu, Fagopyrum esculentum.
Katu-katulla, Tomentum, or leaf of Onoseris.
Katu-kende of Ajmir, a fine-grained wood.
Katu kina, Xanthoxylon rhetsa.
Katu kittol, Caryota horrida.
Katu-kurundu, Phoberos Gærtneri.
Katu malika, Jasminum, *sp.*
Katu-malnaregam, Atalanta monophylla.
Katu manga, Buchanania latifolia.
Katu mavu, Spondias mangifera.
Katu muren, Dioscorea pentaphylla.
Katu murungi, Ormocarpum sennoides.
Katu-niruri, Phyllanthus multiflorus.
Katu nuchi, Jatropha curcas.
Katu-paira, Phaseolus rostratus.
Katu-pamburu, Pyrularia Wallichiana.
Katu-pandri, Wild boar.
Katu pitsjugum, Jasminum angustifolium.
Katu-puvarasa, Rhus decipiens.
Katur konna, BURM., Inga bigemina.
Katu-rohina, SANSK.? Helleborus niger.
Katu tandalay, Crotalaria, *sp.*
Katu-tjaka, Nauclea purpurea.
Katu tjero, Holigarna longifolia.
Katu uren, Sida cordifolia.
Katu vagay, Albizzia lebbek.
Katu yeni, Bos gaurus, the Gavæus gaurus.
Kau, kahu, ko, PANJ., Olea Europea.
Kauli, Kara-chi, Gypsy.
Kau-liang-kiang, CHIN., Alpinia galanga.
Kaulimah, MAHR., Manis, Pangolin.
Kaunchkuri, DUKH., Cowhage, Mucuna.
Kau-pen, CHIN., Cicuta virosa.
Kaur. See Chutia Nagpur.
Kaur, Kiari, SUTLEJ, Capparis spinosa.
Kaura of Beas, Acer cultratum.
Kaurava. See Pandu.
Kauri buti, JHELUM, Ajuga bracteosa.
Kavanchi, TEL., Isora corylifolia.
Kavariki, JAP., Aloes wood.
Kavatam-pillu, TAM., Andropogon schoenanthus.
Kawan, Solid oil. See Oils.
Kawar of Ravi, BEAS., Holarrhena antidysenterica.
Kawi. See Archipelago, 137; Languages.
Ka-ya, BURM., Dilivaria ilicifolia.
Kayam puvu cheddi, TAM., Memecylor ramiflorum.
Kayanian dynasty — Kambyses, Persia.
Kayan kayo, BURM., Aglaia spectabilis.
Kaye duru dumpa, TEL., Eulophia virens.
Kayu, MALAY, a tree.
Kayu api api? Rhizophora mucronata.
Kayu-arang, Ebony.
Kayu aru, Casuarina muricata.
Kayu gahru, Aquilaria agallocha.
Kayu manis china, Cassia lignea.
Kayu-puteh, Melaleuca cajaputi.
Kayu rangas, Stagmaria verniciflua.
Kayveru kelwa-ragu, TAM., Eleusine coracana.
Kazak-Kirghiz. See Central Asia.
Ka-zong-oo, BURM., Batatas edulis.
Kazwini. See Al Kazwini.
Kazzilbash. See Afghanistan, 30.
Kebbir, ARAB., Capers.
Kej, a Makran province of Baluchistan.
Kelon ka tel, HIND., Turpentine.
Kemas hylocrius, Hemitragus hylocrius.
Ken, Kimponass, JAPAN, Hovenia dulcis.
Kendu, Kiu, BENG., Diospyros melanoxylon.
Kenheri. See Cave Temples.
Ken-kyok-phyoo, BURM., Plumbago Zeylanica.
Keonjhur. See Bendkar.
Keonthal. See Hill States.
Keora, Gaganphool, HIND., Pandanus odoratissimus.
Keperit, Kapierit, SUNDA, Rhea.
Keph, ETHIOP., Kapi, TAM., Ape, Monkey.
Kerah river. See Choaspes.
Kerala. See Chera; Pandya.
Keran, Kran. See Coins, 780.
Kermanshah. See Carpets, 585.
Kerowlee. See Hindustan, 80.
Kesara-dam, BENG., Jussieua repens.
Kesari, or Lion line. See Orissa.
Kesi-raja—Kesava.
Kestril, Tinnunculus alaudarius, also Erythropus cenchris.
Ketu rahu, Almanac, Panchanga.
Kewra-ki-jar, HIND., Orris root.
Keysur, DUKH., Nyctanthes arbortristis.
Keysur, Kangan mundi, HIND., Crocus sativus.
Kha-chan-yul—Ladakh.
Khadar lands. See Canals, i. 561; Husbandry.
Khagin, Aparajita, DUKH., Clitoria ternatea.
Khaira. See Orissa.
Khaja Mir. See Dard.
Khajur, Chuhara, HIND., Phœnix dactylifera.
Khajuraho. See Architecture, 143.
Khalij. See Gallophasis; Phœasant.
Khalil-ullah, or Friend of God, the title of Abraham.
Kham-ba. See Kashmir.
Kha-mi. See Hill Tracts.
Khamir, ARAB., Leaven.
K'ham-yul or K'hams-yul—Tibet.
Khanazai. See Afghanistan.
Khan Baba, literally infants' lord, a translation of Atabeg.
Khanda. See Padma Purana.
Khandagiri. See Cave Temples; Orissa.
Khangni, Rakhi, HIND., Bracelet, Brother-making.
Kha-pa-chan—Ladakh.
Kharak. See Persian Gulf.
Kharan. See Baluchistan, 255.
Kharasm, Khiva, Chorasmia.
Kharawa. See Oraon.
Kharbuzeh, HIND., PERS., Cucumis melo.
Khardul of Talmud, ARAB., Salvadora Persica.
Khare-booti, TR.-INDUS, Oreoseris lanuginosa.
Kharelwal. See Oswal.
Kharere, PUSHTU, Mushroom.
Khar laguna, NEPAL., Axis porcinus.
Kharlik. See Chliatæ.
Kharoti, a clan of the Povinda Afghans.
Kharria. See Sun-worship.
Kharshuf, ARAB., PERS., Artichoke.
Khar-zahra, PERS., Nerium odorum.
Khas, MONGOL. See Jade.
Khas-khas, HIND., Andropogon muricatus.
Khata, CHIN., a scarf of felicity.
Khatmi, HIND., PERS., Althæa rosea.
Kheda. See Keddah.
Khilaf-i-balki, PERS., Salix caprea.
Khira, PANJ., Cucumis sativus.
Khird-afroz. See Panchatantra.
Khirnoob shamee, ARAB., Ceratonia siliqua.
Khitmi, PERS., Malva sylvestris.
Khiva. See Central Asia; Kharasm.
Khmer, the Cambodia.
Khoja sect, the Ismaili. See Hyderabad, 135.
Khokand. See Central Asia.
Kholvi. See Cave Temples, 611.
Khon. See Burma, i. 526.
Khond. See Central Provinces.
Khorasani ajwain, HIND., Hyoseiamus niger.
Khostwal. See Afghanistan.
Khoung, BURM., Rice beer.
Khugiani. See Afghanistan; Khaibar.
Khulga, HIND., Gavæus gaurus.
Khulm. See Afghanistan, 31.
Khumbah, CHENAB, Agaricus campestris.
Khun-u-lavan, PERS., Dragon's blood.
Khurdah-Avastá. See Parsee.
Khuri ingots. See Coins, 780.
Khuttuk. See Khushal Khan.
Khuzistan—Susiana.
Khwaizai Khel. See Afghanistan.

Khyaw. See Hill Tracts; Kha-mi.
Khyeng. See Hill Tracts.
Khyoung-tha. See Hill Tracts; Ku-mi.
Khyr. See Pramara.
Ki. See Archipelago, 135.
Kiain, PANJ., Boletus igniarius.
Kia-muh-yoh, CHIN., B'dellium.
Kiang, or Dzightai, Equus hemionus, Wild ass of Tibet.
Kiang-chu, CHIN., Amber.
Kiang-t'au, CHIN., Juglans regia.
Kia-tsze, CHIN., Solanum melongena.
Ki-chau-lan-hwa, CHIN., Chloranthus inconspicuus.
Kichli gadda, TEL., Curcuma zedoaria.
Kienki, LEPCHA, Boehmeria frutescens.
Kien-shih, Ki-tu, CHIN., Euryale ferox.
Kierpa, BENG., Carallia integerrima.
Kijang—Cervidæ.
Kikar, HIND., *sp.* of genus Acacia.
Kikkasa gaddi, TEL., Amphidonax karka.
Ki-ku-tsze, CHIN., Cock's claw fruit.
Kilar, HIND., Fothergillia involucrata.
Kilei, Killar, HIM., *Cedrus deodara.*
Kilingi, NEIL., Acrocarpus fraxinifolius.
Ki-lin-kieh, CHIN., Dragon's blood.
Killar, Kirru, Pare, CHENAB, Parrotia Jacquemontiana.
Killh, JHEL., Acer cultratum.
Killia, CELEBES, Broussonetia papyrifera.
Kilmung, Keling, TIBET, Cedrus deodara.
Kilu, Kaliun, PUSHTU, Chamærops Ritchiana.
Kilut, Gatap, MALAY, Bird-lime.
Kimkhab. See Brocade; Cotton Manufactures.
Kimsukamu, TEL., Butea frondosa.
Kim-yu (the tallow), CHIN., Stillingia sebifera.
Kingi of Chenab, Urtica heterophylla.
King-san-ling, CHIN., Cyperus hexastachyus.
King-yu, CHIN., Spermaceti.
Kin-hang, Hang-jin, CHIN., Apricot.
Kinibalao, a mountain of Borneo 1300 feet high.
Kin-kang-shih, CHIN., Corundum.
Kin-kiuh, CHIN., Citrus Japonica.
Kin-ling-tsze, CHIN., Eriobotrya Japonica.
Kinneh, PERS., Galbanum officinale.
Kinnub, ARAB., Hemp.
Kinoon la, BURM., Rottlera tinctoria.
Kin-poh, CHIN., Gold-leaf.
Kin-sze ts'an, CHIN., Hypericum Chinense.
Kin-wha, CHIN., Golden flowers. See Brass Leaf.
Kin-yin-hwa, CHIN., Honeysuckle.
Kiral boghi, GHATS of S. CAN., Hopea parviflora.
Kiranti, Kirata. See Cirrhatæ; Hill Tracts.
Kiratar-juniya, Literature.
Kirghiz-Kazak. See Central Asia.
Kiri anguna, SINGH., Gymnema sylvestre.
Kiriat, HIND., Agathotes chirayta, Andrographis paniculata.
Kirri palla gass, SINGH., Ficus venosa.
Kirshuf, ARAB., Cynara scolymus.
Kisari, HIND., Lathyrus sativus.
Kishenghar. See Hindustan, 80.
Kisho-rej, BENG., Wedelia calendulacea.
Kisti, DEKH., Bixa orellana.
Kistvaens. See Burial Customs.
Kitchili-kolinjy, TAM., Citrus aurantium.
Kites, *sp.* of Haliastur, Milvus, Baza, Elanus.
Kitla, Kakrai, CHENAB, Acer creticum.
Kitta nara, TAM., Fourcroya cantala.
Kiuh-lo, CHIN., Orange zest.
Kiung-shu, CHIN., Stillingia sebifera.
Kiu-siu. See Japan.
Kiwach, HIND., Cowhage, Mucuna.
Knot and Stint, *sp.* of Tringa, Eurinorhynchus, Phalaropis.
Knot grass—Illecebraceæ.
Koamil, Kalam of Beas, Glochidion velutinum.
Koang-sze-teng. See Boats, 400.
Koch, SIND., Ovis cycloceros.
Koch'h. See Boro, 420.
Koch'ho, SIND., Village common.
Kodaga pala, TEL., Wrightia antidysenterica.
Kodapana, MALEAL., Corypha umbraculifera.
Kodi, Nella budinga, TEL., Cucumis pubescens.
Kodigam, TAM., Tylophora asthmatica.
Kodo, HIND., Paspalum stoloniferum.
Kodu, Lau, BENG., Lagenaria vulgaris.
Koel. See Sirguja.
Koel, HIND., Eudynamis orientalis.
Koh-i-Kaf. See Mount.
Koh-i-Meeriah. See Coal, 753.
Kohl, ARAB., Lamp-black.
Koho-khur of Kashmir, Hydnum coralloides.
Koit-ka-jhar, HIND., Feronia elephantum.
Kok, CAN., Nesokia Indica.
Kokkanistha. See Brahmans, 432; Deshasth.
Kokla, HIND., Sphenocercus sphenurus, a green pigeon of the Himalaya.
Koknar, Post, HIND., Papaver somniferum.
Koko Nar. See Kalmuk.
Kola, HIND., Canis aureus, Jackal.
Kolarians. See Central Provinces; Aborigines.
Kola tunga muste, TEL., Cyperus pertennis.
Kolcuttay teak maram, ANGLO-TAM., Premna tomentosa.
Kole-bhaloo, HIND., an old jackal.
Kolehan. See Bendhar; Ho; Kol.
Koleroga. See Coffee Planting, 776.
Kolhapur. See Hindustan, 81.
Koli-surrah, MAHR. See Bombyces; Insects.
Kollari race. See Puducottah.
Kolopu, TEL., Grewia Rothi.
Kolsa, Kolasra, MAHR., Cuon rutilans.
Kolwah, Sea-coast Province of Baluchistan.
Komal, PUSHTU, Prangos pabularia.
Komatti. See Compti.
Kombawut. See Bhumia, 353.
Kominjan, MALAY, Styrax benzoin.
Kond. See Kandh.
Konda, TEL., a hill.
Konda dantena, TEL., Smilax ovalifolia.
Konda gogu, TEL., Cochlospermum gossypium.
Konda jiligu, TEL., Caryota urens.
Konda kalava, TEL., Kæmpfera rotunda.
Konda nimma, TEL., Atalantia monophylla.
Konda panna, TAM., Caryota urens.
Konda tangedu, TEL., Inga xylocarpa.
Konda tantepu chettu, TEL., Cassia glauca.
Kond-guri, CAN., Tetraceros quadricornis.
Kongilamu, TAM., Canarium strictum.
Konkan. See Concan; Languages.
Konne, Sarakonne, TAM., Cathartocarpus fistula.
Kontkuri muga. See Assam; Bombyces.
Kopang. See Coins, 780.
Kophene. See Parashawara.
Kophones. See Coins.
Koracharu, a tribe in the Carnatic, who make bamboo mats and baskets, and carry betel-nut from market to market. A Korawa race also inhabit the Hakhal Hills and near the Godavery.
Kora kora. See Boats, 399.
Koraman, Koramaddi, TEL., Bridelia retusa.
Koresh. See Imam.
Korina-neboo, HIND., Citrus limonum.
Korinchi. See Archipelago, 137.
Korkura of Ptolemy. Kerkook.
Korna gandu, TEL., Hyæna striata.
Kortumbah tummah, PANJ., Citrullus colocynthis.
Kosala, Gorakhpur.
Kosha. See Divination; Ordeal.
Kota. See Dravidian.
Kotah. See Hindustan, 80.
Kot-avere, TAM., Cyamopsis psoraloides.
Koti, TEL., Macacus radiatus.
Koti kalangu, TAM., Aponogeton monastachyon.
Kotimiri, TIB., Coriander seed.
Kotri, Kuru of Bustar, Tetraceros quadricornis.
Kotuk of Sind, Glinus litoides.
Kouen Lun. See Bulut Tagh; Central Asia; Ladakh.
Koulan of Kirghiz, Equus onager.
Kouryal Bandar—Cannanore.
Kowatheti, HIND., Clitoria ternatea.
Kowlie mutchie, DUKH., Pluronectis solea.
Kowli-manjra, MAHR., Pangolin.
Kowtee, MAHR., Hydnocarpus inebrians.
Kowtoukton. See Geesoo.
Koya tota kura, TEL., Amarantus tristis.
Krabu gaha, SINGH., Caryophyllus aromaticus.
Krakatoa. See Java.
Kriat, CAN., DUKH., HIND., Andrographis paniculata.
Krin koddy nar, TAM., Smilax ovalifolia.
Krishna Dwaipayana. See Pandu.
Krishna keli, BENG., Mirabilis jalapa.
Krishna tamara chettu, TEL., Canna Indica.
Ksheera, SANSK., Milk, from Kshar, to ooze out.
Ksoe, BURM., Carthamus tinctorius.

Kuay kalung, MALEAL., Curcuma angustifolia.
Kubbi, Kubi, PERS., Ape.
Kubel, Ganjni, HIND., Andropogon Martini.
Kubjakam, TEL., Trapa bispinosa.
Kubung, MALAY, Galeopithecidæ, Lemuridæ.
Kubup, BHOT., Presbytis schistaceus.
Kuchan, SALT RANGE, Asparagus Panjabensis.
Ku-chandana, HIND., Adenanthera pavonina; TEL., Pterocarpus santalinus.
Kuchila, HIND., Strychnos nux vomica.
Kuchila luta, BENG., Strychnos colubrina.
Kuchu, HIND., Colocasia antiquorum.
Kuchu gundubi, BENG., Homalonema aromaticum.
Kuchuri, BENG., Exacum tetragonum.
Kuda-ayer, MALAY, Tapirus Malayanus.
Kuddia-khar, BENG., Borax.
Kuddu, GUJ., HIND., Helleborus niger.
Kudia nim, HIND., Bergera Konigii.
Kudrap-dukku, TAM., Sterculia fœtida.
Kudrati, Pad-behera, HIND., Mushroom.
Kudsumbar of Bombay, Canavalia virosa.
Kudumi, TAM. See Sikha.
Kuduru jivi, TEL., Putranjiva Roxburghii.
Kufa. See Babylonia; Boats, 392.
Kuff, Kuffee, Sookta, PANJ., Chaptalia gossypina.
Kufra of Sutlej, Oreoseris lanuginosa.
Kuka gori, TEL., Cervulus aureus.
Kukai, Wurak, TR.-INDUS, Rhamneæ.
Kukandra of Jhelum, Acer creticum.
Kuke, HIND., Flacourtia sapida.
Kukha. See Bimba.
Kuki. See Khaibar, also Kha-mi.
Ku-kiuh-hwa, CHIN., Anthemis nobilis.
Kuktuka, HIND., Ixora bandhuca.
Kukur-chita, BENG., Tetranthera Roxburghii.
Kukur-mutta, HIND., Mushroom.
Kulanjan, ARAB., HIND., Alpinia galanga.
Kula Sikara-patanam. See Pandya.
Kulat, Chandawan, MALAY, Fungus, Mushroom.
Kuldi. See Chaldee.
Kuldja. See Central Asia.
Kulf, ARAB., Chenopodium album.
Kulfa-ka-tel of Malabar, Cassia oil.
Kulhar. See Hill States.
Kulinism, i. 433.
Kulit manis, MALAY, Cinnamon.
Kulit-panu, MALAY, Tortoise-shell.
Kul kushanda, BENG., Smithia sensitiva.
Kullora. See Deserts, 920; Hyderabad; Sind.
Kull pashi, TAM., Lichen rotundatus.
Kullu. See Hot Springs, 112.
Kulm. See Afghanistan, 30.
Kulmara, CAN., Calysaccion angustifolia.
Kulpha, HIND., Trichodesma Indicum.
Kulti, HIND., MAHR., Dolichos uniflorus.
Kulung, HIND., Grus cinerea.
Kulzum, the Caspian Sea.
Ku-mai-tsi, TH, CHIN., Cichorium intybus.
Kumara. See Har; Hur.
Kumari. See Puna Kad.
Kumarika, BENG., Smilax ovalifolia.
Kumbha-yoni. See Kama-Kumbha.
Kumbhi, TEL., Careya arborea.
Kumbi of Beas, Cordia vestita.
Kum Feroz, the modern Araxes.
Kumharsein. See Hill States.
Ku-mi. See Burma, i. 526.
Kum-phok, BURM., Platinum.
Kum-quat, CH., Citrus Japonica.
Kumra, Chal kumra, BENG., Benincasa cerifera.
Kumruk, DUKH., Averrhoa carambola.
Kun, BENG., Schleichera trijuga.
Kunch, Koish, HIND., Alnus Nepalensis.
Kundar rumi, PERS., Pistacia.
Kundi puchi, TAM., Eumeta Cramerii.
Kundurya, SANSK., Boswellia thurifera.
Kunduz. See Afghanistan, 30.
Kungiliam, TAM., Bdellium, Dammet.
Kung-tsau, CHIN., Jujube tree.
Kungumapu, TAM., Crocus sativus.
Kunhiar. See Hill States.
Kunkeraoli Lake. See Lakes.
Kunkudu, TEL., Sapindus emarginatus.
Kunkuma puvvu, TEL., Rottlera tinctoria.
Kunnean phiu, BURM., Dipterocarpus grandiflora.
Kun-sura-no-fun, JAP., Ambergris.
Kunt'h-mala, HIND., Goitre.
Kunti. See Pandu.
Kupaisi, Joa-ka-phal, HIND., Helicteres isora.
Kupameni, MALEAL., TAM., Acalypha Indica.
Kuppi kire, Ara kire, TAM., Amarantus tristis.
Kur. See Kol.
Kura, PANJ., Holarrhena antidysenterica, seed.
Kura, Kurat, MAHR., Ixora parviflora.
Kuragu manjal, TAM., Bixa orellana.
Kural, HIND., Hemidesmus Indicus.
Kurd. See Baluchistan, 257.
Kurelee, HIND., Hydrilla verticillata.
Kur katila, Katira, HIND., Sterculia urens.
Kurku. See Central Provinces.
Kurna. See Persia.
Kurrooa, Karru, PANJ., Picrorrhiza kurrooa.
Kurt, a Kábul fabric of goats' hair.
Kurubar. See Dravidian.
Kuru-Kshetra—Krishna.
Kurumchi, BENG.; Carissa carandas.
Kurunda, HIND., Carissa carandas.
Kuru pandi, TEL., Memimna Indica.
Kuru-ul-bahr, ARAB., Ambergris.
Kuru-vingi, TAM., Ehretia buxifolia.
Kurwan, Kumla, MAHR., Cratæva Roxburghii.
Kurwye, MAHR., Hymenodyction utile.
Kusagarapura, the old capital of Magadha, also called Girivraja and Rajagriha, now Purana Rajgir.
Kusha, Kusa, HIND., SANSK., Poa cynosuroides.
Kusnir, BENG., Ficus elastica.
Kustam, TAM., Aplotaxis auriculata.
Kusum, HIND., Carthamus tinctorius.
Kusumapura, Pataliputra.
Kusumba chettu, TEL., Carthamus tinctorius.
Kut, HIND., Aplotaxis auriculata.
Kutal of Hazara, Daphne oleoides.
Ku-tsai, Ku-ku, CHIN., Cichorium intybus.
Kutub minar, Jaya stambha. Architecture, 169; Sculptures.
Kuur Mundla. Husbandry, 126.
Kuvera-chal—Karachil.
Kwang, CHIN., Aucklandia costus.
Kwang-wu, CHIN., Aconitum Sinense.
Kwan yin, the China goddess of mercy.
Kwei-kui, CHIN., Caladium xanthorizum.
Kwei-pi, CHIN., Cassia lignea.
Kwei-tsze, CHIN., Cassia buds.
Kwi klapot, KANGRA, Cuscuta pedicillata.
Kwon len phyoo, BURM., Dracæna atropurpurea.
Kwun, BURM., Areca catechu.
Kya, Gigartina spinosa, Agar-agar; Plocaria candida.
Kyai-tha, BURM., Barringtonia acutangula.
Kyan. See Borneo, 419.
Kyang. See Equus; Horse, 109.
Kya-phyu, BURM., Nymphæa pubescens.
Kyd, Captain. See Commerce, 790.
Kyee, BURM. of Moulmein, Cassia Sumatrana.
Kyen. See Burma, i. 526.
Kyen, HIND., Nauclea parviflora.
Kyet mouk, BURM., Celosia cristata.
Kyet-tha-hen, BURM., Antidesma paniculata.
Kyl of Kashmir, Ibex.
Kyouk puen, BURM., Algæ, Seaweeds.
Kyoung-tha. See Chittagong.
Kyur of Kangra, Holarrhena antidysenterica.
Ky-wae, BURM., Spondias mangifera.
Ky-won, BURM., Teetona grandis.
Ky-won-po, BURM., Gmelina arborea.

L

La, TIB., a pass.
La, CHIN., Wax.
Labáda, HIND., a dressing-gown. See Clothing, 747, 748.
Labo ambon, MALAY, Lagenaria vulgaris.
Labo-frangi, Cucumis melo.
Labuniya, SYRIAC, Olibanum.
Lacki-lacki, MALAY, Cannabis sativa.
Lacoocha, Bread-fruit, Artocarpus lacoocha.
Lacquer ware. See Arts, 171; Colour Sticks.
Lactuca sativa, Lettuce.
Lada barekor, MALAY, Cubebs.
Lada china, MALAY, Capsicum, Cayenne pepper.
Lada itam, MALAY, Piper nigrum.
Ladakh. See Hot Springs, 111, 112; Kashmir; Kha-chan-yul.
Laet, John de Laet, author of India vera, written A.D. 1631.
Lag, Lawa, TIB., Moschus moschiferus.
Lagen, Barum, Baru? JAP., Arenga saccharifera.
Laggar, HIND., Falco jugger, also Felis jubata.
Lagurus arundinaceus, Imperata cylindrica.

Lahep, a clan of the Mowali Bedouins.
Lah-kan, CHIN., Horse-radish.
Lahouli. See Kohistan.
Lahsan, HIND., Garlic, Allium sativum.
Lah-shu, CHIN., Ligustrum lucidum.
Lăi, Let-pan, BURM., Salmalia Malabarica.
Lai-may, the Black Necks tribe. See Bghai.
Lai-zah, BURM., Lagerstrœmia pubescens.
Lajaward, Lajburd, HIND., Lapis-lazuli,
Lajja banar or Lajjawoti-banar, BENG., Bashful monkey, Nycticebus tardigradus. See Lemuridæ.
Lakara-kunda. Hot Springs, 114.
Lakar-bag, Hyæna striata.
Lakati, HIND., Parodoxurus musanga.
Lak-chana, HIND. See Oxalidaceæ.
Lakha. See Jell.
Lakhar, HIND., Rhus acuminata.
Laksha, SANSK., a lakh, a hundred thousand; commonly lac, the insect producing the commercial lac.
Lakshmana. See Sita.
Lakshmi or Maha Lakshmi. See Hindus, 67; Sakta.
Lakshmi narayana, TEL., Crinum Asiaticum.
Lakshmi-vriksha. See Kalpa-vriksha.
Laku-chamma, TEL., Artocarpus lacoocha.
Lakwa of Arakan, Polynemus selea, the suliah fish of Bengal.
La-kyat hgying, BURM., Eclipse.
Lalayang. See Kite.
Lal ban langa, BENG., Jussieua villosa.
Lal bichhutee, BENG., Boehmeria interrupta.
Lal-chandana, DUKH., Pterocarpus santalinus.
Lal chanlai, HIND., Amarantus anardana.
Lal-chirchiri, HIND., Achyranthes aspera.
Lal-gul, HIND., Gomphrena globosa.
Lal-kunwar, a public singer—woman.
Lal lamba mirch, BENG., Capsicum frutescens.
Lall kheir, HIND., Acacia sundra.
Lallye, MAHR., Albizzia amara.
Lalo, FR. of Maur., Abelmoschus esculentus.
Lamajjakamu, SANSK., Andropogon muricatus.
Lamantin. See Carving.
Lambadi, Ilambadi.
Lambang nut tree, Aleurites triloba.
Lam-chittia of the Khas tribe, Felis diardi.
La-men, Næmen, BURM., Eurycles Amboinensis.
Laminaria. See Sea-weeds.
Lamoot, BURM., Mangifera Indica.
Lampa, HIND., Chrysopogon aciculatis.
Lampong. See Archipelago, 137.
Lamuja, Lampung, Citrullus cucurbita.
Lamut, MALAY, PERS., Ant.
Lanas, MADURESE, Ananas sativus.
Land crabs. See Crustacea; Gelasmi.
Landgah, HIND., Canis pallipes, Wolf.
Landolphia. See Caoutchouc.
Lanee, SIND., Salt plants, species of Salsola, called Gahro lanee, Khari lani, and Konti lani; also species of Sueda Aout lani or Ushuk lani; also Xygophyllum simplex, the Put lani or Gudha lani; also Trianthema micrantha, the Choti lani or Fysur lani.
Lang, GUJ., Lathyrus sativus.
Langa, HIND., a potticoat.
Langar, BENG., HIND., Anchor.
Lang chan. See Bore; Eagre.
Langkwa, MALAY, Galangal.
Langsab, Langsat, MALAY, Lansium domesticum.
Lang-tuh, CHIN., Aconitum lycoctonum.
Language. See Archipelago; Central Provinces; Chaldee; Cuneiform; Himalaya; Hindi; Hindustan; Hittite; Turkestan.
Langulae, SANSK., Jussieua repens.
Langur, *sp.* of Presbytis.
Lang-yen-bwen, BURM., Cloves.
Laning, HIND., Vitis Indica.
Lankaramya. See Pallonarua.
Lanner, Falco Babyloni.
Lan-shu-lih, CHIN., Argemone Mexicana.
Lansi puscara, SINGH., Borax.
Lan-tien, CHIN., Indigo.
Lanun, Illanun.
La-nyen-pwen, BURM., Caryophyllus aromaticus.
Laokalam. Hindu, 70.
Laos. See Cochin-China; Colquhoun.
Lap, Pataki, KANGRA, Gymnosporia spinosa.
Lapis-lazuli. See Azure Stone.
Lapwings, *sp.* of Vanellus, Chettusia, Lobivanellus, Sarciophorus, Hoplopterus, Esascus; Œdicnemus, Dromas.
Lares, Penates, Roman.
Larix. See Coniferæ.
Lark. See Alaudinæ; Birds; Galerida.
Larka Kol. See Kol.
Larrak. See Larek.
Larsa. See Babylonia, 218.
Las, maritime district of Baluchistan.
Lashte, TR.-IND., Asparagus Panjabensis.
Lashuna, BENG., Allium sativum.
Lasran Khel. See Afghanistan.
Lasrin, PANJ., Albizzia stipulata.
Lassar, HIND., Juniperus communis.
Lasura, HIND., Cordia myxa.
Lat. See Architecture, 143; St'hamba.
La tag—Ladakh.
Lathia kharsan, HIND., Crotalaria burhia.
La-thou, BURM., Wrightia antidysenterica.
Latkan, HIND., Bixa orellana.
Lau. See Burma, 526; Laos.
Laughing thrushes, *sp.* of Garrulax and Trochalapteron.
Laun-don, CHIN., Galangal.
Laur, Kanjar, SUTLEJ, Acer cultratum.
Laurus cassia, Cinnamomum albiflorum.
Lau-yeh, Ku-tsing, CHIN., Betel leaf.
Lauz, ARAB., Almond.
Lavangam, TAM., Cloves.
Lavendula carnosa, Anisochilos carnosum.
Lawa, TIB., Moschus moschiferus.
Lawang, JAV., Cloves.
Lawanga patta, TEL., Cassia lignea.
Lawange, TR.-IND., Artemisia.
Lawful—Halal.
Lawooloo-gass, SINGH., Chrysophyllum Roxburghii.
Layard, Edgar. See Birds, 367.
L'dmau (female), HIND., Capra Himalayana.
Leaf bats, Rhinolophus, *sp.*, Rhinopoma.
Leaf disease. See Coffee Planting, 775, 776.
Leaf insects. See Insects; Phasma.
Leaf ordeal. See Divination.
Leaf platters. Hindu, 65.
Lebuk of Avicenna, Cordia myxa.
Lecanium. See Coffee Planting, 773.
Lecanora perella, L. tartarea, Cudbear. See Archil; Dyes.
Lechayanasa. See Yugbyasa.
Left-hand castes. See Caste.
Lei, HIND., species of Tamarisk; Ghaz lei, Kach lei, is Tamarix dioica; Khar lei, Misri lei, Nar lei, is Tamarix orientalis.
Lemna gibba, Duck-weed.
Lemon, Citrus limonum.
Lemon grass, Andropogon schœnanthus.
Lemur. See Galeopithecidæ; Lemuridæ; Loris; Mammalia; Nycticebus; Tarsius.
Len-kyau, BURM., Cinnamomum iners.
Leopard, Felis pardus.
Leopoldinia piassaba, Piassaba fibre.
Lepecah, NEPAL., China grass.
Lepidagathis Indica. See Carpets, 587.
Lepidocaryeæ. See Cocoaceæ.
Lepidoptera. See Insects; Papilionidæ.
Lepisma, Fish, Insects.
Leptoptilos argala. See Herons; Storks.
Lepuranda saccidora. Antiaris innoxia.
Leschenault. See Botany.
Lespedeza juncea, Indigofera aspalathoides.
Lesser vehicle. See Kanishka.
Lettsomia speciosa, Argyreia speciosa.
Leung-fan-tsai, CHIN., Algæ, Seaweeds, Laminaria.
Lew, CHIN., Sulphur.
Lewar, or Deodar, CHENAB, Juniperus excelsa.
Lhala, BHOT., Hippophae salicifolia.
Lhopa. See Bhutan.
Li, Kamla, CHENAB, Gymnosporia spinosa.
Liang-tsau, CHIN., Jujube tree.
Libation. See Oblation; Sacrifice.
Libi-libi, Divi-divi, Cæsalpinia coriaria.
Liblab, EGYPT., Lablab vulgare.
Lichen. See Borrera; Chulchilhera; Dyes; Iceland Moss; Kal Pashi; Parmeliaceæ.
Lign aloes, Agallocha wood.
Ligor. See Coal, 754.
Lih-kin, CHIN., Acorns.
Likh, HIND., Bustard, Sypheotides auritus.
Lil, HIND., Indigo.
Lilin, MALAY, Bees-wax.
Limau manis, MALAY, Orange.
Limboo, DUKH., Citrus bergamia.
Limnaetus. See Eagle.
Limnoria terebrans. See Whales.
Limodorum virens, Eulophia virens.
Limonia, *sp.* Atalantia monophylla.
Limonia diacantha, Triphasia trifoliata.
Limosia, Godwit. See Scolopacidæ.
Limu, Nimbu, HIND., Citrus bergamia.
Ling, CHIN., Trapa bispinosa.
Linga Basavi. See Basavi.
Linga donda, TEL., Bryonia laciniosa.

Lingam. See Chuli.
Linga manu, TEL., Crozophora plicata.
Lingli, or hill carp, Manis aurita, Manis Javanica.
Linhay, Len-hæ, BURM., Acorus calamus.
Lion monkey, Innuus silenus.
Lipiah of Nepal, Boehmeria utilis.
Lippia citriodora, Aloysia citriodora.
Lippia repens, Zapania nodiflora.
Liquid storax, Rose maloes.
Lisan-ul-assafeer, ARAB., Conessi seed.
Lisan-us-saur, ARAB., Cacalia coccinea, Hart's ear.
Litaki-pangeri, DUKH., Anisochilos carnosum.
Literature. See Drama; Hindu, 74.
Lithocarpus benzoin, Styrax benzoin.
Lit-htuk, BURM.? Alstonia scholaris.
Litmus, ENG., Lecanora Tartarica.
Little Bokhara—Kashgar; Buchara.
Liu-chin. See Colours, 786.
Liu-li-chin, Lapis-lazuli.
Livistonia rotundifolia. See Celebes.
Li-yang, CHIN., Homalium Ceylanicum.
Liyar, SIND., Cordia angustifolia.
Lizard. See Hydrosauri; Iguana; Palle-Satterum; Reptiles; Varanidæ; Water Lizards.
Lobeh, HIND., Dolichos catjang.
Lobster—Palinurus.
Locharna of Ptolemy, identified with Logar.
Locust. See Insects; Phanga.
Locust bean, Ceratonia siliqua.
Locust tree, Hymenæa courbaril.
Lodar of Kangra, Falconeria insignis.
Lodduga, TEL., Symplocos racemosa.
Lod'h, BENG., HIND., Symplocos racemosa.
Lodhi. See Central Provinces.
Loepa. See Bombyx, 411.
Logger-head turtle, Caouana olivacea. See Reptiles.
Lohani, a clan of the Povindah Afghans. See Deserts; Hyderabad.
Lohardagga. See Oraon.
Loh-hwa-sang, CHIN., Arachis hypogea.
Lohiya. See Oswal.
Lokam, HIND., Gun-metal.
Lokik Brahmans, i. 434.
Lolan, AMBOYN., Cæsalpinia sappan.
Loligopsis. See Sepiadæ.
Lolu, SINGH., Cordia myxa.
Lolugu chettu, TEL., Pterospermum suberifolium.
Lomas Rishi Caves, i. 611.
Lombok, JAV., Chillies.
Long, Lavang, HIND., Caryophyllus aromaticus.
Longan, CHIN., Euphoria longana.
Lontar, MALAY, Borassus flabelliformis.
Lophobranchii. See Fishes; Syngnathidæ.
Lophophorus. See Phasianidæ.
Lophorina superba, Paradise birds.
Loureiro. See Botany.
Louz, ARAB., Amygdalus communis.
Love apple, Lycopersicum.
Lowa Maha Paya. See Pallonarua.
Lowi, MAHR., Artocarpus lacoocha.
Luban, DUKH., PERS., Boswellia thurifera.
Lubani ud, HIND., Styrax benzoin.
Lubek. See Bawean.
Lucina. See Parvati.
Ludia spinosa, Phoberos Roxburghii.
Lughmani. See Afghanistan.
Lugri. See Phao.
Luh-lan, Wu-lan, CHIN., Canarium pimela.
Luh-suh, Tih-che, CHIN., Sorghum saccharatum.
Luk or Loo, GUJ., Coup de Soleil.
Lu-kiuh, Kin-lin-tsze, CHIN., Eriobotrya Japonica.
Lumbo, BURM., Buchanania latifolia.
Luminous fishes. See Fishes, 1114.
Lumnitzera densiflora, Plectranthus rugosus.
Lumri, HIND., Vulpes, *sp.*, Fox.
Lumri. See Deserts, 920.
Luna meba, BENG., Anona squamosa.
Lunar race. See vol. i. 451; Aswa; Induvansa; Pandu; Rajput; Solar Race; Sun-worship.
Lunawut. See Bhumia, 353.
Lungi, HIND. See Clothing, 748.
Lung kwei, CHIN., Solanum nigrum.
Lung-sin-hiang, CHIN., Dragon's blood.
Lunia, BENG., Portulaca oleracea.
Luni-solar year. See Panchanga.
Lu-pa, loo-pa, CHIN., Fish maws Isinglass.
Lupinus trifoliatus, Cyamopsis psoraloides.
Luppa, Kimkhab, HIND., Brocade.
Luri, Luli, Lohari, PERS., Gypsy.
Luri Buzurg. See Bakhtiari.
Luri-ka-kodan. See Choukandi.
Luristan—Koghila.
Luscinia. See Bulbul; Philomela turdoides.
Lu-sungma, CHIN., Agave Americana.
Lutiana, ASSAM, Alstonia scholaris.
Lutjanus diacanthus—Johnius.
Lut putiah, HIND., Cress.
Luvunga, BENG., Eugenia caryophyllata.
Lu-wei, Lah-wei, CHIN., Aloe Chinensis.
Luxor. See Karnak.
Lwai-lohug. See Bghai.
Lwugi, PERS., Hearth tax.
Lycodontidæ. See Reptiles.
Lye-nya-sha, BURM., Paritium tiliaceum.
Lynx, Felis caracal.
Lysias. See Bactria, 222.

M

MA, Tu-sung-ma, CHIN., Hemp.
Ma-ao, GONDI, Rusa Aristotelis.
Macacus. See Inuus rhesus; Papioninæ.
Macassar. See Celebes, 616.
Machaba, NEPAL., Paradoxurus bondar.
Machana, Makhana, HIND., Euryale ferox.
Macharang, HIND., Haliætus fulviventer.
Mach-bagrul, BENG., Felis viverrina.
Mach-bhondar, BENG., Viverra zibetha.
Macheri. See Rajputs.
Machilus odoratissimus. See Pat'har.
Machi-parna, HIND., Artemisia.
Mach-korol, Koral, Mach-manga, BENG., Pandion haliætus.
Mach-moral, HIND., Polioætus ichthyœtus.
Mackerel, Caranx mate. See Fishes, 1118.
Mackwy, DUKH., Hemidesmus Indicus.
Macroglossus minimus, Pteropodidæ.
Macropodus. See Fishes, 1116.
Macrorhamphus, the godwit. See Scolopacidæ.
Macullah. See Hot Springs, 111.
Madagari vembu, TEL., Chickrassia tabularis.
Madagascar—Hova.
Mada Khel. See Afghanistan.
Madana, TEL., Spermacoce hispida.
Madana. See Chatur-dasi.
Madana-ghanti, TEL., Alternanthera sessilis.
Madanchur, BENG., Leptoptilos Javanica.
Madang, SINGH., Eugenia jambolana.
Madār, Akund, HIND., Calotropis gigantea.
Madara-gass, SINGH., Cluytia collina.
Madaru, Madigaru, COORG, Chamar, Leather-workers.
Madder, Rubia cordifolia.
Maddi, Nalla maddi, TEL., Terminalia tomentosa.
Maddi, Mulugu, TEL., Morinda citrifolia.
Maddi rubba chettu, TEL., Eleusine stricta.
Madetiye, SINGH., Adenanthera pavonina.
Madha, SANSK., Honey.
Madhan, HIND., Opium.
Madhavacharya. See Bottu.
Madhavitige, TEL., Hiptage madablota.
Madheri, TAM., Anisomeles Malabarica.
Madhuka, SANSK., Glycyrrhiza.
Madiga, Leather workers, Chakili, TAM.
Madmalti, PANJ., Hiptage madablota.
Madoo gass, SINGH., Cycas circinalis.
Madrepora, Zoophyte.
Madu karray, TAM., Randia.
Madun nirbisi, HIND., Kaempfera angustifolia.
Madurkati, HIND., Papyrus pangorei.
Maemana. See Afghanistan.
Maesta pat, BENG., Crotalaria juncea.
Ma-fuen, Chu-tsao, CHIN., Ganja, Hemp.
Magadha, the modern Behar.
Magnesite. See Cement.
Magpie robin, Copsychus saularis.
Magpies, *sp.* of Pica, Urocissa, and Dedrocittinæ.
Magr, Kumhir, HIND., Crocodile.
Magraba, HIND., Hemidesmus Indicus.
Magunmurchy, river. See Cauvery.
Magurā. See Fishes, 1116.
Magus, a name of Ali Abbas.
Maha, HIM., Rucervus Duvaucellii, also Rusa Aristotelis.
Mahabalipur. See Cave Temples, i. 610.
Mahadeo. See Rori Barolli.
Mahadeo ka phul, HIND., Daphne cannabina.
Maha-kavya. See Literature.
Mahanadi. See Diamond Rive, i. 563; Rivers.
Maha-naram, SINGH., Citrus decumana.
Maha-pus-wael, SINGH., Entada pursætha.
Mahaputrjivi, TEL., Putranjiva Roxburghii.

Maharajpur, Sindia.
Maha tita, BENG., Andrographis paniculata.
Mahavira. See Jain; Tirthankara.
Mahayana. See Boro-Bodor, 421.
Mahdi. See Imam.
Mahesha. See Parvati.
Mahilaropya. See Panchatantra.
Mahir. See Parsee.
Mahlaing, BURM., Broussonetia papyrifera.
Ma-hnyo-ban, BURM., Gomphrena globosa.
Mahoor, HIND., Aconitum napellus.
Mahori, Tingi, HIND., Solanum sanctum.
Mahorta. See Oxycanthis.
Mahwa, HIND., Bassia latifolia.
Maida-lakri, HIND., Tetranthera monopetala.
Mai erikata, TEL., Celastrus paniculatus.
Mai-ji. See Chinchked.
Mailog. See Hill States.
Maimansing, i. 438.
Mai-nay, Shan-may, BURM., Indigofera tinctoria.
Main toverai, TAM., Cajanus Indicus.
Mai-oh, BURM., Calotropis gigantea.
Mairwara. Deserts, 920; Hindustan, 82; Meena.
Majallabah or Maglaba. See Babylonia.
Majnun, HIND., Lunatic, Inspired.
Majum. See Cannabis; Ganja; Hemp.
Majuphal, Maiphal, HIND., Galls.
Majzub, ARAB., Lunatic, Possessed.
Makadu, MAHR., Macacus radiatus.
Makal, LADAKH, Populus balsamifera.
Makhur limbo, MAHR., Atalantia monophylla.
Makka-cholum, TAM., Zea mays.
Makki, TAM., Gamboge.
Ma-koit, SIAM, Feronia elephantum.
Makshun-shim, BENG., Canavalia gladiata.
Makulu, SINGH., Hydnocarpus inebrians.
Makur, MAHR., Presbytis entellus.
Mal. See Dravidian.
Mala, BENG., Bryonia laciniosa.
Malaca, MALAY, Emblica officinalis.
Mala-erikata, TEL., Celastrus paniculatus.
Mal-ahcota, MAHR., TAM., Euphoria longana.
Malai konji maram, TAM., Cullenia excelsa.
Malai tangai, TAM., Sida acuta.
Ma-la-ka, BURM., Psidium pomiferum.
Ma-la-mai, BURM., Cardiospermum halicacabum.
Mal-ankura, BENG., Eleusine Indica.
Malati, Malur, MALAY, Jasminum.
Mala-trinakang, SANSK., Andropogon schoenanthus.
Malavelly. See Diamond.
Malay tovarai, TAM., Cajanus Indicus.
Mal burute, SINGH., Chloroxylon Swietenia.
Male—Paharia.
Male bamboo, Dendrocalamus strictus.
Maleo, Megacephalon rubripes.
Maler Kotla. See Cis-Sutlej.
Malidah, HIND. See Cloths.
Malikah, ARAB., Queen.
Malika jhanji, BENG., Aldrovanda vesiculosa.
Malik Din. See Afghanistan.
Malik-ibn-Abbas. See Imam.
Malizai. See Afghanistan.
Malkan guni, HIND., Celastrus paniculatus.
Mallaghai, TAM., Capsicum frutescens.
Mallai kone, TAM., Acrocarpus fraxinifolius.
Mallam toddali, MALEAL., Celtis orientalis.
Mallar. See Pallan.
Mallard, Anas boschas.
Malla vadu, TEL., Pariah.
Mallika, HIND., Jasminum.
Mal-patar, CAN., Serpent eagle.
Mal-sampra, NEPAL., Martes flavigula.
Maltilata, HIND., Gærtnera racemosa.
Malu-ramu chettu, TEL, Ægle marmelos.
Malvaregam, MALEAL., Atalantia monophylla.
Malwa. See Central India; Hindustan, 83.
Mamiran, Momira, HIND., Thalictrum foliolosum.
Mammalia. See Index, Appendix, vol. ii.
Mammea longifolia, Calysaccion longifolium.
Mamral, CHENAB. See Rhamneæ.
Manall kire, TAM., Gisekia pharnacioides.
Manapala, Tippatige, TEL., Tinospora cordifolia.
Manasarawara, or Tso Mapan. See Bindu-Saravara; Lakes.
Manat. See Al-lat.
Manawak, MAL. Iguana; Reptiles.
Mand, Mandal, Munrivi, Koda, HIND., Eleusine coracana.
Manda, Manga, TEL., Randia.
Manda-dup, BENG., Canarium strictum.
Manda motuku, TEL., Dalbergia Oojjainensis.
Mandap-pillu, TAM., Andropogon Martini.
Mandarins, Khiou-ping.
Mandata, TRANS-INDUS, Prunus Armeniaca.
Manda valli, TAM., Calonyction speciosum.
Mandif. See Rori Barolli; Pagoda.
Mandrong. See Fibres.
Manduka-bramhi, TEL., Clerodendron viscosum.
Maneioga, BURM., Carallia lucida.
Maneru, TEL., Celastrus paniculatus.
Manetho. See Chronology, 717.
Mangal. See Hill States.
Mangala-sutram. See Hindu, 69.
Mangerye. See Flores.
Manggi-manggi, MALAY, Rhizophora mangle.
Manghit. See Bokhara, 404.
Mang-ho-yu, CHIN., Naphtha.
Manginati maram, TAM., Bixa orellana.
Mangium album, Avicennia tomentosa.
Mangium caseolare, Sonneratia acida.
Mango ginger, Curcuma amadâ.
Mangolia. See Deserts, 92.
Mangus, HIND., MAHR., Herpestes.
Manilla-nut, Pea-nut, ENG., Arachis hypogea.
Manilla tamarind, Pithecolobium dulce.
Mani Mahes. See Dhaola Dhar.
Man in the Moon. See Jataka.
Mani-pasupu, TEL., Coscinium fenestratum.
Manjadi, TAM., Adenanthera pavonina.
Manjal, TAM., Turmeric.
Manja pavattay, TAM., Morinda citrifolia.
Manje konne, TAM., Cassia florida.
Manjella kua, MALEAL., Curcuma longa.
Manjil uppu, TAM., Tabashir.
Manjishta tige, TAM., Rubia cordifolia.
Manki. See Mundah.
Man kuchu, BENG., Colocasia Indica.
Manna-gona-gass, SINGH., Artocarpus lacoocha.
Mannan. See Mala Arayan.
Manneli, MALEAL., Indigofera aspalathoides.
Manoa-papoa, MALAY, Anona squamosa.
Manor, Mandar, RAVI, Acer cultratum.
Manor, MALAY, Jasminum.
Manouria emys, Tortoise, Reptiles.
Manseni kotta, TEL., Adenanthera pavonina.
Mans Khel, KASHMIR, Agaricus campestris.
Mantapa. See Architecture, 143.
Mantawi. See Archipelago, 137.
Mant-bek, CAN., Felis chaus.
Man-ti, CHIN., Rehmannia Chinensis.
Mantis tricolor. See Coffee Planting, 775; Insects.
Man-to-loh, CHIN., Erythrina Indica.
Mantram, SANSK., Charms.
Man tylum, TAM., Naphtha.
Manuk devata, JAV., Bird of Paradise.
Manu pilli, TEL., Paradoxurus musanga.
Manu potu, TEL., Portax pictus.
Manuvak, MALAY, Iguana.
Manu valli gadda, TEL., Janipha manihot.
Manwantara. See Chronology, 717.
Man-yuen, CHIN., Rehmannia Chinensis.
Maqal, HIND., Citrullus colocynthis.
Maqeer, MAHR., Udina wodier.
Maradu chettu, TEL., Ægle marmelos.
Maral, PERS., Cervus Wallichii.
Maram-pilli, MALEAL., Paradoxurus.
Mara munjil, TAM., Coscinium fenestratum.
Mara narulle, CAN., Jatropha curcas.
Maranta Malaccensis, Alpinia Malaccensis.
Maratatti, TAM., Hydnocarpus alpinus.
Marati mogga, TEL., Illicium anisatum.
Ma-ratmal, SINGH., Rhododendron.
Mara valli kelangu, TAM., Janipha manihot.
Maravi, CAN., Portax pictus.
Maray manga, TAM., Protium caudatum.
Mar-chobeh, PERS., Asparagus officinalis, Staphylea emodi.
Mardak, HIND., Carrissa diffusa.
Mardoo, HIND. See Armour, 162.
Mareotis Lake. See Lakes.
Mar-ghat, HIND. See Chiwana; Hindu Cremation Place.
Mar Grigorius. See Abul Faragh.
Maricha, Gol-mirch, BENG., Piper nigrum.
Maridu, TEL., Cratæva nurvala.
Marignia acutifolia, Canarium nigrum.

Marike malle, TEL., Olax scandens.
Marjan, HIND., Coral.
Marjoram, ENG., Origanum normale.
Markal, ARAB. See Boat.
Markhor, HIND., Capra megaceros.
Marking-nut tree, ENG., Semecarpus anacardium.
Marmot, Arctomys bobac, A. hemachalanus.
Maronites. See Lebânon.
Maror-phalli, HIND., Helicteres isora, Isora corylifolia.
Marpani. See Afghanistan.
Marra vattay, TAM., Hydnocarpus inebrians.
Marriage. See Borneo; Burma; Curao; Hindu, 66, 68; Karao; Khurnk'h; Nikah; Oraon; Panwar-shadi.
Marrubium Indicum, BURM., Anisomelis ovata.
Marrubium odoratissimum. See Pacha-pat.
Mars—Kartikeya.
Marsh-mallow, Malva sylvestris.
Marsupialia. See Archipelago, 139.
Martens. See Mustelidæ.
Martins, *sp.* of Cotyle, Chelidon.
Marttand, Kashmir, Architecture, 146.
Marudani, TAM., Lawsonia inermis.
Maruk, MAHR., Ailantus excelsus.
Marul, Murle, HIND., Sanseviera Zeylanica.
Marumakatayam. See Aka Podwal; Polyandry.
Marusthali. See Desert.
Marut. See Harut.
Marvel of Peru, Mirabilis jalapa.
Marwa, HIND., Marjorana hortensis.
Marwar. See Hindustan, 80; Rajputana.
Masang, PERS., Lathyrus sativus.
Mashad, Imam Raza, Husain, Karbala.
Mashiputri, TAM., Grangea maderaspatana.
Mashk billi, HIND., Viverra, *sp.*
Masnavi. See Sufi.
Massalat-ul-Firaün, Cleopatra's pillar.
Massandari, BENG., Callicarpa.
Massicot, Oxide of lead.
Massur, Mauri, GUJ., HIND., Ervum lens.
Mastika, ARAB., Pistacia.
Mastika, MALAY, Amulets, Charms.
Masudi. See Abu-l-Hasan; Al Masudi.
Mat, Mash, Moth, HIND., Phascolus.
Mater Montana, Parvati.
Matha-Din. Hindu, 72.
Mat-ki-bhaji, DUKH., HIND., Amarantus tristis.
Matricaria oleracea, Chrysanthemum Roxburghii.
Ma-tsien-tsze, CHIN., Nux vomica.
Matsya, Fish avatar. See Avatar.
Mattam, TAM., Monastery.
Mattar, Chural, HIND., Lathyrus sativus.
Matti, BEAS, Orthanthera viminea.
Matt-ki-phalli, DUKH., HIND., Cyamopsis psoraloides.
Mattu bachchali, TEL., Spinacia tetrandra.
Mauas. See Bactria, 223.
Mau-cha, CHIN., Cratægus pinnatifida.
Mauri Canwai River, Canals, i. 564.
Mauriya dynasty. See Bharata; Chandragupta.
Mau-tau, CHIN., Soja hispida.
Mau-tsz, Chin., Diospyros tomentosa.
Mauz, ARAB., Musa; Plantain.
Mavalinga maram, TAM., Caillea cinerea, Crataeva Roxburghii.
Maya, BENG., Cervulus aureus.
Mayah Sailah, ARAB., Liquid storax.
Mayna, HIND., Vangueria spinosa.
Mayuri, HIND., Fennel seed.
Ma-za-lee, BURM., Cassia Sumatrana.
Mazer wood-tree, Isonandra acuminata.
Mazhab, HIND. See Creed.
Mazina of Bokhara, Gypsy.
Mazrium, Adada, ARAB., Daphne mezereum.
Measle. See Bladder Worm.
Med, Indo-Scythæ.
Meda-sak, SUTLEJ, Tetranthera Roxburghii.
Medha, SANSK., to kill, to sacrifice. See Aswa Medha; Gao Medha.
Medicago, Clover.
Medusa. See Phosphorescence.
Megacephalon rubripes. See Celebes.
Megadermatinæ. See Cheiroptera; Vampyridæ.
Megapodidæ. See Birds, 368.
Megaptera. See Cetacea; Whales.
Meh-tsau-rh, CHIN., Diospyros lotus.
Mei-kong, or Cambodia River. See Rivers.
Melan kua, MALEAL., Kaempfera rotunda.
Meleacea Wightiana, Amoora rohituka.
Meletta venenosa. See Clupeonia.
Melilotus. See Bokhara, 405.
Meloe. See Beetles; Mylabris.
Menado. See Celebes, 616.
Menander. See Bactria, 222; Peshawur.
Menankabau. See Johore.
Mendicants. See Alms; Atit; Parivrajaka.
Mendoni, MALEAL., Gloriosa superba.
Menispermum cocculus, Anamirta cocculus.
Menispermum fenestratum, Coscinium fenestratum.
Menispermum glabrum, Tinospora cordifolia.
Menispermum peltatum, Cyclea Burmanni.
Menispermum villosus, Cocculus villosus.
Mentha piperita, Peppermint.
Menti kura, Mentual, TEL., Trigonella fœnum græcum.
Menyanthes crista'ta, Villarsia, *sp.*
Menyanthes nymphoides, the leaves and flowers are kept in Japan steeped in brine, and used for salad, in the same manner as pickled cucumbers.
Mera. See Parvati.
Mera Bai. See Hindus, 62.
Merchant races. See Commerce, 745.
Merlin, Hypotriorchis œsalon and H. chicquera.
Mermaid. See Dugong.
Merodach. See Babylonia, 218.
Meropogon Forsteni. See Cittura.
Meru Mah of the Ghats, Rusa Aristotelis.
Merv. See Central Asia; Karakum.
Mesha Ayana. See Ayana.
Meshila-i-Rustum, the Aria Palus.
Mespilus Japonicus, Eriobotrya Japonica.
Mesta pat, Nalki, BENG., Hibiscus cannabinus, H. sabdariffa.
Metempsychosis of Tibetans. See Buddhism, i. 497.
Methana, Koch'hi, Gavæus frontalis.
Methel seed, Datura fastuosa.
Methi, HIND., Trigonella fœnum-græcum.
Metta tamara, TEL., Cassia alata.
Metta-yelka, TEL., Golunda meltada.
Mewar. See Hindustan, 80; Rajputana.
Meyerina claviformis, Venus flower-basket.
Mcynia spinosa, Vangueria spinosa.
Mezeng. See Jughi.
Mhains, HIND., Buffalo.
Mhairs, i. 449.
Mhang, MAHR., Leather-workers, Chamar.
M'hor-angi, HIND., Nisactus bonelli.
Mhow—Indore.
Mialim-ma, SIKKIM, Urtica crenulata.
Miana, Kathiawar.
Mia-sailah, ARAB., Liquidambar.
Michael. See Archangel.
Microcos paniculata, Grewia microcos.
Microrhynchus sarmentosus, Sand-binding plants.
Midak-tanah, MALAY, Bitumen.
Midde-kire, TAM., Asystasia Coromandeliana.
Midnapur Canal, i. 563.
Mihr, ARAB. See Sun-worship.
Mih-tsau, Nan-tsau, CHIN., Jujube tree.
Mik-ke-thu, BURM., Andropogon schoenanthus.
Mildews. See Fungus.
Milfoil, Achillœa millefolium.
Milkmaid's cave, i. 611.
Millanowe race. See Borneo.
Millingtonia hortensis, Bignonia.
Milnea apiocarpa, Aglaia Roxburghiana.
Milvus rotundicaudus, Haliastur Indus.
Mimansa. See Darsana.
Mimos—Yama.
Mimosa. See Acacia; Albizza.
Mimosa abstergens, Acacia rugata.
Mimosa bigemina, Inga bigemina.
Mimosa cinerea, Dichrostachys cinerea.
Mimosa dulcis, Pithecolobium dulce.
Mimosa fera, Gleditschia Sinensis.
Mimosa pedunculata, Parkia biglandulosa.
Mimosa saponaria, Acacia rugata.
Mimosa scandens, Entada pursætha.
Mimosa xylocarpa, Xylia dolabriformis.
Minachi—Parvati.
Minahassa. See Celebes.
Minakar, HIND. See Colours; Enamel.
Minaktanah, MALAY, Naphtha.
Min amber, TAM., Ambergris.
Minan, Kamayan, MALAY, Frankincense.
Min chenney, TAM., Fish roe.
Mindanao. See Archipelago, 136.
Mindoro. See Philippines.
Mindra. See Rori Barolli.
Mindrai, HIND., Colocasia.
Mingula Thoht—Literature.
Minivets, *sp.* of Pericrocotus.
Mintira. See Binua; Gunong.
Mirapa-kai, TEL., Capsicum.
Mirapa kandra, TIB., Toddalia aculeata.
Mirasi—Langha.
Mirch, HIND., Capsicum, Pepper.
Mirdah. See Dhangar.
Mirga, HIND., Antilope bezoartica.

Mirialu, Moluvu kodi, TEL., Piper nigrum.
Mirzan-josh, ARAB., HIND., Origanum normale.
Mishmi. See Kolita.
Mishmish, PERS., Armeniaca vulgaris.
Mishmi teeta, ASSAM., Coptis teeta.
Missel thrush, Turdus Hodgsoni.
Mistletoe, Viscum album.
Mitha nimbu, HIND., Sweet lime.
Mitha til, HIND., Sesamum, Gingelly.
Mitha titia, BENG., Aconitum ferox.
Mitha zahr, Mahoor, HIND., Aconitum ferox.
Mithi-lakri, DUKH., Glycyrrhiza glabra.
Mithun, HIND., Gavæus frontalis.
Mitra. See Mihr; Sun-worship.
Mittunkote. See Indus.
Miumel-nerupa, TAM., Ammannia vesicatoria.
Moch-louka (fish snatcher), HIND., Sterninæ.
Mocking-bird, Paradise fly-catcher.
Modera kanni, MALEAL., Hugonia mystax.
Modira Walli? Artabotrys odoratissimus.
Moduga, TEL., Erythrina tuberosa.
Moga biraku, TAM., Anisomeles Malabarica.
Mogagerri vembu, TAM., Bischoffia Javanica.
Mohakri, HIND., Bryonia umbellata.
Mohil. See Rajputs.
Mohini. See Ayana.
Mohi-ud-Din-ibn-ul-Arabiya-ul-Maghrabi. See Sufi.
Mohr. See Deserts, 920.
Mohr, Mor, HIND., Pavoninæ, Peacock.
Mohr-ungi, HIND., Nisaetus bonelli.
Mohsin Fani, Author of Dabistan.
Mohurbunj. See Rajputs.
Mokanna. See Hashim-bin-Hakim.
Mokhal, Paskhu, CHEN., Populus nigra.
Mokka, BENG., Zea mays.
Moksha, CHENAB, Agaricus campestris.
Molago valli, TAM., Piper nigrum.
Mole cricket. See Coffee Planting, 776; Insects.
Mole rats, *sp.* of Nesokia Indica, N. Hardwickei.
Moles, *sp.* of the family Talpidæ.
Molinæa canescens, Cupania canescens, Hemigyrosa canescens.
Mollagu, Mollaghai, TAM., Capsicum annuum.
Momand. See Afghanistan.
Momay. See Hot Springs, 114.
Momiai, PERS., Asphalte.
Momordica monadelpha, Coccinea Indica.
Monasteries, Vihara, Mattam.
Monastery caves. See Cave Temples, 610.
Monaul pheasant, Lophophorus impeyanus. See Birds; Pheasant.
Monghir. See Hot Springs, 113.
Mongol, TIB. See China; Keriat; Lakes.
Monitor flavescens, Empagusia flavescens.
Monk, Phoongyee, Talapoin.
Monkey bread tree, Adansonia digitata.
Monkeys. See Mammalia; Semiadæ.
Monkshood, Aconitum napellus.
Monniera Brownei, Herpestris monniera.
Monukka, Kismis, HIND., Raisins.
Moochwal. See Abrah.
Moodra-dharanum. See Chuckranketum.
Moon flower, Colonyction grandiflorum.
Moongnee stone. See Chlorite.
Mora, SINGH., Euphoria longana.
Moræa Chinensis, Pardanthus Chinensis.
Morœda, Mowda, TAM., Buchanania latifolia.
Morali chettu, TEL.; Sponia orientalis.
Moratti, MALEAL., Hydnocarpus inebrians.
Mordecai. See Esther.
Morel, Morchella. See Fungus; Mushroom; Phaphor.
Mori dynasty. See Maurya; Pramara; Sehesnag.
Mori of Sylhet, Euonymus garciniifolia.
Moriel. See Clematidæ.
Morkanteè, BENG., Acalypha Indica.
Morkot, Banur, BENG., Papioninæ.
Morr, ARAB., Balsamodendron myrrha.
Mortuth, Nila-tutiah, HIND., Bluestone.
Moruiga noona, TEL., Ben-nut-oil.
Mosaic work. See Arts; Jewellery.
Mosallyon of the Periplus, the modern Berbereh.
Moschus memimna, Memimna Indica. See Cervidæ; Mammalia.
Mosques. See Architecture, 149.
Mota kurmal, MAHR., Dillenia speciosa.
Mount Maleus, Orissa.
Mountain ash, Pyrus aucuparia.
Mountain ranges of British India, i. 449.
Moura-bikh, PANJ., Aconitum ferox.
Mouse deer, Memimna Indica.
Mouz, HIND., Banana. Musa.
Mru. See Burma, i. 526.
Mu-alu, BENG., HIND., Dioscorea aculeata.
Muasi. See Kur.
Muavia. See Imam.
Mubarkha, HIND., Adiantum capillus veneris.
Much-kuchiya, BENG., Papyrus tegetiformis.
Mudang, BURM., Cycas circinalis.
Mudda doop, CAN., Ailantus Malabaricus.
Mudhuya, HIND., Polioætus ichthyœtus.
Mududa, TAM., Chloroxylon Swietenia.
Mueller, Baron Ferdinand von. See Botany, 422.
Muen-phal ka-jhar, HIND., Randia, *sp.*
Mugil cephalotus, Isinglass.
Muh-hiang, CHIN., Aucklandia costus.
Muh-kin, CHIN., Hibiscus Syriacus.
Muh-mien, CHIN., Bombax ceiba.
Muh-rh, CHIN., Fungus.
Muh-tan, CHIN., Gardenia radicans.
Muh-tung, CHIN., Clematis vitalba.
Muin-ud-Din—Kader Wali.
Mu-i-shutr, PERS., Camel's hair.
Mukaratay kiray, TAM., Boerhaavia erecta.
Mukka juari, DUKH., Zea mays.
Mukkavan, Slave.
Mukki-tylum, TAM., Gamboge butter. See Oils.
Mukku mungera, TEL., Asystasia Coromandeliana.
Mukto-joori, BENG., Acalypha Indica.
Mukto-pati, BENG., Maranta dichotoma.
Mukul, HIND., Balsamodendron.
Mukuru karra, TEL., Cordia myxa.
Mulagu, TAM., TEL., Pepper, Capsicum.
Mul elava, MALEAL., Salmalia Malabarica.
Mullah Shah. See Sufi.
Mulla muste, TEL., Solanum trilobatum.
Mulla vengay, TAM., Bridelia spinosa.
Mullu dosa kaiá, TEL., Cucumis momordica.
Mullu moduga, TEL., Erythrina sublobata.
Mullu pendalam, TEL., Dioscorea pentaphylla.
Multan canals. See Canals; Kasyapura.
Mulu goranta, TEL., Amarantus spinosus.
Muluka rasari, TAM., Eumeta Cramerii.
Mulu veleri, TAM., Cucumis sativus.
Mumani, TRANS-INDUS, Sageretia Brandrethiana.
Mumdate. See Cis-Sutlej.
Mundah Kol. See Kol; Oraon; Sun-worship.
Mundasa. See Clothing, 748.
Munda valli, MALEAL., Calonyction grandiflorum.
Mundi, DUKH., SANSK., Sphæranthus hirtus.
Mundiri maram, TAM., Anacardium occidentale.
Mundium wool. See Blanket.
Mundla-aru, PERS., Amygdalus Persica.
Munduka purni, SANSK., Hydrocotyle Asiatica.
Mung, MAHR., Phaseolus mungo.
Munga, Michi—Bombyces.
Munga, HIND., Coral.
Mung-phalli, BENG., Arachis hypogea.
Muni, Motaga, TAM., Erythrina suberosa.
Munia, *sp.* of the Estreldinæ.
Munia fibre, SIND, Amphidonax karka.
Munja. See Panicaceæ.
Munja Coopum—Cuddalore.
Munnæ-kiray, TAM., Premna serratifolia.
Munnikarn. See Hot Springs, 112.
Muntafiyah, an Arab ship.
Munta gajjanamu, TEL., Ichnocarpus frutescens.
Munta mamidi, TEL., Anacardium occidentale.
Muntjak, HIND., Cervus muntjac.
Muntjak, Cervulus aureus.
Munudna-muddu, TEL., Desmodium triflorum.
Muranghai ver, TAM., Horse-radish tree.
Murdar sang, HIND., Oxide of lead.
Muree, BENG., Fœniculum panmori.
Murghab—Central Asia.
Murghkes, HIND., Celosia argentœa.
Murr, ARAB., Myrrh.
Murrel, ENG., Ophiocephalidæ.
Murtoo, BENG., Salvia Bengalensis.
Murukka, TAM., Erythrina Indica.
Murupindi, TEL., Acalypha Indica.
Murut. See Borneo; Idaan.
Murúta, SINGH., Lagerstrœmia reginæ.
Murvi. See Bhownagar.
Murwa, HIND., Wormwood.
Musabbar, Pikros, ARAB., Aloes.

Musadi, Mushti, TEL., Strychnos nux vomica.
Musa Khel. See Afghanistan.
Musanagar. See Clisobora.
Mushajjar Rusiya, Russian satin, flowered or figured satin.
Mushk billi, HIND., Viverridæ.
Mushroom. See Agaricaceæ; Fungi.
Musiris. See Commerce, 789.
Musizai. See Afghanistan.
Musk deer, Moschus moschiferus.
Muskei, Kantalu, CHENAB, Hamiltonia suaveolens.
Musk-mallow, ENG., Abelmoschus moschatus.
Musk rats, *sp.* of Sorex, Soriculus, Tupaia, Ondatra Americana.
Musli safed, SUTLEJ, Asparagus filicinus.
Mussambram, TEL., Aloes.
Mussumbra, SINGH., Ambergris.
Mustaka, Motho, DUTCH, Cyperus hexastachyus.
Mustaru, Gund-mar, HIND., Artemisia.
Mustaru, TEL., Grangea maderaspatana.
Mustung, Valley in Baluchistan.
Mutawali. See Lebanon.
Muthu, BENG., HIND., Cyperus hexastachyus.
Mutricunjayvi, TAM., Asarum Europæum.
Muttava-pulagam, TEL., Pavonia odorata.
Mutti, Karai mutti, CAN., Terminalia tomentosa.
Mutti pal, TAM., Ailantus Malabaricus.
Muttura, Mutranja, BENG., Callicarpa.
Mutur, Khandu, HIND., Pisum sativum.
Muvi, Muvvi, TEL., Alphonsea lutea.
Muyu, CHIN., the tallow of Stillingia sebifera.
Muyyaku ponna, TEL., Smithia sensitiva.
Mya-byeet, BURM., Portulaca oleracea.
Myæ-bai, BURM., Arachis hypogea.
Myæ-ban-touk, BURM., Kaempfera rotunda.
Myamma, the Burmese people.
Myat laæ nee, BURM., Quamoclit.
Myat-læ, BURM., Jasminum.
Myat ya, BURM., Grewia floribunda.
Myos Hormos. See Arsenoe.
Myouk kyeing, BURM., Flacourtia sepiaria, Flagellaria Indica.
Myouk lok, BURM., Artocarpus lacoocha.
Myouk nee, BURM., Dioscorea atropurpurea.
Myouk-phoo, BURM., Dioscorea alata.
Myristica Horsfieldii, Pyrrhosia Horsfieldii.
Myrmicedæ. See Ants; Poneridæ.
Myrobalan, Terminalia bellerica.
Myrobalanus emblica, Emblica officinalis.
Myrtus caryophyllus, Eugenia caryophyllata.
Myrtus pimenta, Pimenta officinalis.

N

NAAKMEEN, TAM., Pleuronectes solea.
Nabha. See Cis-Sutlej.
Nadiya. See Triveni.
Nadoli, HIND., Amulets, Charms.
Nadoong gass, SINGH., Dalbergia Mooniana, Pericopsis Mooniana.
Nafiel, ARAB., Galbanum officinale.
Naga. See Cobra.
Naga, or Takshak, Snake race, Kachar.
Naga dynasty—Kashmir.
Nagabansa, or Serpent race. See Tak.
Naga-kali, TAM., Cactus Indicus.
Naga-mughatei, TAM., Calonyction grandiflorum.
Naga mulli, TAM., Rhinacanthus communis.
Naga musadi, TEL., Strychnos colubrina.
Naga-rama-katti, TEL., Calonyction grandiflorum.
Nagarjuni. See Burabur Hills.
Naga suganda, SANSK., Ophiorhiza mungos.
Nag-champa, MAHR., Mesua Roxburghii.
Nagd, Sicca, HIND., Coins.
Nagdowna, HIND., Artemisia.
Nag-downa of Bombay, Crinum Asiaticum.
Nagee, BURM., Pterospermum acerifolium.
Nageia putranjiva, Putranjiva Roxburghii.
Nagesar. See Kisan.
Nagkesar, HIND., Mesua Roxburghii.
Nagor mootha, HIND., Cyperus hexastachyus.
Nag-patta, Turbad, HIND., Ipomœa turpethum.
Nag-phani, BENG., Cactus Indicus.
Nagpur. See Central Provinces.
Nahan. See Hill States.
Nahavend. See Persia.
Nahi kuddaghu, TAM., Polanisia.
Naiades. See Jumna.
Nai kaduga, Nai vella, Gynandropsis pentaphylla.
Naikra, Panch-Mahal.
Naiso gata, JAPAN. See Cetacea.
Nai-uruvi, TAM., Achyranthes aspera.
Naizai. See Afghanistan.
Naka put, TEL., Rostellaria procumbens.
Nak chilni, DUKH., Epicarpus orientalis.
Nakdoun, HIND., Asparagus officinalis.
Nakhonwat. See Architecture, 147.
Nakhud, PANJ., Cicer arietinum.
Nakka, TEL., Jackal.
Nakka renu, TEL., Artocarpus lacoocha.
Nakshatra. See Panchanga.
Naksh-i-Rustum. See Cuneiform.
Nakshi-telia, HIND., Sturnus vulgaris.
Nakuli, Sarpakshi, TEL., Ophiorhiza mungos.
Nal, Nul, Darma, BENG., Amphidonax karka.
Nalagarh. See Hill States.
Nalla kupi, TEL., Clerodendron inerme.
Nalla mada chettu, TEL., Avicennia tomentosa.
Nallani padmam, TEL., Euryale ferox.
Nalla regu, TEL., Albizzia amara.
Nalla-tadi gadda, TEL., Curculigo orchioides.
Nalla tiga, TEL., Ichnocarpus frutescens.
Nalla tumma, TEL., Acacia Arabica.
Nalla ulemara wood, Diospyros chloroxylon.
Nalla-vavali, TEL., Gendarussa vulgaris.
Nalleru, TEL., Vitis quadrangularis.
Nalwa bakshi, HIND., Serratula anthelmintica.
Nama dampa, TEL., Aponogeton monastachyon.
Nama Karanam. See Hindu, 65.
Namas Karam—Hindu, 70.
Nam-nam, MALAY, Cynometra ramiflora.
Namtso. See Lakes; Yunam.
Nan, CHIN., Aucklandia costus.
Nanda. See Vararuchi.
Nanda dynasty. See Bharata.
Nang, PANJ., Cornus macrophylla.
Nang-ka, MALAY? Artocarpus incisus.
Nani. See Hinglaz, 85.
Nanjunda maram, TAM., Balanites Ægyptiaca.
Nankhah, PERS., Ptychotis ajowan.
Nankuchiya. See Lakes.
Nan-mah, CHIN., a cypress.
Nannul. See Andi; Pavananti; Pulavar.
Nan-tar-ok, Tu-yok, BURM., Liquidambar.
Nar, TAM., Cordage.
Nara, HIND., a cradle bridge of the Jhelum.
Naraga maram, TAM., Ehretia ovalifolia.
Nara mamidi, TEL., Tetranthera monopetala.
Narampoo chalandi, HIND., Guinea-worm.
Narankot. See Patala.
Narapati. See Warangal.
Narasingh, Man-lion avatar. See Avatar.
Narden, Nardos, GR., Spikenard.
Naregar, TEL., Eugenia jambolana.
Narel, HIND., Cocoanut.
Nargal, Ringal, BEAS, Arundinaria falcata.
Narra. See Canals, i. 562.
Naru, HIND., Guinea-worm.
Narui. See Brahui.
Naruvalli, TAM., Cordia angustifolia.
Narvala, TAM., Cratæva Roxburghii.
Na-sa-phiu, BURM., Pterocarpus santalinus.
Nashtar, Nakhtar, PANJ., Pinus, *sp.*
Nasik. See Cave Temples, 611.
Naspati, HIND., Pyrus communis.
Nasurjangi, DUKH., Trianthema obcordatum.
Nasut, Niswut, HIND., Ipomœa turpethum.
Native companion. See Crane.
Native States. See British India; Hindustan, 80.
Natr-alu, Ratn-alu, HIND., Batatas edulis.
Natsao, TEL., Utricularia fasciculata.
Nature-worship. See Indra.
Naucrates ductor, the pilot fish.
Nava Khanda. See Vararuchi.
Navanagar. See Bhownagar.
Navasaram, TAM., TEL., Ammonia, hydrochlorate of.
Naw, SINGH., Iron-wood.
Nawal, Nawar, TAM., Eugenia jambolana.
Nawa-ratna. See Vikramaditya.
Nawel busi eragu, TEL., Vitex arborea.
Nawir, Neur, Lewar, PANJ., Cupressus torulosa.
Nazai, a clan of the Povindah Afghans.
Nebo, CHALD., the planet Mercury.
Nechatty kalangu, TAM., Isoetes Coromandeliana.
Necrophori, Sexton beetles.
Nectarinidæ—Honey-suckers.
Negalya ponya, NEPAL., Ailurus fulgens.
Negri Sembilan, Malay Peninsula.
Negumbo devil, Manis brachyura, a large scale-covered quadruped,

held in superstitious dread by the Singhalese.
Neilgherry nettle, ENG., Girardinia Leschenaultiana.
Nekota, TAM., Hemigyrosa canescens.
Nela jidi, TAM., Marking-nut.
Nela kobbari, TEL., Ionidium suffruticosum.
Nelam-pala, MALEAL., Wrightia tomentosa.
Nela pippali, TEL., Zapania nodiflora.
Nelapoona, TAM., Cassia lanceolata.
Nela tangedu, Cassia obtusa.
Nela vemu, Kari vetnu, TEL., Andrographis paniculata.
Nella balsu, TAM., TEL., Canthium didymum.
Nella-gedha, TAM., Aquila nævia.
Nellaguli, Golimidi, TEL.; Cicendia hyssopifolia.
Nella gulisienda, TEL., Cardiospermum halicacabum.
Nella manthi, MAL., Inuus silenus.
Nelli, MALEAL., Cicca disticha, Emblica officinalis.
Nelloo, SINGH., *sp.* of Strobilanthus.
Nemedra Nimmonii, Amoora Lawii.
Nemi, a title of Chaitanya.
Nemmi chettu, TEL., Dalbergia Oojjainensis.
Nemorrhœdus. See Bovidæ; Mammalia.
Neomeris. See Delphinidæ.
Neophron percnopterus, Vulture.
Neoza, HIND., Pinus, *sp.*
Nepalam, TEL., Croton tiglium.
Nepeta Malabarica, Anisomeles Malabarica.
Nephelium fuscatum, Glenniea Zeylanica.
Nephelium longanum, Euphoria longana.
Neredu manu, TAM., Eugenia caryophyllifolia.
Nergundi, BENG., Vitex negundo.
Nerium antidysentericum, Wrightia antidysenterica.
Nerium grandiflorum, Cryptostegia grandiflora.
Nervalam, TAM., Croton tiglium.
Nestorian Christians. See Chaldee; Cochin.
Netavil maram, TAM., Antiaris innoxia.
Netherland India. See Dutch.
Nettle tree, Celtis, *sp.*
Newal, Newara, HIND., Herpestes, *sp.*
New Year's day, Parsee, Pappati.
Neyadassee-gass, SINGH., Eurya Japonica.
Ngai, Ki ngai, CHIN., Artemisia.
Ngan-sih-hiang, CHIN., Benjamin.
Nga thin-gyee, BURM., Ficus cordifolia.
Ngyanlo, also Kio-lo, Sukhavati.
Niala nemiki, TEL., Sypheotides auritus, Floriken.
Nia musli, HIND., Curculigo orchioides.
Nibong, MALAY, Caryota urens.
Nibu, BENG., Citrus bergamia.
Nicias. See Bactria, 222.
Nicoompa. See Rajputs.
Nift-i-rumi, PERS., Bitumen.
Nigala, Ringal, PANJ., Arundinaria utilis.
Niggi, Tulenni, RAVI, Hamiltonia suaveolens.
Nightingale, Philomela luscinia.
Night jars, *sp.* of Caprimulgus.
Nil, HIND., Indigofera tinctoria.
Nila cobeya, SINGH., Chalcophaps Indicus.
Nilakanta, Siva, literally blue throated.
Nilakil, Nilkanth, HIND., Gentiana kurroo.
Nilam, HIND., MALAY, TAM., Sapphire.
Nila nirganda, SANSK., Gendarussa vulgaris.
Nila-tar, HIND., Cuscuta reflexa.
Nilaveri, TAM., Cassia lanceolata.
Nil bandar, BENG., Inuus silenus, Papioninæ.
Nil-gai, Portax pictus.
Nilika-mara, CAN., Emblica officinalis.
Nil-kalmi, BENG., Pharbitis nil.
Nilloo, SINGH., *sp.* of Strobilanthus, a genus of the Acanthaceæ. They are the favourite food of the elephant; they grow in thick sheaves, with slender, weak stems, to a height of 15 to 20 feet, with handsome spikes of flowers at the top.
Nillur, Paat, DUKH., Cissus quadrangularis.
Nil-naray, TAM., Bustard.
Nilofar, PERS., Nelumbium speciosum.
Nilupaṛajita, BENG., Clitoria ternatea.
Nim, HIND., Azadirachta Indica.
Nimba. See Cloths.
Nimbar, Jand, PANJ., Acacia leucophlæa.
Nimi. See Ikshwacu.
Nimili, TEL. See Pavoninæ.
Nimma-chettu, TEL., Citrus bergamia.
Nine gems. See Vararuchi; Vikramaditya.
Nineveh. See Burial Customs; Chaldæa, 517.
Ning-mung, CHIN., Lemon.
Niota pentapetala, Samadera Indica.
Nipera, Kittul, SINGH., Caryota urens.
Nipur. See Babylonia.
Nira-dhar, GUJ., Cuscuta reflexa.
Nir batsala, TEL., Jussieua repens.
Nirbisi, DUKH., Curcuma zedoaria.
Nirei puti, TAM., Rostellaria procumbens.
Nirgunda, DUKH., Vitex trifolia.
Nirija neradi, TEL., Elæodendron Roxburghii.
Nirmul, Nirmuli, HIND., Strychnos potatorum.
Nir-mulli, TAM., Asteracantha longifolia.
Nir-nai, CAN., Lutra nair.
Nir-pirimi, TAM., Herpestris moniera.
Niru aghindra paku, TEL., Jussieua villosa.
Niru kassuvu, TEL., Commelyna communis.
Nir vinoki, TEL., Damasonium Indicum.
Nisaetus. See Aquila; Birds; Eagle.
Nityananda. See Khurdha.
Nizam-ud-Din-Aulia. See Muhammadanism.
Nizam-ul-Mulk. See Hyderabad; Karmati.
Noctilionidæ, Cheiroptera.
Noctilucæ. See Phosphorescence.
Noddy, Anous stolidus, A. tenuirostris.
Nolika chettu, TEL., Pterospermum suberifolium.
Noli tali maram, TAM., Antedesma bunias.
Non-t'-yok, BURM., Rose maloes.
Nooee of Nepal, Euonymus garcinifolia.
Norfolk Island grass, Freycenetia.
Norfolk Island pine, Araucaria excelsa.
Nori-nori, JAP., Hydrangea paniculata.
Norne of Tavoy, Castanea Martabanica.
Novgorod. See Commerce, 789.
Nowanagar. See Feudatory.
Nowsadur, SANSK., Sal ammoniac.
Nubians, in Africa estimated at one and a half million.
Nubra. See Chorbat; Hot Springs, 111, 112.
Nubtee, Kharnob, ARAB., Ceratopia siliqua.
Nuch, Hanuz, JHELUM, Fraxinus xanthoxylloides.
Nu-ching, CHIN., Rhus succedanea.
Nudibranch. See Bornella digitata.
Nuga gass, SINGH., Ficus laccifera.
Nugu chikkadu, TEL., Dolichos glutinosus.
Nugu tumma, TEL., Acacia Farnesiana.
Nukkeru, TEL., Cordia angustifolia.
Nul, Nultura, HIND., Arundo karka.
Nuliti, Syamali, TEL., Isora corylifolia.
Nulleru tige, TEL., Cissus quadrangularis.
Nulshima, NEP., Ehretia serrata.
Nulu tiga, Pachi tige.
Numenius, the Curlew. See Scolopacidæ.
Numida meleagris, Guinea-fowl.
Nuna maram, TAM., Morinda citrifolia.
Nunee, BURM., Gavæus frontalis.
Nung-sha, Nou-sha, CHIN., Sal ammoniac.
Nuniya, BENG., Portulaca quadrifida.
Nunnarivayr, TAM., Sarsaparilla.
Nunya, Salt makers of Bengal.
Nuputki, BENG., Cardiospermum halicacabum.
Nuran kelungu, TAM., Dioscorea pentaphylla.
Nuri, Nubari, BENG., Cicca disticha.
Nurrey pithen kiray, TAM., Rothia trifoliata.
Nurri vungajum, TAM., Scilla Coromandeliana.
Nur Zae. See Afghanistan.
Nushki, Desert district of Baluchistan.
Nut-crackers, *sp.* of Nucifraga.
Nuthach, Sitta, *sp.*, Dendrophila.
Nutha-cootee-nari, TAM., Leptoptilos Javanica.
Nuthrin haran, HIND., Hog-deer.
Nuti, HIND., *sp.* of Amarantus.
Nut-siragum, TAM., Cumin seed.
Nutti churi, TAM., Spermacoce hispida.
Nuvu, Nuvulu, TEL., Sesamum Indicum.
Nway-ka-zwoon a phyoo, BURM., Calonyction Roxburghii.
Nyadi—Vararuchi.
Nyaya. See Darsana; Sankhya.
Nyctanthes hirsuta, Guettarda speciosa.
Nycticorax. See Heron.
Nyctinomus, Cheiroptera.
Nymphæa stellata, Euryale ferox.
Ny-oung-gyat, BURM., Ficus cordifolia.
Nyul, HIND., Herpestes, *sp.*

O

OADAL, a creeper in Kamaon with fine strong fibres.

Oak - an, BURM., a tree of Moulmein. Wood made into canoes.
Oan-naih, BURM., a tree of Moulmein, used for house-building.
Oaracta or Verokhta. See Kishm.
Oasis of Siwah. See Jupiter Amon.
Oats, wild, Avena fatua.
Ob, a serpent, for Obi - women, Obion, Oboth, and Oub. See Serpent-worship.
Obaid, a powerful ancient Bedouin tribe near Mosul.
Obal, HIND., Fagopyrum emarginatum.
Obalampully, a diamond site. See Diamond.
Oban, a gold coin of Japan, worth about £4, 2s.
Obar, HIND., also Kotaha, land dependent on rain for irrigation, same as Barani.
Obara, HIND., Houbara Macqueenii, Bustards.
Obchi, HIND., a howitzer gun.
Obelisks. See Mahadeva.
Obira, Streptium asperum.
Occhus of Pliny, the Akantheon aria of Theophrastes, supposed to be the Alhagi maurorum.
Ochna Zeylanica, Gomphia angustifolia.
Ochrocarpus longifolius, Calysaccion longifolium.
Ocimum asperum, Coleus barbatus.
Ocinara, a genus of silk-worms. See Bombycina, 412; Insects.
Ocypoda, a genus of swift-footed crabs; O. ceratophthalma, Egypt, Mauritius, New Holland; O. brevicornis, East Indies; O. macrocera, East Indies, Brazil.
Oda, KARN., a ferry boat.
Odalapore battle, fought on the 4th December 1848.
Odallam, MALEAL., Cerbera odallam.
Oday oil of Cochin, from a creeper, given to cattle when much worked.
Odenathus. See Palmyra; Zenobia.
Odoojatee, HIND., Justicia ecbolium.
Œnotheraceæ, the evening primrose tribe of plants, comprising *sp.* of Œnothera, Clarkia, Jussieua, Ludwigia, Lopezia.
Oepata, the Avicennia tomentosa.
Œstrus, the gadfly, Œstrus ovis. See Cephalæmia ovis.
Œthra, a genus of brachyurous crustacea; Œ. seruposa, a greyish-coloured crab, 2 to 3 inches long, Mauritius, Archipelago.
O'-fu-yung, CHIN., Opium.
Ogai, HIND., Astragalus tribuloides.
Ogal, HIND., Fagopyrum emarginatum; Ban ogal, F. cymosum.
Ohind. See Chach.
Oi, Ohi, of Kangra, Albizzia stipulata.
Oiceoptoma. See Insects.
Oilmen, of Southern India, who express oil from seeds, have 12½ sections—Mahratta, lingali, tehela, kanula, ekbaila, erandian, lat, saoji, termuk, kawno, Muhammadan, teli, 12½ mixed.
Oil-pea, Su-chaw, CHIN.
Oily, fly, Cantharides.
Oima tipili, MALEAL., Scindapsus officinalis.
Oimoa, CHIN., Corchorus olitorius.
Oka or Poka, TEL., Areca catechu.
Oka, ARAB., a measure of Baghdad, about 2½ English pints.
Oka chettu or Vaka or Vakudu, TEL., Carissa carandas.
Okamandil. See Kattyawar, Saurashtra.
Oker of Nepal, Helictis Nepalensis.
Okh-hywan, ARAB., Anthemis nobilis.
O-kiau, CHIN., Asses' glue.
Okra, BENG., Zapania nodiflora.
Okro, Abelmoschus esculentus.
Okthaba, a Burmese long measure of 70 feet.
Ol, in Gujerat, Black-mail.
Ol, Jamkund, HIND., Amorphophallus campanulatus.
Ola, Kasir, Durgari, PANJ., Albizzia stipulata.
Olcha, or Mangun, a small Tunguz tribe on the Amur.
Old Man of the Mountain. See Alamut.
Oldenlanda umbellata. See Chay Root.
Olibanum. See Boswellia.
Oligodontidæ. See Reptiles.
Olin, HIND., a fibre of Kangra, from a Chamærops palm.
Olinda, SINGH., Abrus precatorius.
Ollakawlee, Phyllanthus emblica, Emblica myrobalan.
Olus calappoides, Cycas circinalis.
O'm. See Aschara; Aum; Hom.
Omamu, TEL., Ptychotis ajowan.
Oman. See Arabia; Persian Gulf.
Omar, Khalifah.
Ommaya, Khalifah.
Omphis, according to Arrian, son of Taxiles; his father dying at the time of the Greek invasion, Omphis did homage to Alexander, who invested him with the title and estates of his father.
Omra, ARAB., PERS., Nobles, *pl.* of Amir; the third title amongst Indian Muhammadans, as Shams-ul-Umra, Sharf-ul-Umra.
Omully, a fish of the Baikal Lake that annually ascends the Selingue river to spawn, after which they return to the lake. In their ascent the nomade Mongols catch great numbers of them for their winter provisions.
Omum, also Womum, TAM., Ptychotis ajuan? Bishop's weed. The distilled water is a useful carminative.
Omuta. See Pramara.
Onager, Equus onager.
Ondo, MALAY, Dioscorea pentaphylla.
Onesicritus. See Megasthenes.
Onesiculus. See Claudius.
Ongcor Thomb. See Architecture, 147.
Ongdes. See Angdes.
Onitis. See Copridæ.
Onore, Hanawar, Honore, captured 5th January 1783.
Onte of the Society Islands, Paper mulberry.
Oochellu, TAM., Guizotia oleifera.
Oodaipur. See Feudatory.
Ood batti, HIND., Pastilles.
Oodba godhul, HIND., Hibiscus Syriacus.
Oodi - Sagar Lake. See Lakes; Peshola.
Oodoojati, BENG., Justicia ecbolium.
Oolsie of Bombay, Dioscorea pentaphylla.
Oomatay, TAM., Datura, Thorn apple.
Oombur, DUKH., Ficus glomerata.
Oomra and Soomra. See Deserts.
Oonoona gass, SINGH., Pygeum Wightianum.
Oont ka tara, HIND., Echinops echinatus.
Oopadyki, SANSK., Portulaca quadrifida.
Ooplate, GUJ., HIND., Aucklandia costus.
Oopoopoma, Bhora, BENG., Rhizophora mangle.
Oorial, HIND., Ovis cycloceros.
Ooriya. See Central Provinces.
Ooroomiah Lake. See Lakes.
Oo-sheet, BURM., Ægle marmelos.
Ootali panna, TAM., Caryota urens.
Ophelia chirayta, Agathotes chirayta. See Chiretta.
Ophidia. See Reptiles.
Ophiocephalus. See Fishes, 1112.
Ophiophagus elaps. See Reptiles.
Ophiopogon. See Commelyna.
Ophiospermum Sinense, Aquilaria Sinensis.
Ophryeæ. See Orchiaceæ.
O'pi-en, CHIN., Opium. See Amal; Chandu.
Oplismenus hirsutus, Panicum.
Oppidam. See Kasra-i-Shirin.
Opuntia Dillenii, Prickly pear.
Or or Odru tribe. See India; Odru.
Orakzai. See Afghanistan.
Oral, KOL.; Pteromys petaurista.
Orang. See Borneo; Malay Peninsula.
Orang Sirani, a Christian people of Batchian.
Oraon. See Chutia Nagpur; Jashpur; Mundah; Sun-worship.
Orazio, a friar who travelled in Central Asia.
Orchaka, BENG., Sonneratia acida.
Ordeal. See Divination; Karahi lena or Tapta-mukti; Taptamasha.
Oreb. See Fly.
Orelia grandiflora, Allamanda cathartica.
Oreosiris lanuginosa, Chaptalia gossypina.
Orepanocerus—Copridæ.
Orfa. See Edesa.
Organj. See Chorasmia.
Orgyia Zeylanica. See Drepana; Insects.
Orhota, TART., Ginseng.
Orissa. See Architecture; Bengal; Cave Temples; Kanarak; Keunjhar.
Orissa caves, i. 612.
Ormuz. See Hormosia; Persian Gulf.
Ornithoptera remus. See Celebes.
Orpiment, Yellow sulphuret of arsenic. See Arsenic; Realgar.
Orrosino-ki, JAP., Rhus vernicifera.
Orthocarpus, Dolichos catjang.
Orthophagus. See Copridæ.
Ortospana—Opian.
Oseille of Mauritius, Hibiscus sabdariffa.
Osha, HIND., Sterculia villosa.
Oshak, PERS., Dorema ammoniacum.
Oshek napu, MALAY, Tragulus Javanicus.
Osiris. See Omophagia.
Osman. See Khalifah.
Osmanli. See Persia; Turk.
Osphromenus. See Fishes, 1116.
Osprey, Pandion haliætus.
Osrhoene—Orfa.
Ossara rewund, ARAB., PERS., Gamboge.
Ossi tribe. See Kasibek.
Ostiak. See Finn.
Ostracotheres. See Crustacea.
Ostrich family—Struthionidæ.

Oswal. See Jain.
Otaheite chestnut, Inocarpus edulis.
Otaheite gooseberry, Cicca disticha.
Otaheite sugar-cane, Saccharum violaceum.
Othman. See Ertoghrul.
Otis deliciosa, Sypheotidis Bengalensis.
Otis fulva, Sypheotidis auritus.
Otis Lucionensis, Bustard.
Otis nigriceps, Eupodotis Edwardsii.
Otocompsa. See Bulbul.
Otolithus biauritus. See Isinglass.
Otonychium imbricatum, Harpullia imbricata.
Ottagam, TAM., Camel.
Ottel-ambel, CAN., Damasonium Indicum.
Ottelia alismoides, Hydrocharis cellulosa.
Otter, Lutra nair.
Oui. See Colquhoun.
Ouk-khyin-za, BURM., Diospyros, *sp.*
Ouk-sheet, BURM., Ægle marmelos.
Oulous, TURK., a tribe.
Oum Silling or Silleung, a river of Gowhatty.
Ounce, Felis uncia.
Oundi, MAHR., Calophyllum inophyllum.
Oungka. See Simiadæ.
Oung-mai-phyoo, BURM., Clitoria ternatea.
Ouph, HEB., a fowl, a bird.
Our-chaka, BENG., Sonneratia acida.
Oushneh? PERS., Origanum normale.
Oustajalu. See Kazzilbash.
Outch. See Kābul; Khetri.
Outcry, in India a sale by public auction.
Ouzel, *sp.* of Hydrobata; Merula.
Ovalumpilly. See Diamond.
Ovis. See Bovidæ; Mammalia.
Ovis ammonoides, Caprovis argali.
O'wei, Hing-ku, CHIN., Asafœtida.
Owkhar, in Turkestan a name of the Tajak.
Owls, the family Strigidæ, genera bubo, strix, phodilus, syrnium, otus.
Ow-mi-ew, Porcelain. See Colours.
Oxalis acetosella. See Oxalidaceæ.
Oxalis sensitiva, Biophytum sensitivum.
Oxenden, Sir George. See British India, 448.
Oxus. See Amu.
Oxydraceæ, a tribe mentioned by Strabo, Arrian, Curtius, Stephanus, and other travellers.
O'yu, CHIN., Galbanum.
Ozair. See Ezra.

P

PACHAKU, TEL., Cinnamomum iners.
Pacha-pat, HIND., Marrubium, *sp.*
Pacha pesalu, TEL., Phaseolus mungo.
Pach-cha botuku, TEL., Cordia polygama.
Pachcha manu? TEL., Conocarpus acuminatus.
Pachcha vadambaram, HIND., Justicia ecbolium.
Pachete. See Hot Springs, 113.
Pachisi. See Chinarpisi.
Pachmari. See Bori.
Pachonti, MALEAL., Isonandra acuminata.
Pachouli, Patcha pat, BENG., Pogostemon patchouli.
Pachūnda, MAHR., Capparis divaricata.
Pa-daing-khyet-thwon, BURM., Scilla Coromandeliana.
Pa-daing-phoo, BURM., Datura alba.
Pada valli, MALEAL., Cyclea Burmanni.
Paddam, Pyah, PANJ., Cerasus puddum.
Paddy (straw), MALAY, Oryza sativa.
Pade narrayan, TAM., Poinciana elata.
Padma, BENG., Nymphæa stellata.
Padma Purana, Kanada.
Padouk, BURM., Pterocarpus Indicus.
Padri, HIND., Stereospermum chelonoides.
Padul, Padal, BENG., Bignonia.
Pae, BURM., Corypha umbraculifera.
Pagadam, TEL., Coral.
Pa-gau-theing, BURM., Alpinia nutans.
Paggi. See At'har; Khoj.
Pagoda tree, Plumiera acuminata.
Pagri. See Clothing; Turband.
Paguma laniger. See Viverridæ.
Pagurus, Hermit crab. See Crustacea.
Pahan Island. See Formosa.
Paharia. See Dravidian; Kashmir.
Pahari-arand, HIND., Jatropha curcas.
Pahari pipal, HIND., Populus ciliata.
Pah-koh-hwui-hiang, CHIN., Illicium anisatum.
Pah-muh-yang, CHIN., Aquilaria Sinensis.
Pa-hwo, CHIN., Salisburia adiantifolia.
Pai, BURM., Lablab vulgare.
Paidi tangedu, TEL., Cassia sophora.
Paighambari phul, HIND., Arnebia echioides.
Paik. See Halaya.
Pailoo, CHIN. See Architecture, 148; Toran.
Pai myeet, BURM., Psophocarpus tetragonolobus.
Pai-noung-nee, BURM., Canavalia gladiata.
Painted partridge, Francolinus pictus.
Painted snipe, Rhynchæa Bengalensis. See Scolopacidæ.
Pai-pa-soon, BURM., Cyamopsis psoraloides.
Pai-yen-khyung, BURM., Cajanus Indicus.
Pakania, KAGHAN, Rubus, *sp.*
Pakar, HIND., Ficus venosa.
Pakchan river, i. 449.
Pakpattan. See Johya.
Paku maram, TAM., Areca catechu.
Paku tundu, SUMAT., Cycas circinalis.
Pakya, MAHR., Pteromys petaurista.
Pala, Mukanpala, MALEAL., Alstonia scholaris.
Pala, TAM., Achras elengioides.
Palabrotha. See Aloas; Chandragupta; Patna.
Pala chettu, TEL., Wrightia antidysenterica.
Palæmon, Prawns, Shrimps.
Palæornithinæ, Parrakeets, Parrot.
Pa-lah, Ba-la, BURM., Elettaria cardamomum.
Pala kura, TEL., Oxystelma esculentum.
Palampore. See Cloths.
Pala sugandhi, TEL., Hemidesmus Indicus.
Palati, SINGH., Hernandi.
Palava-ranu, TAM., Wrightia tinctoria.
Palawang. See Archipelago, 136.
Palay, MALEAL., TAM., Cryptostegia grandiflora.
Pal-dantam, GOD., TEL., Ehretia lævis.
Palek julu, HIND., Rhinacanthus communis.
Palemow. See Chutia Nagpur.
Pali, TAM., Isonandra acuminata.
Palita mandar, BENG., Erythrina Indica.
Palitana. See Architecture, 145; Jain.
Paljor of Chenab, Fragaria Indica.
Palla-gurgi, TEL., Holostemma Rheedianum.
Pallangu hemp of Madras, Ambari.
Pallava. See Chalukya; Palli.
Palli, a town in Central India, a Brahmanical centre. See Brahman, 431.
Pallia, HIND., Funeral monumental pillar. See Sculpture.
Palliwal. See Oswal.
Pallonarua. See Architecture, 147.
Palm swift, Cypselus Batassiensis.
Palmyra—Tadmur.
Palo de Vaca. See Cow-tree; Gymnema.
Palogpong ikan, MALAY, Isinglass, Fish maws.
Palparius contrarius. See Antlion.
Palu, Abhishegam. See Ablution; Hindu, 65.
Palungo, TAM., Hibiscus cannabinus.
Palu paghel, TAM., Momordica dioeca.
Palwal, HIND., Trichosanthes dioeca.
Pa-ma-yi, Lan-t'ang, CHIN., Dammer.
Pa-ma-yu, CHIN., Copal.
Pambah, PERS., Gossypium herbaceum.
Pambu prandu, TAM., Circaetus gallicus.
Pamidi patti, TEL., Gossypium acuminatum.
Pamir. See Central Asia; Upa-Meru.
Pampango. See Philippines.
Pampara panasa, TEL., Citrus decumana.
Pam-pena chettu, TEL., Calosanthes Indica.
Pamu kallu, TAM., Bezoar.
Pan, BENG., HIND., Chavica betle.
Pan, Paik hsan, BURM., Crotalaria juncea.
Pan, Shan, China grass.
Pana. See Cash.
Pana. See Hot Springs, 113; Punna.
Panam katalay, TAM., Agave Americana.
Panam maram, TAM., Borassus flabelliformis.
Panasa, Veru panasa, TEL., Artocarpus integrifolius.
Pana wood, ANGLO-TAM., Calosanthes Indica.
Panax papyrifera, Fatsia papyrifera.
Panay. See Iloco.
Pancha-kavia. See Hindus, 68.
Pancha Shegam. See Abhishegam.
Panchatantra. See Bidpai; Desha; Hitopa; Literature; Panchopakhyana.
Pancha warna. See Cow.
Panche chettu, TEL., Celosia argentea.
Panchi, TEL., Conocarpus acuminata.

Pan-chi-hwa, CHIN., Bombax ceiba.
Panch-rangi. See Clothing, 748.
Pancratium Amboinense, Eurycles Amboinensis.
Pandaram. See Mala-Arayan.
Pandava. See Kammya-ban.
Pandi, TEL., the hog.
Pandi gadda, TEL., Trapa bispinosa.
Pandiki, TEL., Kydia calycina.
Pandi koku, TEL., Mus bandicota.
Pandi mukku dampa, TEL., Dioscorea pentaphylla.
Pandion lineatus, Polioætus ichthyœtus.
Panditi vankaia, TEL., Calonyction Roxburghii.
Pandu. See Induvansa.
Paneero, SINDI, Capparis decaisnæi.
Pane tigá, TEL., Cassyta filiformis.
Pang ah, BURM., Terminalia chebula.
Pangasinan. See Philippines.
Pang-giling, MALAY, Ant-eater.
Pangong Lakes. See Lakes.
Pania, MALEAL., Eriodendron anfractuosum.
Paniala, Panijala, HIND., Flacourtia cataphracta.
Pani-juma, BENG., Salix tetrasperma.
Pani-ki-shumbali, DUKH., Vitex trifolia.
Pani kutta, HIND., Lutra nair.
Pani najak, BENG., Desmanthus natans.
Panir, HIND., Withania coagulans.
Panjam. See Clothing, 746.
Panj-angusht, PERS., Boucerosia aucheri.
Panjee. See Clothing, 748.
Panjeh-miriam, ARAB., Cyclamen.
Panjghar, a Makran province of Baluchistan.
Panjpa. See Daurani.
Panjsher valley. See Opian.
Pankhi. See Cloths.
Panmau, CHIN., Mylabris cichorii.
Panmuohri, HIND., Fœniculum panmori.
Pannah. See Diamond.
Pannas, Barral, HIND., Artocarpus integrifolius.
Pannay keeray, TAM., Celosia albida.
Pannei-eri. See Fishes, 1112.
Panni, MALAY, Slave.
Pannir, DUKH., TAM., TEL., Guettarda speciosa.
Panolia acuticornis, Cervidæ.
Pan-sa-yeik, BURM., Ixora coccinea.
Panshen Lama, Tsong-kha-ba.
Pantaleon. See Bactria, 222.
Pan-thay. See Yunnan.
Panther, Felis pardus.
Pantholops Hodgsonii. See Antilopinæ.
Pant-jallang. See Boats.
Panu-kodol, SINGH., Dioscorea bulbifera.
Panyani manche. See Boats, 394.
Pan-yen, BURM., Andropogon muricatus.
Pa-nyoung, BURM., Ficus Indica.
Pao-ho, BHOT., Cuon rutilans.
Papandayang. See Java; Volcano.
Papara, HIND., Gardenia latifolia.
Papara budama, TEL., Citrullus colocynthis.
Papara pulia maram, TAM., Adansonia digitata.
Papatta chettu, TEL., Pavetta Indica.
Papaya vulgaris, Carica papara.
Papeeta, HIND., Strychnos sancti Ignatii.
Paper mulberry, Broussonetia papyrifera.
Paphor, HIND., Tuber ciberium.
Pappree, HIND., Carbonate of soda.
Pappu kura, TEL., Chenopodium album.
Paprang, BEAS, Buxus sempervirens.
Papu. See Arts, 172.
Papyrus Japonica, Broussonetia papyrifera.
Para, HIND., Hog-deer, Axis porcinus.
Para Brahm. See Brahm.
Paradise fly-catcher. See Bulbul; Husaini.
Parampuan laut, MALAY, Halicore dugong.
Parancha, a clan of the Povindah.
Parapilo. See Bhutan.
Paras of Kaghan, Cerasus cornuta.
Parasgad temple. See Belgaum.
Paras pipal, DUKH., Thespesia populnea.
Pard, Felis pardus, Panther.
Pardanthus Chinensis, Morea Chinensis.
Parihara. See Rajputs.
Parijata tree, Kalpa-vriksha. See Tree.
Parikarma, HIND., Circumambulation.
Parike gadda, TEL., Trapa bispinosa.
Pari lung of Malay, Ætobatis nari nari.
Paringi, TEL., Zizyphus œnoplia.
Parinta, Perintakura, TEL., Corchorus olitorius.
Parinvelamu, TEL., Cyperus hexastachyus.
Parisnath. See Architecture; Jain.
Pari-sosan, PANJ., Adiantum caudatum.
Parmelia. See Dyes.
Parmian, RAVI, Gymnosporia spinosa.
Parmi kulla, BENG., Damasonium Indicum.
Parodoxurus strictus. See Viverridæ.
Paropamisadæ. See Imaus; Opian.
Parotia sex-setacea. See Paradise Birds.
Parra ænea, Jacana.
Parrot fish, Scarus, *sp.*
Parrotia Jacquemontiana. See Bridge.
Parshra, Warshra, SALT RANGE, Adiantum capillus Veneris.
Parsley, Petroselinum sativum.
Parsnip, Pastinaca.
Parsoji. See Bhonsla.
Partabghar. Hindustan, 80.
Parthia. See Aryan; Bactria; Coins; Greece; Persia; Pahlavi.
Partial town. See Diamond.
Partridge. See Pheasant; Tetraonidæ.
Parupu benda, TAM., Abelmoschus ficulneus.
Parupu kire, TAM., Chenopodium album.
Parupu velaga, TEL., Feronia elephantum.
Parusha medha, Human sacrifice.
Parwal. See Oswal.
Paryam, LEPCH., Talpa micrura.
Pasargada. See Fars; Kalanas.
Pashi, Panchi, TEL., Conocarpus acuminatus.
Pashiuba. See Palms.
Pashm, Put, Pam, PERS., Wool.
Pashmina, Par-i-taos, Pat, HIND. See Cloths.
Pasni, a sea-coast district of Baluchistan.
Passerie, Passelie, TAM., Portulaca quadrifida.
Passoor, BENG., Xylocarpus granatum.
Pastu-wanna, SIND., PANJ., Grewia oppositifolia.
Pasupu, Pampi, TEL., Curcuma longa.
Pat, Ban-pat, BENG., Corchorus olitorius.
Pat, HIND., Wool.
Pata, TEL., Cissampelos pareira.
Patala garuda, TEL., Ophioxylon serpentinum.
Pataliputra city, Palibothra, Panchatantra, Patna.
Patali tivva, TEL., Cardiospermum halicacabum.
Patanjala. See Darsana.
Patchalai maram, TAM., Dalbergia paniculata.
Patchalay wood, ANGLO-TAM., Dalbergia paniculata.
Patchuk, HIND., Aplotaxis auriculata, Aucklandia costus.
Patelene. See Hyderabad, 135.
Patenta Phrom. See Architecture, 147.
Pat fannas, MAHR., Artocarpus hirsutus.
Pathan bed, HIND., Picrorrhiza kurrooa.
Pathar-ka-phul, DUKH., Lichen rotundatus.
Pa-thi—Yunnan.
Pathiri maram, TAM., Bignonia.
Patiata. See Cis-Sutlej; Feudatory.
Patkoi, i. 449.
Patna. See Palibothra; Sirguja.
Pat patoola, JHELUM, Oreoseris lanuginosa.
Patrang, Joundela, Æchmanthera Wallichii.
Patra Saóri—Juanga.
Patsa kaia, TEL., Citrullus colocynthis.
Patsa kallu, TAM., Aquamarine.
Patso. See Clothing, 748.
Patta, HIND., a basket-hilted sword.
Pattangay, HIND., Cæsalpinia sappan.
Patta-pulow, KAMAON, Kydia calycina.
Pattharman, B'a-pattra, JH., Callicarpa.
Patti, BHOT., Fagopyrum emarginatum.
Pattra-banga, SANSK., Aristolochia bracteata.
Pa tu. See Colquhoun.
Patwa, PANJ., Hibiscus sabdariffa.
Patwari, HIND., Accountant.
Paulastya—Kuvera.
Pavili kura, TEL., Portulaca oleracea.
Pavitra, SANSK., Zonar, Poita, Kudumi.
Pawanne, Pauwauke, PANJ., Boucerosia aucheri.
Payah Shekho. See Literature.
Payara, BENG., Psidium pyriferum.
Payeht Gyee—Literature.
Payen-ambhat, BURM., Ambergris.
Paymoostey, TAM., Argyreia Malabarica.
Payrun tuthi, TAM., Abutilon Indicum.
Pazahar-Kani, PERS., Bezoar.
Pea-fowl. See Pavoninæ.
Pear tree, Pyrus communis.
Peda-kal-mesura, TEL., Casearia ovata.
Pedda-are, TEL., Bauhinia.
Pedda botuku, TEL., Cordia myxa.
Pedda chollu, TEL., Eleusine stricta.
Pedda danti, TEL., Celastrus montana.
Pedda dulchirram, TEL., Albizzia lebbek.

Pedda dumpa-rashtrakam, TEL., Alpinia galanga.
Pedda gilakara, TEL., Fœniculum panmori.
Pedda goranta, TEL., Gomphrena globosa.
Pedda kalivi pandu, TEL., Carissa carandas.
Pedda manu, TEL., Ailantus excelsus.
Pedda munga, TAM., Vangueria spinosa.
Pedra-Branca. See Horsburgh.
Peganon of Scriptures, Ruta graveolens.
Pegasidæ. See Syngnathidæ.
Peh-chen-tan, CHIN., Sandal-wood.
Peh-chi, CHIN., Iris florentina, Orris root.
Peh-chi-hiang, CHIN., Opoponax.
Peh-kiau-hiang, CHIN., Storax.
Peh-kiuh-hwa, CHIN., Chrysanthemum album.
Peh-ku, Sang-tsai, CHIN., Lettuce.
Peh-kwa-tsze, CHIN., Benincasa cerifera.
Peh-ma, Ye-ma, CHIN., Hibiscus cannabinus.
Peh-shu, CHIN., Thuja orientalis.
Peh-shuh, Yu-shuh, CHIN., Atractylodes alba.
Peh-tau-k'au, CHIN., Amomum cardamomum.
Peh-t'ung, CHIN., Argentan.
Peh-yu, CHIN. (the tallow), Stillingia sebifera.
Peh-yuen, Peh-t'ung, CHIN., Zinc.
Peing, BURM., Colocasia antiquorum.
Peing-nai, BURM., Artocarpus integrifolius.
Pein-go. See Boats, 398.
Pekea butyrosa, Caryocar butyrosum.
Pekin—Khanbalig.
Pelasgi. See Cyclopes; Ghorbasta.
Pellicularia koleroga. See Coffee Planting, 776.
Pellitory, ENG., Anthemis pyrethrum.
Pei mu, CHIN., Hermodactyl.
Pempheris Molucca, Isinglass.
Pen-lay-hsee, BURM., Ximenia Ægyptiaca.
Pen-lay-pyoun, BURM., Xylocarpus granatum.
Pennacondah. See Bijayanagar.
Pennar river, Canals, i. 564.
Pentaptera paniculata, Terminalia paniculata.
Pepper-wort, Xanthoxylon alatum.
Pepudel, Pudel, TAM., Trichosanthes cucumerina.
Perak. See Malay Peninsula.
Peregrines. See Falconidæ.
Perez d'Andrade. See Portugal.
Periar river, i. 564.
Peridenia. See Botany, 422.
Perim. See Fossils.
Periploca esculenta, Oxystelma esculentum.
Periploca Indica, Hemidesmus Indicus.
Periploca sylvestris, Gymnema sylvestre.
Persepolis. See Istakhr.
Persica vulgaris, Amygdalus Persica.
Persimmon of China, Diospyros kaki.
Pertabghar. See Hindustan, 80.
Peru maram, TAM., Ailantus excelsus.
Peru-marandu, TAM., Aristolochia Indica.
Perunda, TAM., Vitis quadrangularis.
Perun-siragam, TAM., Fennel seed.
Pesala-kaia, TEL., Dolichos Tranquebariensis.
Peshdadian dynasty. See Persia.
Pesh kabz, HIND., a form of dagger.
Petar kura, HIND., Gynocardia odorata.
Peter the Hermit. See Crusades.
Pethri, Bet'har, HIND., Juniperus squamosa.
Petra. See Commerce, 789.
Petrels, *sp.* of the genera Thalassidroma, Pelicanoides.
Peycoomuti-kai, TAM., Colocynth.
Peyyapa, TEL., Ailantus excelsus.
Peyya rodda, TEL., Rottlera laccifera.
Pfees, SIND., Chamærops Ritchiana.
Phag, Phawari of Jhelum, Ficus virgata.
Phailwan. See Athlete; Kushtigar.
Phakial tribe. See Khampti.
Phala. See Ordeal.
Phalangister vulpina. See Opossum.
Phalaris Canariensis, Canary seed.
Phalaris zizania, Andropogon muricatus.
Phalaropus, Stint, Scolopacidæ.
Phal gotsava. See Holi.
Phalja, PANJAB, Populus ciliata.
Phalla, SANSK., Fruit; Phalla hari, Fruit gatherer.
Phalwai, HIND., Cæsalpinia sepiaria.
Phantom, a name given to some of the Phasmæ and Paussidæ.
Phappar, Phulan, Fagopyrum emarginatum.
Pha-rai, BURM., Citrullus cucurbita.
Pharaoh's chicken, Neophron percnopterus.
P'hasah, BENG., a *sp.* of Engraulis.
Phashin, BALUCH., Capra ægagrus.
Phasma, Leaf insect, Walking stick insect.
Phassie, MAHR., Dalbergia paniculata.
P'ha yung-b'han, BURM., Allamanda cathartica.
Pha yung kha, BURM., Cucurbita maxima.
Pheal, BENG., an old jackal.
Pheasants. See Gallinæ; Phasianidæ.
Phechoo, HIND., Aponogeton monostachyon.
Pheea, Hunnia—Marmot.
Pheidole. See Insects; Poneridæ.
Philemon. See Copridæ; Insects.
Philippines. See Archipelago, 136.
Philosophies. See Darsana; Hindu.
Philoxenes. See Bactria, 222.
Phineas. See Khaja Khizr.
Phipin. See Dadru; Jhelum; Rhamneæ.
Phiyu-longta, BHOT., Flying fox.
Phlomis cephalotes, Leucas cephalotes.
Phocæna. See Cetacea; Delphinidæ.
Phœnicians. See Literature.
Phœnix, Foong-Hang.
Phok or Phog, CIS-INDUS, Calligonum polygonoides.
Pholidotus Indicus. See Pangolin.
Phoungye. See Rahan; Talapoin.
Phrynium dichotomum, Maranta dichotoma.
Phulan, Darau of Chenab, Buckwheat.
Phulanch, Nangke, CHEN., Ribes.
Phulkian. See Patiala.
Phul makhana, HIND., Asteracantha longifolia.
Phung-nyet, BURM., Calophyllum inophyllum.
Phunt, Tuti, HIND., Cucumis momordica.
Phyllanthus emblica, Emblica officinalis.
Phyllanthus longifolius, Cicca disticha.
Phyllanthus velutinus, Glochidion velutinum.
Phyllium siccifolium, Leaf insect, Phasma.
Phyllopodes. See Crustacea.
Physalia pelegica, Portuguese man-of-war.
Physalis. See Cetacea.
Physeter macrocephalus. See Cachalot; Cetacea; Mammalia; Whales.
Physic nut, Jatropha curcas.
Physostigma venenatum. See Ordeal.
Physostomi. See Fishes.
Phytelephas, Vegetable-ivory palm.
Piak, Niu of Sutlej, Alnus nitida.
Pia-sal? BENG., Terminalia tomentosa; COORG, Pterocarpus marsupium.
Picea. See Coniferæ.
Pichka, SUTLEJ, Odina wodier.
Picræna excelsa. See Bitter Wood.
Pieng, Akyab, Iron-wood.
P'ien-tau, CHIN., Lentil.
Pien-t'sing, CHIN. See Colours.
Pigeon. Birds; Columba.
Pigeon-pea, Cajanus Indicus, Tour Dhal.
Pigmy hog, Porculia salvania.
Pi-hwang, CHIN., Arsenic.
Pijur, KASHM., Neuorrhœdus.
Pila maram, TAM., Artocarpus integrifolius.
Pilchard. See Clupeidæ.
Pilgrimage sites of Hindus are the many sacred rivers, temples of Brindaban, Ramisseram, Panderpur, Srirangam, Conjeveram, Tripati, Dwarka in Gujerat, Hinglaz in Makran, Pooshkar in Rajputana, Badrinath, Jaganath, Baku; those of Muhammadanism are called haj and ziarat.
Pili jari, HIND., Thalictrum foliolosum.
Piliya, TEL., Urena lobata.
Pilli vendram, TEL., Physalis somnifera.
Pilpai. See Bidpai; Panchatantra.
Pimelodus arius, Arius arius.
Pimento, Allspice; Clove Pepper.
P'i-muh, CHIN., Pterocarpus flavus.
Pina of Philippines, Ananas sativus.
Pinang, Kachu, MALAY, Areca catechu.
Pinardia Roxburghii, Chrysanthemum Roxburghii.
Pinari maram, TAM., Sterculia fœtida.
Pind-alu, HIND., Batatas edulis.
Pindara. See Jowrah.
Pindi banda, TEL., Anisochilos carnosum.
Pindi chettu, TEL., Ficus asperrima.
Pindi donda, TEL., Ærua lanata.
Pind nama. See Sufi.
Pine-apple tribe. See Bromeliaceæ.
Piney varnish tree; ENG., Vateria Indica, Dammer.
Pingala charya. See Patanjali.
P'ing-shie-kung-fen, CHIN., Cosmetic bark.
Pingyat, Ring, CHENAB, Cratægus oxyacantha.
Pini-gala-konga, TEL., Leptoptilos argala.
Pin-lan-kau, CHIN., Gambier.

Pinna pala, TEL., Oxystelma esculentum.
Pinna yelaki chettu, TEL., Hydrocotyle Asiatica.
Pinne maram, TAM., Calophyllum inophyllum.
Pintail, Dafila acuta.
Pin-ta-yau, BURM., Grewia vestita.
Pinus. See Coniferæ.
P'i-P'a, CHIN., Eriobotrya Japonica.
Pipal tree, Ficus religiosa.
Pipe fishes, Syngnathidæ.
Piper betel, Chavica betle.
Pipets, *sp.* of Motacillinæ.
Pippa, Sittu, Situ, PANJ., Boucerosia edulis.
Pippili, DEKH., Chavica Roxburghii.
Pirahi, TAM., Epicarpus orientalis.
Pirangi chakka, TEL., Smilax Chinensis.
Pirate coast. See Illanun; Persian Gulf.
Pirmal. See Copridæ.
Pirman, a deity of the Bermun tribes.
Pir Muggen. See Hot Springs, 112.
Pir Panjal. See Himalaya.
Pir putta, HIND., Chamærops Ritchiana.
Pirunjolay maram, TAM., Hymenodyction utile.
Pisang, MALAY, Plantain, Musa.
Pisangi, Pisingha, TEL., Clerodendron inerme.
Pi-shih, Pêh-sin-shih, CHIN., Arsenic.
Pishor, Paseri, HIND., Fothergillia involucrata.
Pisuri, MAHR., Memimna Indica.
Pita-kara, HIND., Chrysophyllum Roxburghii.
Pitambar. Bodice, 402; Clothing, 745.
Pitchakai, TAM., Citrullus cucurbita.
Pitcher plant. See Nepenthes.
Pitha, PANJ., Benincasa cerifera.
Pithá kalabantha, TAM., Agave vivipera.
Pithecus Brookei, Orang-utan.
Pithex oinops, Innuus rhesus.
Pitori, BOMBAY, Trewia nudiflora.
Pit-papra, Papra, HIND., Fumaria officinalis.
Pi-tsi, CHIN., Scirpus.
Pitta kattyan, PALI, the three baskets. See Abhi; Dharmma; Literature.
Pitta-pisinika, TEL., Ehretia buxifolia.
Piumar, Chugu, CHENAB, Plectranthus rugosus.
Pla, HIND., Butea frondosa.
Plagusia. See Fishes, 248.
Pla-kat, MALAY. See Fishes, 1116.
Platanista. See Cetacea; Delphinidæ.
Platax arthriticus, Isinglass.
Plato. See Bactria, 222.
Platycercinæ, the Australian parakeets, Parrot.
Plectranthus barbatus, Coleus barbatus.
Plectrantlfus crassifolius, Anisochilos carnosum.
Pleiades. See Panchami Rishi.
Pleuropterus. See Insects; Paussidæ.
Plewan, Plewane, PUSHTU, Salvadora oleoides.
Plithana. See Paitan.
Plocaria. See Agar-Agar; Ceylon Moss; Eucheuma spinosum; Laminaria; Sea-weeds.
Plotosus. See Fishes, 1116.
Plotus. See Heron.
Plover, *sp.* of the families Cursoridæ, Glareolidæ, Charadridæ.
Plukenet, Leonard. See Botany.
Pneumonanthe kurroo, Gentiana kurroo.
Poak, NEPAL., Rhea.
Poalam, Karang, MALAY, Coral.
Pochard, Branta rufina, Aythya ferina.
Pocree of Delhi, Cotton gatherer.
Podala manu, TEL., Acacia catechu.
Podalang kai, Pavai, TAM., Momordica charantia.
Poda patra, TEL., Gymnema sylvestre.
Podavalam, MALEAL., Trichosanthes cucumerina.
Poddu or Proddu tirugudda chellu, TEL., Helianthus annuus.
Podu talli, TAM., Zapania nodiflora.
Podyceps. See Colymbidæ.
Poee of Garhwal, KAMAON, Boehmeria frutescens.
Poey-ne-yet. See Pun-yet; Resins.
Peghadamullay, TEL., Nyctanthes arbor tristis.
Poh-fu-lan, CHIN., Saffron.
Poi, Safed poin, BENG., Basella alba.
Poinciania coriaria, Cæsalpinea coriaria.
Poindee pootee, TEL., Flagellaria Indica.
Poita, Poitu, BENG., Zonar.
Pokhar-mul, PANJ., Dolomiea macrocephala.
Pokhráj, HIND., Topaz.
Pola, Puli, PANJ., Kydia calycina.
Polai, Plye of Borneo, Sonneratia acida.
Poliœtus. See Eagle.
Polla, Kakandaka-conuveh, MALEAL., Anamirta cocculus.
Pollari, Pollai, TEL., Antidesma pubescens.
Po-lo-mih, Po-lo-mah, CHIN., Artocarpus incisus.
Polumorinika, TEL., Cadaba Indica.
Polyalthia longifolia, Guatteria longifolia.
Polygar. See Colleri.
Polynemus heptadactylus. See Isinglass.
Polynemus risua, Paradise fish.
Polynemus sele. See Sulea.
Polyodontia? Walkerii, Pygeum Ceylanicum.
Polyphema Jaca, Artocarpus integrifolius.
Polypifera. See Zoophyte.
Polyporus. See Fungus.
Pomphrets. See Fishes, 1116, 1118.
Ponam tagera, MALEAL., Cassia sophora.
Ponna, MALEAL., Calophyllum inophyllum.
Pooah of the Parbuttiah, Boehmeria frutescens.
Pooay. See Drama; Literature.
Pooi, a tribe on the Arakan Hills.
Poon, Poone, MALABAR, Calophyllum elatum.
Pooniah. See Deserts, 920.
Popalzai. See Daurani.
Pora batul, HIND., Ipomœa pestigridis.
Porahit. See Rajput.
Pora sham, TAM., Chloroxylon.
Porcelain. See Arts, 171; Ceramic Work; Earthenware; Kaolin; Pottery.
Porculia salvania. See Boar; Suidæ.
Porcupines, *sp.* of Hystrix.
Porebandar. See Bhownagar; Junagarh.
Porilla sopara, TEL., Dalbergia paniculata.
Porpoises. See Cetacea; Mammalia; Platanista Gangetica; Pl. Indi; Whales.
Porprang, HIND., Glinus lotoides.
Portia tree, Thespesia populnea.
Portugal. See Albuquerque; Commerce; Dacca; E. I. Company.
Po sha, Spilecha, PERS., Fothergillia involucrata.
Posoqueria dumetorum, Randia.
Potari, TEL., Kydia calycina.
Poti batsalla kura, TEL., Basella cordifolia.
Pot metal. See Alloys.
Potti dumpá, TEL., Gloriosa superba.
Pottil-uppu, TAM., TEL., Saltpetre.
Pottla kaya, TEL., Trichosanthes anguina.
Potu-kakara, TEL., Momordica dioeca.
Potu kondalu, TEL., Cajanus Indicus.
Potupullu, MALEAL., Cyperus inundatus.
Potu-tadi, TEL., Borassus flabelliformis.
Potu-vadla, TEL., Hiptage madablota.
Pouk, BURM., Æschynomene aspera.
Pouk-pin, Poukenway, BURM., Butea frondosa.
Pounam. See Puna Kad.
Poupartia mangifera, Spondias mangifera.
Prabodha Chandrodaya. See Krishna; Misra.
Pradhan. See Sankhya.
Prakrita bhasha. See Language; Literature.
Pranhita. See Chanda; Sironcha.
Pratob Yantra. See Yantra.
Prattima, TEL., Idols.
Pratyuk pushpi, TEL., Achyranthes aspera.
Pravarasenapura, Kashmir.
Prawns. See Alpheus; Crustacea; Palemonidæ.
Prayag—Ilahabad.
Prester John. See Kerait.
Preta. See Bhut.
Priapus. See Phallus; Roman.
Prin-t'sing, CHIN., Cobalt.
Prionodon pardicolor. See Viverridæ.
Pritha, also Parshni. See Kunti.
Prithivi Raj Chohan Rasa, a heroic poem by Chand.
Privet, ENG., Lawsonia inermis.
Priyadarsini jammi, TEL., Prosopis spicigera.
Proiphys Amboinense, Eurycles Amboinensis.
Pronaos. See Rori Barolli.
Prosopis. See Adenanthera.
Protium Gileadense, Balsamodendron Berryi.
Protozoa. See Zoophyte.
Prunus Armeniaca, Armeniaca vulgaris.
Prunus padus, Cerasus cornuta.
Prunus puddum, Cerasus puddum.
Prunus sebistana, Cordia myxa.
Psammodynastes pulverulentus. See Reptiles.
Psammophidæ. See Reptiles.
Pseudococcus. See Coffee Planting.
Pseudomyrma. See Poneridæ.
Psychodendron trifoliata, Andrachne trifoliata.
Psychotria volubilis, Pæderia fœtida.
Pterocarpus dalbergioides. See Padouk.
Pterocarpus sissoo, Dalbergia sissoo.
Pterocles exusta, the desert partridge.
Pteromys petaurista. See Sciuridæ.

Pteropodidæ, Fox bats. See Cheiroptera.
Pterosoma plana. See Heteropoda.
Ptiloris magnifica, Paradise birds.
Ptits-chei-klei, MALAY, Bird-lime.
Ptoon, HIND., Euphorbia nivulia.
Ptyas mucosus. See Reptiles.
Pua, TIB., Arctomys hemachalanus.
Pua-jetti, MALEAL., Gomphia angustifolia.
Puar. See Dhar.
Pubha, Hool, MAHR., Chickrassia tabularis.
Puchail. See Rhynsror.
Pucrasia. See Phasianidæ.
Pudalunkai, TAM., Trichosanthes anguina.
Pudangalli, TAM., Pœciloneuron pauciflorum.
Pudari of Sutlej, Erythrina arborescens, Hamiltonia suaveolens.
Puddy or Pādi. See Olluck; Weights.
Pudhan, Juanga.
Pudie-kelengu, MALEAL., Dioscorea aculeata.
Puducotta. British India; Feudatory; Hindustan, 81.
Puga. See Hot Springs, 111, 112.
Puh-fen, Shwui-fen, CHIN., Cosmetic bark.
Puh-hwui-muh, CHIN., Asbestos.
Pui, BENG., Basella.
Pukandel, TEL., Rhizophora mucronata.
Pukhtan. See Afghanistan.
Pukki, TEL., Epicarpus orientalis.
Pu-konga, TEL., Phœnicopterus roseus.
Pukuna, HIND., Rubus.
Pula, Pulli, PANJ., Kydia calycina.
Pulai namaji of Coimbt., Crotalaria juncea, Hibiscus cannabinus.
Pulang-kalangu, TAM., Zedoary.
Pulasa, Kinaka, BENG., Butea frondosa.
Pu-lau-pe-nang, BURM., Janipha manihot.
Pulayar, the Mala-Arayan Pallan.
Puli, TAM., TEL., Tiger.
Puliari kiray, TAM. See Oxalidaceæ.
Pulicat Lake. See Lakes.
Pulie, TAM. See Tamarind.
Pulim, Imbool, SINGH., Eriodendron anfractuosum.
Pulitah, HIND., a lamp charm.
Pullachinta, TEL. See Oxalidaceæ.
Pulla manda, TEL., Ceropegia tuberosa.
Pulla pampara panasa, TEL., Citrus decumana.
Pulney. See Hindustan, 77; Mountains.
Pulo-Aor. See Horsburgh.
Pul-valli, MALEAL., Chonemorpha Malabarica.
Pulychay kire, TAM., Hibiscus sabdariffa.
Pu maram, Puvati, TAM., Schleichera trijuga.
Pu-marda, TAM., Terminalia paniculata.
Pumpkin, Cucurbita maxima, Lagenaria vulgaris.
Pumplemoss, MALAY, Citrus decumana.
Pun, PANJ., Typha elephantina, Bulrushes.
Punachu, TEL., Hydrilla verticillata.
Punag champa, BENG., Alpinia nutans.
Punaghutti bhaji, DUKH., Alternanthera sessilis.
Punagu pilli, TEL., Viverra Malaccensis.
Punan. See Borneo, 418.
Pu-nari, TAM., Phœnicopterus roseus.
Punar-janm. Hindu, 66.
Punarkany kirai, TAM., Alternanthera sessilis.
Punaveri, TAM., Cassia sophora.
Puncheria. See Jetwa.
Punday, Pundrica, CAN., Hibiscus cannabinus.
Pundna of Sutlej, Glochidion velutinum.
Pundri Kacha. See Hindus, 70.
Pung-ben, BURM., Physalis somnifera.
Pung-ma-theing, BURM., Blumea grandis.
Pung-sha, Pang-sha, CHIN., Borax.
Pungu, ANIMALLAY, Calophyllum elatum.
Punji, Van-paratie, TAM., Cotton.
Punnaga chettu, TEL., Calophyllum inophyllum.
Punnagamu chettu, TEL., Rottlera tinctoria.
Punniar. See Sindia.
Punyahava chanam. Hindu, 65.
Punya jana. See Yaksha.
Pupalia orbiculata, Sand-binding plant.
Pur, Buruga, TEL., Eriodendron anfractuosum.
Purana. See Hindu, 59; Kalika; Mimansa.
Puranic school—Sankhyā.
Purasa maram, TAM., Thespesia populnea.
Purigaddi, TEL., Cyperus bulbosus.
Purjiu, RAVI, Oreoseris lanuginosa.
Purtial. See Diamond.
Purugu pallay, TEL., Aristolochia bracteata.
Purusha ratnam, TEL., Ionidium suffruticosum.
Pushiny kaia, TAM., Cucurbita maxima.
Pushkara mulamu, TEL., Costus speciosus.
Pusnee, BENG., Oryza sativa.
Pus-wael, SINGH., Entada pursætha.
Put, a district of Cutch.
Put, Surat, TURK., Idols.
Puta, GUJ., HIND., Fish maws.
Putalli maram, TAM., Givottia rottleriformis.
Putera dib, SIND., Typha elephantina.
Puth, a form of Cholī.
Puthin, HIND., Mullet fish.
Puthuschary vulle kelangu, TAM., Dioscorea purpurea.
Putiki, TEL., Grewia Asiatica.
Putla podara, TEL., Gymnema sylvestre.
Putra jivi, Yarala, TEL., Putranjiva Roxburghii.
Putrotsavam. See Hindu, 65.
Putruj, HIND., Cinnamomum nitidum.
Putsa kai, TEL., Colocynth.
Puvandi, Ponnanga, TAM., Sapindus emarginatus.
Puvarasa maram, TAM., Thespesia populnea.
Puvvu-gutti gadda, TEL., Amphidonax karka.
Puwak, SINGH., Areca catechu.
Pya of Akyab, Iron-wood.
Pyal, Piar cheronji, HIND., Buchanania latifolia.
Pycnonotus. See Bulbul.
Pymma, BURM., Lagerstrœmia regiæ.
Pyn-ka-do, BURM., Xylia dolabriformis.
Pyoung, BURM., Gavæus gaurus.
Pyrethræ. See Gardez.
Pyrethrum roseum, Chrysanthemum roseum.
Pyrosoma. See Phosphorescence; Tunicata.
Pyrus tomentosa, Cydonia vulgaris.
Pythias. See Damon.
Pythonidæ, Reptiles, Boa.
Pytun-kai, TAM., Dolichos Tranquebariensis.
Pyu, Soung, BURM., Bruguiera parviflora, Rhizophora.

Q

QUAGGA. See Equidæ.
Quara tauvil, EGYPT., Cucurbita lagenaria.
Quay. See Yunnan.
Quedah—Kedah.
Quercaceæ, the nut tribe of plants, comprising the genera Carpinus, Corylus, Castanea, Quercus, and Lithocarpus. See Dyes.
Quetta. See Baluchistan.
Quicksilver. See Archipelago, 140.
Quingambo of West Indies, Abelmoschus esculentus.
Quinine. See Cinchona.
Quoia-pepali, TEL., Salicornia Indica.
Quoiloo, TEL., Salicornia bractiata.
Quoi-tota-kura, TEL., Amarantus tristis.

R

RA of the Chaldees, God. See Chaldæa, 642.
Raamah. See Povindah.
Rab, HIND., a preserve; inspissated juice.
Rabunuj, ARAB., Chamomile.
Races. See British India; Hindustan, 78.
Racha usirike, TAM., TEL., Cicca disticha.
Raggi, DUKH., Eleusine coracana.
Raghu Vansa, by Kalidasa.
Ra-giyu, BHOT., Nemorrhœdus goral.
Ra-goa, TIB., Procapra picticaudata.
Rahtor. See Deserts; Kach'hwaha; Rajputs.
Rai. See Eaka.
Raipur. See Central Provinces.
Rajagriha. See Ajata Satra.
Rajali, Nisaetus bonelli.
Raja Su, Imperial installation. See Aswa Medha, 197.
Rajputuka, HIND.; Puneeria coagulans.
Raj Samand—Kankrowlee Lake.
Rajun, HIND., Mimusops hexandra.
Rajur. See Deserts, 920.
Rakhal, BEAS, Taxus baccata, the Himalayan yew.
Rakhal-phal, BENG., Schmidelia serrata.
Rakhi-band-bhai, a brother made by acceptance of a bracelet. See Brother-making.
Rakt-japa, HIND., Hibiscus, *sp.*; Rakt kaner, also Karhir, Nerium odorum.
Rakto chandan, BENG., Adenanthera pavonina, SANSK., Pterocarpus santalinus.
Rakto shimul, BENG., Salmalia Malabarica.
Rakupala, TEL., Zizyphus glabrata.
Rakus, HIND., Agave Americana.
Ral, Rala, HIND., Resins.

Ral, Rala, DUKH., Millet, Panicum miliaceum.
Rama. See Solar Race.
Ramalcotta. See Diamond.
Ramanand. See Hindu, 61; Siva.
Rama Naomi. See Kirtan.
Ramanuja. See Basava.
Rama sita maram, TAM., Anona reticulata.
Ramayanam. See Kambar.
Rambeh or Ramboi, Pierardia dulcis.
Ram Chandar ki kup. See Oritæ.
Ram-hun, KASH., Cuon rutilans.
Rami, BENG., MALAY, China grass, Rhea.
Rami-tsjua, MALAY, Corchorus olitorius.
Rammisseram vayr, TAM., Chay root.
Rampak-rampak, MALAY, Spices.
Rampur chadr. See Blanket.
Ramsay, Captain. See Birds, 367.
Ramtilla oleifera, Guizotia oleifera.
Ram-toolshee, HIND., Ocimum gratissimum, Melissa officinalis.
Ram turai, HIND., Abelmoschus esculentus.
Ramu, KASH., Nemorrhœdus bubalina.
Ramzan. See I'd.
Rana guvva, TEL., Cycas circinalis.
Ranawut. See Bhumia, 353.
Ran-bor, MAHR., Zizyphus glabrata.
Ran-fannas, MAHR., Artocarpus hirsutus.
Rangoon creeper, Quisqualis Indica.
Rang-runt of Kanawar, Lagomys Roylei.
Rangtsa. See Poro, 420.
Ran jambool, MAHR., Eugenia caryophyllata.
Ranjana, Ranjuna, HIND., Adenanthera pavonina.
Ran sarras, DEKH., MAL., Albizzia odoratissima.
Ranthual, CHENAB, Pyrus aucuparia.
Ra-pho-che, LEPCH., Capra megaceros.
Rara, HIND., Randia dumetorum, also Pongamia glabra.
Rasad, HIND., Provision, Supply.
Rasamala, MALAY, Liquidambar styraciflua.
Rasanna (kura sanna), HIND., Berthelletia lanceolata.
Rasatala. See Patala.
Rasaut, HIND., Berberis extract.
Rascapur, HIND., Corrosive sublimate.
Rase, Kusturi, MALAY, Civet.
Rashid-ud-Din, Jami-ut-Tuarikh.
Ras Yatra. See Bindraban.
Rata-Ghorka, SINGH., Xanthochymus pictorius.
Rata jot, HIND., Onosma echioides, Vinca.
Rata-kodol, Dioscorea sativa.
Rata komadu, Cucumis melo.
Ratami, SINGH., Achras sapota.
Rata nelli, SINGH., Cicca disticha.
Ratan kat, HIND., Andromeda ovalifolia.
Ratel, Mellivora Indica.
Rath (Ruth). See Car; Cave Temples, i. 610.
Ratipanchi, TEL., Lichen rotundatus.
Rati-surkh, HIND., Trichodesma Indica.
Rattun puruss, DUKH., Ionidium suffruticosum.
Ratwa, NEPAL., Cervulus aureus.
Ravana suruni misalu, TEL., Spinifex squarrosa.
Ravi, or Hydraotes.
Ravine deer, Gazella Bennettii.
Raye duru dumpa, TEL., Eulophia virens.
Raymond—Perron.
Rayyi pappu jaji, TEL., Grislea tomentosa.
Razian-i-rumi, PERS., Aniseed.
Razianuj, ARAB., Fennel seed.
Real. See Coins, 780.
Realgar, Red sulphuret of arsenic.
Rebari. See Deserts, 920.
Red-breasts, Cyornis rubeculoides, C. banyumas, C. Tickelliæ, and C. magnirostris.
Red cotton tree, Salmalia Malabarica.
Red deer, Cervus Wallichii.
Red fish. See Fish Roe.
Red Sea. See Oscillatoria rubescens.
Red starts, Ruticella, *sp.*
Red wood trees, Adenanthera pavonina; Pterocarpus Indica, Pt. santalinus, Sanders-wood.
Reech, HIND., Bear.
Reed, Phragmitis, *sp.*
Reed-bird, Schœnicola platyura.
Regu manu, TEL., Zizyphus jujuba.
Regur, HIND. See Black Soil.
Regutti, TEL., Capparis grandis.
Rehar. See Pramara.
Reichardia decapitala, Cæsalpinia sepiaria.
Reindeer, Tarandus rangifer.
Rejang. See Archipelago, 137.
Religion. See Hindus; Hindustan, 78.
Rembha. See Swarga.
Remora—Echeneis.
Renealma Sumatrana, Alpinia Malaccensis.
Reodan, HIND., Tecoma undulata.
Reora, HIND., Bignonia undulata, Holarhena pubescens.
Reri, HIND., Typha angustifolia.
Reru, BEAS, Acacia leucophlæa.
Reshami, Reshambuti, Sarmei, HIND., Berthelletia lanceolata.
Retti, Pema-retti, SANSK., Anisomeles Malabarica.
Revi, HIND., red powder, from fruit of the Rottleria tinctoria.
Rewa. See Central India; Hindustan, 83; Rajputs.
Rewa Kanta. See Feudatory.
Rewand Chini, HIND., Rheum palmatum.
Reygatti, TEL., Capparis grandis.
Reyla, TEL., Poinciana pulcherrima, also Cathartocarpus fistula.
Reyyi kada or Ravakáda, TEL., Salsola nudiflora.
Reyyi pappu, or Jaji, TEL., Grislea tomentosa.
Rezian-i-rumi, PERS., Pimpinella.
Rhamnus jujuba, Zizyphus jujuba.
Rhamnus trigynus, Sageretia hamosa.
Rhaphis trivalvis, Chrysopogon aciculatis.
Rhea—Parvati.
Rhea, HIND., Boehmeria nivea, China grass. See Fibres; Urticaceæ.
Rheede, Henry Van. See Botany.
Rhetsa maram, TAM., Xanthoxylon rhetsa.
Rhinolophinæ. See Bats; Cheiroptera; Vampyridæ.
Rhinolophus, Hipposideros speoris.
Rhizophora caseolaris, Sonneratia acida.
Rhizophora corniculata, Ægiceras fragrans.
Rhizophora decandra, Ceriops Roxburghianus.
Rhizophora parviflora, Bruguiera parviflora.
Rhizostoma. See Jelly-Fish.
Rhoa. See Orfa.
Rhodia newara, a silk-worm of Nepal. See Bombycina, 412.
Rhodymenia. See Sea-weeds.
Rhopala robusta, Helicia robusta.
Rhora, BENG., Rhizophora mucronata.
Rhynchæa Bengalensis, Scolopacidæ.
Rhynchosia viscosa, Dolichos glutinosus.
Rib-faced deer, Cervulus aureus.
Rice-paper plant, Aralia papyrifera, Fatsia papyrifera.
Rice weevil. See Insects; Weevils.
Rich, HIND., Ursus, *sp.* See Bear; Ursidæ.
Rig Veda Sanhita. See Hindu.
Rikkan, Ban-frastu, CHENAB, Populus ciliata.
Rinaca zuleika, a silk-worm of Sikkim. See Bombycina, 412.
Rinchor. See Kal-yamun.
Ring, Ringo, KANGRA, Cratægus oxyacantha.
Ringworm shrub, Cassia alata.
Rishi, Panchama Rishi.
Rita, Aritah, HIND., Soap-nut, Sapindus rubiginosus.
Riti, Ritti, SINGH., Antiaris innoxia.
Robin, Thamnobia and Pratincola, *sp.*
Rocella tinctoria, Orchilla weed.
Rock grouse. See Birds; Pteroclidæ.
Rockeb-el-jammel, ARAB., Chenopodium viride.
Roga chettu, TEL., Anisochilus carnosum.
Rohi or Kalr or Reh, HIND., Saline efflorescence on soil, Carbonates, Chlorates, Sulphates of Soda; Chitta rohi, land with salt efflorescence; Chikna kalr, a kind of soil used to remedy kalr.
Rohilkhand. See Canals, i. 563; Pathan.
Rohitaka, also Rohuna, TEL., Amoora rohituka.
Rollers, *sp.* of Coracias, Eurystomus.
Rondeletia Asiatica, Webera corymbosa.
Rondeletia cymosa, Canthium didymum.
Rongdo. See Tibet.
Rontal, JAV., Borassus flabelliformis.
Roosa grass, Andropogon Martini.
Rosa kanda, SINGH., Dioscorea alata.
Rosary. See Tasbih.
Rose maloes, Liquid storax.
Rose-wood tree, Dalbergia latifolia; Blackwood, Dalbergia sissoides.
Rotan, MALAY, Canes, Ratan.
Rotenjot, KASH., Jatropha curcas.
Rotikubung, MALAY, Datura fastuosa.
Rottlera Indica, Trewia nudiflora.
Rottlera Thwaitesii, Podadenia sapida.
Roughan balsam, HIND., Balsamodendron Berryi, Opobalsam.
Rous, KASH., Moschus moschiferus.
Roz, Rogh, Nil, Lil, HIND., Nilgai.
Ruba-barik, HIND., Solanum dulcamara.
Rucervus Duvaucelli. See Cervidæ.
Rudder-fish, Caranx Rottleri.
Rudiki. See Abu-l-Hasan; Bedpai.
Rudra bhumi, SANSK., TEL. See Marghat; Smasan.

Rudraksha chettu, TEL., Guazuma tomentosum.
Ruellia intrusa, Asystasia Coromandeliana.
Ruellia longifolia, Asteracantha longifolia.
Ruellia uliginosa, Adenosma uliginosa.
Rugs. See Carpets.
Ru-i, MAHR., Portax pictus.
Rujuni-gundha, BENG., Polianthes tuberosa.
Rul, Hippophae rhamnoides.
Rumal. See Clothing, 748.
Rumi mustaki, HIND., TAM., Mastic, Pistacia lentiscus.
Rumph, George Everard. See Botany.
Ru-mubarik, HIND., Haliastur Indus.
Runn of Cutch. See Kharagora.
Rup Narayan river. See Hugli.
Rusa hippelaphus, the Sambur. See Cervidæ.
Rusaut, Rusot, HIND., Berberis aristata.
Rusi, Roz, HIND., MAHR., Portax pictus.
Rusi-gugar, KASH., Pteromys petaurista.
Russa usareki, TEL., Phyllanthus distichus.
Russia in Asia. See Central Asia.
Rutti, HIND., Abrus precatorius.
Ryain, BEAS, Alnus nitida.
Ryet-bet-ya, BURM., Boehmeria interrupta.
Ryot. See Cultivators; Husbandry.

S

SA, Sarr, HIND., Nemorrhœdus goral.
Sab, ARAB., Cyperus hexastachyus.
Saba. See Abd-us-Shams.
Sabaah, Seven Bedouin tribes.
Sabaktagin. See Peshawar.
Sabuni, BENG., Trianthema obcordatum.
Sabza. See Cannabis.
Sachang, JAV., Cæsalpinia sappan.
Sacred trees. See Hindu, 65.
Sacrifice. See Buldan; Kurban; Medha.
Sadab, MALAY, Ruta graveolens.
Sada bori, Bozidan, HIND., Asparagus racemosus.
Sada kuppe, TAM., Anethum graveolens.
Sad'h. See Bir-bhan.
Sadia. See i. 438.
Sadi modi, BENG., Emilia sonchifolia.
Sadrus, HIND., Cinnamomum nitidum.
Sad-ud-Din Mahmud. See Sufi.
Safarjal, ARAB., Cydonia vulgaris.
Safeda, HIND., Ceruse.
Safed Koh. See Peshawur.
Safed-musli, HIND., DUKH., Asparagus adscendens.
Saffron, Crocus sativus.
Sag, HIND., Greens, Amarantus.
Sagapenum, Ferula Persica.
Sagapu maram, TAM., Hymenodyction excelsum.
Sagargota, MAHR., Guilandina bonduc.
Sag-did. See Bridge, 445; Chinvat; Parsee.
Sagoani, HIND., Dæmia extensa.
Sag-paluk, Paluk, HIND., Spinacia.
Saha-devi, HIND., Vernonia cinerea, Crozophora plicata.
Saharawan, District of Baluchistan.
Sahm, ARAB., Arrows. See Ordeal.
Sahrai. See Deserts, 920.
Sahri Balol. See Cave Temples, 611.
Sahuca bean, Soja hispida.
Saigon. See Cochin-China.
Saila. See Pallonarua.
Sail-i-majnun, HIND., Salix Babylonica.
St. George of England, Jirjis, Khizr, Lydia.
St. Ignatius' bean, Strychnos sancti Ignatii.
St. John's bread, Carrot tree.
St. John's wort, Hypericum perforatum.
St. Louis. See Crusades.
St. Thomé. See Pancha-tantra.
Saivala, HIND., Vallisneria spiralis.
Sajada. See Ko-teou; Salutation.
Sajji, HIND., Carbonate of soda.
Sajna, BENG., Horse-radish tree.
Saka, Peshawur.
Sakai. See Binua; Gunong; Kedah; Malay Peninsula.
Sakam kuzira, JAPAN, Cetacea, Whales.
Saker, HIND., Falco sacer.
Sak-hiang, CHIN., Aloes-wood.
Saki, Sak, JAPAN, Arrack.
Sakin, Skin, HIND., Capra sibirica.
Sakkar, ARAB., a water-carrier.
Saklawiah, a canal from the lower range of the Euphrates.
Sakra. See Indra.
Saksandar, SINGH., Aristolochia Indica.
Sakta. See Hindu, 58, 62; Tantra.
Saku, a cane bridge of the Dihang.
Sakya, the tribal name of Buddha.
Sal, HIND., Vatica robusta.
Sala, HIND., a brother-in-law; in Bengal, a term of abuse.
Saladang, SUMATRA, Tapirus Malayanus.
Salæi dhup of Nepal, Pinus.
Salah-ud-Din (Saladin). See Jericho; Orfa.
Salassa lola, a silk-worm. See Bombycina.
Sa-lat, BURM., Calpicarpum Roxburghii.
Sa-lat-nee, BURM., Graptophyllum hortense.
Salendong. See Clothing, 748.
Salendra, MAHR., Porcupine.
Salep-i-shaitan, PERS., Cicuta virosa.
Salep misri, Eulophia virens.
Salimote. See Clothing, 748.
Salmalia Malabarica, Bombax Malabaricum.
Salor. See Turkoman.
Salsette. See Cave Temples.
Salsify, Tragopogon gracilis.
Salsola plants. See Carbonate of Soda.
Salt Lake. See Jodhpur.
Salt Range. See Mountains.
Salt works. See Kharagora.
Salunki. See Chalukya.
Salutation. See Ashtanga.
Sama, Ambu of Ravi, Glochidion velutinum.
Samadrupu nurugu, TEL., Cuttle-fish bone.
Samagh Arabi, ARAB., Gum-Arabic.
Samagh-ul-mahrus, ARAB., Ferula asafœtida.
Samar. See Philippines.
Samaragdus mons, Jabal zabarah.
Sama-rogh, HIND., Morchella.
Samato, TEL., Fourcroya cantala.
Sambal, HIND., Berberis lycium.
Sambar, HIND., Rusa equina, R. hippelaphus.
Sambar Salt Lake. See Lakes.
Sambool, TAM., Ashes. See Vibadi.
Sambrani, TAM., Boswellia thurifera.
Sambrani chettu, TEL., Herpestris monniera.
Sambrani manu, TEL., Parkia biglandulosa.
Sambu. See Jam.
Samdulun, HIND., Elephantopus scaber.
Samet Sikhar. See Parasnath.
Sami stone, Agalmatolite.
Sammiong, LEPCH., the Marmot.
Samoka, Jamauka, HIND., Citrullus cucurbita.
Sampan. See Boats, 398.
Sampga, CAN., Hocomlia montana.
Samp-mar, HIND., Circaetus gallicus.
Sam-po-ho, CHIN., Indus.
Samsan, Smasan, Cremation place, Chiwana, Marghat.
Samshu, ANGLO-CHIN., Alcohol, Arrack.
Samstravadi, SANSK., Barringtonia racemosa.
Samudra pu maram, Barringtonia racemosa.
Samudrapu tainkaya, TEL., Sea-cocoanut.
Samudra shoka, HIND., Argyreia speciosa.
Sa-mung-net, BURM., Nigella sativa.
Sa-mung-ni, BURM., Lepidium sativum.
Samya, Raro, MOLUCCAS, Cæsalpinia sappan.
San or Sansi, the sun-god of the Chaldees.
Sanaga, TEL., Cicer arietinum.
Sanchi. See Serpent-worship.
Sanctuary, Sirna, Bast.
Sandpiper, *sp.* of Actitis.
Sandracottus. See Chandragupta.
Sandura, SANSK., Red lead.
Sanejir. See Celebes.
Sanga, HIND., a stone or timber bridge or breastwork.
Sangala or Sakala. See Arashtra; Kathæi.
Sangam, HIND. See Confluence.
Sang-i-pamba, Sang-i-reshadar, PERS., Asbestos.
Sang-i-Sulimani, PERS., Onyx.
Sang-i-yashm, PERS., Jade.
Sang-kupi, DUKH., Clerodendron inerme.
Sang-nai, Panolia acutiformis.
Sang-pu river. See i. 437.
Sangreal, Holy fig tree.
Sang-ti-whang, CHIN., Rehmannia Chinensis.
Sanjan. See Parsee.
Sankaria, shell bracelet makers of Dacca.
Sankha-tunga, TEL., Cyperus hexastachyus.
Sankhya. See Darsana.
San-ki, MANILLA, Illicium anisatum.
Sankla. See Pramara; Rajputs.
Sank pushpi, HIND., Evolvulus alsinoides.
Sanna mukhi, ARAB., HIND., Cassia elongata.
Sanne. See Yakka.
Sano-banel, NEPAL., Porculia salvania.
Santanu—Kuru.
Santipur. See Triveni.
Sanwak, HIND., Oplismenus.
San-yeh-san, CHIN., Aglaia odorata.
Sanzilleh, PUSHTU, Elæagnus orientalis.
Sapata cherri, TAM., Hibiscus rosa Sinensis.
Sapek. See Coins, 780; Tsien.

Sapium sebiferum, Stillingia sebifera.
Sap maril, BENG., Circaetus gallicus.
Sapota elengioides, Achras elengioides.
Sappara. See Babylonia.
Sapta-pathinam. See Hindu, 71; Marriages.
Sarab'ha. See Yali.
Saraca pinnata, Jonesia asuka.
Saracens. Hospital, 111.
Sarang-burong, MAL., Bird nests.
Sarao, Sérow, HIND., Nemorrhœdus bubalina.
Saraogi. See Oswal.
Saras. See Crane.
Saraswati. See Brahmans, 431; Hugli; Sakta.
Sarāwak. See Brooke.
Sarcocolla, Penæa mucronata.
Sarcostemma. See Homa; Soma.
Sarda, Paliz, PUSHTU, Cucumis melo.
Sardines. See Fish Roe.
Saree. See Clothing, 747, 748.
Sargassum, Gulf-weed, Sea-weeds.
Sarguja. See Bisrampur.
Sarik. See Türkoman.
Sar-i-Pul. See Afghanistan.
Sar kuchu, BENG., Colocasia nymphæfolia.
Sar-lakhtei, TR.-INDUS, Andromeda ovalifolia.
Saro, Sarv, HIND., PERS., Cupressus sempervirens.
Saros. See Chaldæa, 642.
Sarosh. See Parsee.
Sar-pankha, HIND., Tephrosia purpurea.
Sarsel, HIND., Porcupine.
Sart. See Iranian Races.
Saru, BENG., Porcupine.
Sarv, HIND., PERS., Cypress.
Sarwari, Sar-pankha, HIND., Celosia argentea.
Sarwaria, Kanaujia.
Sassanide princes—Hormuz, Persia.
Satari, Aruda, HIND., Ruta graveolens.
Satasanda, SINGH., Aristolochia Indica.
Satbhai, HIND., Oxylophus melanoleucos.
Satha-kuppa, TAM., Anethum sowa.
Sathung, LEPCH., Hystrix longicaudus.
Satin-wood, Chloroxylon Swietenia.
Satnami, Rai Das.
Sa-too, DUKH., Hordeum hexastichon.
Satpura plateau. See Central Provinces; Mountains, i. 449.
Satrunjaya, Jain.
Saturnalia. See Carnival.
Saturnia. See Bombyx, 412.
Satyā nasa, HIND., Argemone Mexicana.
Satyavati. See Pandu.
Satzarra, SUTLEJ, Asparagus filicinus.
Saurashtra. See Kattyawar.
Sauria. See Reptiles.
Saurus. See Fishes, 1116.
Sauvira tribes, Jayadratha.
Savara. See Bendkar.
Savee Cheena-wari, HIND., Panicum.
Savia actephila, Actephila Neilgherrensis.
Savirela chettu, TEL., Pæderia fœtida.
Sawa. See Kariáng.
Sawarrow nut, Caryocar butyrosum.
Saw-flies. See Insects.
Sayana. See Jain.
Sayor callapa, Cycas circinalis.
Scabrita scabra, Nyctanthes arbortristis.
Scalp lock. See Hindu, 74; Kudumi.
Scarfs. See Clothing, 747.
Scavenger birds, *sp.* of Neophron.
Schinus Bengalensis, Canarium sylvestre.
Schinus Bengalensis, Icica Indica.
Schmeilat. See Bedouin Tribes.
Scho, TEL., Arenga saccharifera.
Schools. See Hindus, 68; Patshala.
Scincidæ. See Reptiles.
Scirpeæ. See Cyperaceæ.
Sciuridæ. See Mammals; Pteromys.
Sclave. See Bulgarian.
Scolopax, Woodcock. See Scolopacidæ.
Scomber thynnus, the albicore. See Fishes.
Scotophilinæ. See Cheiroptera; Mammals.
Screech owl, Phodilus badius.
Screw-pine, Pandanus odoratissimus.
Screw-plant, Helicteres isora, Isora corylifolia.
Scutia Indica, a hedge plant.
Scutia paniculata, Celastrus paniculatus.
Scutinanthe brunnea, Canarium brunneum.
Scylax. See Darius.
Scytalia lichi, Nephelium litchi.
Scytalia longana, Euphoria longana.
Scythian tribes. See Bactria; Saka.
Sea-bear, Arctocephalus lobatus.
Sea-cocoanut, Lodoicea Seychellarum and Xylocarpus granatum.
Sea-cucumber, ENG., Holothuria.
Sea-eagles, Pandion haliætus, Poliœtus ichthyœtus, Haliætus fulviventer, H. leucogaster.
Sea-horse. See Syngnathidæ.
Sea-lion, Otaria jubata.
Sea pink, Spinifex squarrosa.
Sea-slug, Holothuria, Trepang.
Sea-snakes, Hydrophidæ.
Sea-weed, Fucaceæ, Laminaria, Algæ, Sargassum, Ceylon moss.
Seasons. See Hindustan, 77.
Seb, Seo, HIND., PERS., Pyrus malus, Apple.
Sebera, Siberia. See Brej.
Sects. See Hindus, 72.
Sedasheo Rao. See Paniput.
Seer fish. See Fishes, 1118.
Seet, BURM., *sp.* of Acacia.
Seetha. See Brej; Siberia.
Segapu, Tovaray Purpoo, TAM., Cajanus Indicus.
Segapu averai kai, TAM., Lablab vulgare.
Segestani. See Iranian Races.
Seing, BURM., Aqua marine.
Seistan, Desert district. See Afghanistan; Baluchistan.
Selangor. See Malay Peninsula.
Sela wunjah, TAM., Albizzia odoratissima.
Seleucia. See Babylonia; Ctesiphon.
Seleucides alba. See Paradise Birds.
Seleucus. See Bactria, 221; Persia.
Seljuk dynasty. See Khalifah.
Selya. See Clothing, 748.
Semang Paya, Kedah — Malay Peninsula.
Semioptera Wallacei, Paradise birds.
Sem ke phalle, DUKH., Lablab vulgare.
Seminopithecus, Presbytis jubatus.
Semones, Penates.
Senan. See Abu Said.
Sendh, HIND., Euphorbia tiraculli.
Sendi, HIND., Phœnix sylvestris.
Senecio sonchifolia, Emilia sonchifolia.
Senna. See Cassia.
Sensar pal, SUTLEJ, Asparagus filicinus.
Se'pa chettu, TEL., Oxystelma esculentum.
Sepistan, Cordia angustifolia.
Sepudday, MALAY, Aplotaxis auriculata.
Sequiera. See Portugal.
Sequin—Kanya.
Serag-ul-koshrob, ARAB., Mandrake.
Seraikella. See Rajputs.
Sergulla. See Chaldæa, 641–42.
Serioulout, MALAY, Pterospermum Indicum.
Ser Matsya. See Ichthyophagi.
Serosh, the angel of the Zoroastrians, who helps the souls of the good over the Chinvat neretu, bridge for the good.
Serow, HIND., Nemorrhœdus bubalina.
Serpent eagles, *sp.* of Circaetus and Spilornis.
Serpent race, or Nagabansa, Tak.
Serpent stick, Staphylea emodi.
Serpent stone, Bezoar.
Serpicula verticellata, Vallisneria spiralis.
Serratula anthelmintica, Vernonia anthelmintica.
Sesamum oil, Gingelly oil.
Sesha. See Adi Sesha.
Séshnaga dynasty. See Bharata.
Sesonchosus. See Horse.
Sesostris canal. See Commerce.
Se sze, CHIN. See Coins, 780.
Seta-ver, HIND., LAHORE, Asparagus adscendens.
Seth, Seetha, or Siberia. See Brej.
Severndrug. See Angria.
Seyr teg, MAHR., Euphorbia tiraculli.
Sezai. See Afghanistan.
Sha, Shapoo, Caprovis Vignei.
Sha-bin, BURM., Acacia catechu.
Shab-para, PERS., Bats, Cheiroptera, Mammalia.
Shada hurburija, BENG., Gynandropsis pentaphylla.
Shaddock, Pummalo, ENG., Citrus decumana.
Shadgrandika, TEL., Curcuma amada.
Shadida kalli, MALEAL., Euphorbia antiquorum.
Shadilingam, TAM., Cinnabar.
Shadizai. See Afghanistan.
Shafi, Imam.
Shaft-alu, PERS., Amygdalus Persica.
Shagali of Chenab, Indigofera heterantha.
Shaghal, ARAB., Jackal.
Shah, BURM., Catechu.
Shahabad. See Carpets; Kymore.
Shah-bakha, HIND., a basket-hilted sword.
Shah-baz, HIND., Limnaetus cristatellus.
Shah Dehri. See Cave Temples, 611.
Shahin, HIND., Falco peregrinator.
Shah Namah. See Ferdusi.
Shahpur. See Hormuz; Sapor.
Shah Rukh. See Abd-ur-Razzaq; Ormuz.
Shah zira, DUKH., Cumin seed.
Shah zuhur. See Muhammadanism.
Shaikh Abul Faiz. See Akbar; Faizi.
Shaikh Farid. See Dargah.
Shaikh Syed Burhan-ud-Din. See Sufi.

Shaik-ul-Jabal. See 'Alamut; Ismaili; Karamati; Old Man.
Shair-ul-jin, ARAB., Adiantum capillus veneris.
Sha-jin-kuh, CHIN., Amomum xanthoides.
Shajrah-miriam, ARAB., Cyclamen.
Shajrat-ul-Kudus—Kalpa-vriksha.
Shajr-ul-hyat, ARAB., Cupressus sempervirens.
Shak, BENG., Greens, Amarantus.
Shakakul, DUKH., Asparagus racemosus.
Shakatayana—Jaimini.
Shakr-kand-alu, BENG., Batatas edulis.
Shal. See Baluchistan.
Shalgam, BENG., PERS., Brassica.
Shama, HIND., Cercotrichas macrourus, Kittacincla macroura, Copsychus, *sp.* See Bulbul.
Shama, BENG., Oplismenus.
Shamdulum, BENG., Elephantopus scaber.
Shami, Shuni, BENG., Prosopis spicigera.
Shammar. See Bedouin.
Shampong. See Carriage.
Shamsher, HIND., a sword with a side-guard. See Armour.
Shams-ud-Din. See Muhammadanism.
Shan. See Burma, i. 526.
Shanbogue, Sana-bhoga.
Shan-cha, CHIN., Cratægus pinnatifida.
Shan-cha-yo, CHIN., Cornus officinalis.
Shan-chi-tsze, CHIN., Gardenia florida.
Shandoo, a tribe on the Arakan Hills, Kha-mi.
Shang, TA.-IND., Fraxinus xanthoxylloides.
Shangharf, DUKH., Cinnabar.
Shan-yoh, CHIN., Dioscorea sativa.
Shapoo. See Parsee.
Sharf Namah, Istakhr.
Sharifa, HIND., Anona squamosa.
Sharif bu Ali Jalandar, Muhammadanism.
Shariva, SANSK., Sarsaparilla.
Shark, Zygæna, *sp.* See Fishes.
Sharkara kunda, SANSK., Convolvulus batatas.
Sharmandi billi, HIND., Nycticebus tardigradus.
Sharoi, Sharoli, PANJ., Corylus colurna.
Sharvalay kiray, TAM., Trianthema obcordatum.
Shatha-kuppa, TEL., Anethum sowa.
Shatranji, HIND., Carpets, Rugs.
Sha-ts'au, CHIN., Cyperus esculentus.
Shat-ul-Hie. See Chaldæa, 641; Euphrates; Tigris.
Shau-chau-fu, CHIN., Camphor.
Shawl goat, Capra ægagrus.
Shawl-wool, Par-i-taos, Pat.
Shawls. See Arts, 172; Cashmere; Kirmán.
Shaw-nee, BURM., Sterculia alata.
Shayraat-koochie, TAM., Ophelia chirata.
Sha-zoung, BURM., Euphorbia ligularia.
Shea tree, Bassia Parkii. See Oils.
Sheep. See Bovidæ; Mammalia.
Shell bracelets. See Carving; Jewellery.
Shembugha, TAM., Michelia champaca.
Shemlit, PERS., Trigonella fœnum græcum.
Shem maram, TAM., Amoora rohituka.
Shendu. See Burma; Heuma.
Sheng-pa. See Kakhyen.
Shen Shiu. See Literature.
Shen Tamil or Sen Damir, a classical form of Tamil.
Sheora, BENG., Epicarpus orientalis.
Sheora gach'h, BENG., Trophis aspera.
Sheorani. See Afghanistan.
Shepherd kings. See Hyksos.
Shepherd's purse, Capsella bursa pastoris.
Shepherd's tinder, Chaptalia gossypina.
Sher, PERS., Honey of raisins.
Sher, HIND., Felis leo.
Sherawane, PUSHTU. See Rhamneæ.
Sherif of Mecca. See Celibacy.
Shetti, MALEAL., Ixora coccinea.
Shevadi, TAM., Ipomœa turpethum.
Shevenar vembu, TAM., Indigofera aspalathoides.
Shia bandar, HIND., Inuus silenus.
Shiag. See Deserts, 920.
Shibbargam. See Afghanistán.
Shie-hwang, CHIN., Gamboge.
Shie-kan, CHIN., Pardanthus Chinensis.
Shieldrake, Casarca rutila, C. leucoptera, Tadorna vulpanser.
Shih-chu-yu, CHIN., Sumach.
Shih-huh, CHIN., Dendrobium ceraia.
Shih-hwang, CHIN., Orpiment.
Shih jui, CHIN., Lecanora tartarica.
Shih-kiueh-ming, CHIN., Haliotidæ.
Shih-lan-yu, Shih ts'ih, CHIN., Momiai.
Shih-li, CHIN., Aleurites triloba.
Shih-luh, CHIN., Malachite.
Shih-wha-tsai, CHIN., Ceylon moss.
Shikaj, TAM., Acacia rugata.
Shikra, HIND., Micronesius badius.
Shilandi arisi, TAM., Cyperus bulbosus.
Shim, Som-shing, CHENAB, Pinus.
Shim, BENG., Lablab cultratum.
Shima punji, MALEAL., Cochlospermum gossypium.
Shim-batrajee, BENG., Dolichos glutinosus.
Shin, BENG., Psophocarpus tetragonolobus.
Shina, Mulen shina, CAN., Amorphophallus campanulatus.
Shinar. See Chaldæa; Tak-i-Kesra.
Shingle tree, Acrocarpus fraxinifolius.
Shin-je, TIB., Choigal.
Shinwari. See Afghanistan; Khaibar.
Shinz kubi, BRAHUÍ, Alhagi maurorum.
Shiona, HIND., Calosanthes Indica.
Shirash, BEAS, Carpinus viminea.
Shirhawati. See Cataracts; Waterfall.
Shirian, HIND., Fungus, Mushroom.
Shisham, PANJ., Dalbergia sissoo.
Shoe-flower, Hibiscus rosa Sinensis.
Shokran, ARAB., Conium maculatum.
Shola, also Sola, HIND., Æschynomene aspera.
Shora-pati, Lord of the Oxen title.
Shorea robusta, Vatica robusta.
Shou, TIB., Cervus affinis.
Shoveller, Spatula clypeata.
Shrews, *sp.* of the family Soricidæ, genus Soriculus and genus Sorex.
Shrimps. See Palemonidæ.
Shrotriya Brahmans, i. 435.
Shudukadu, TAM., Smasan, Marghat.
Shuh-sha-mih, CHIN., Amomum xanthoides.
Shuh-tsiau, Xanthoxylon alatum.
Shuh-yang-ts'inen, Solanum dulcamara.
Shui-chang-pu, Acorus calamus.
Shuk-China, BENG., Smilax Chinensis.
Shu-lah, Wax insect.
Shumbali, DUKH., Vitex negundo.
Shumuk, PERS., Rhus coriaria.
Shunda pana, MALEAL., Caryota urens.
Shunez, Hub-sindi, ARAB., Nigella sativa.
Shunlit, PERS., Fenugreek seed.
Shuo-wen, Chinese Dictionary by Hsu-Shen.
Shur, Sura, Sar, HIND., Saccharum sara.
Shur of Chenab, Juniperus excelsa.
Shuria mukti, BENG., Helianthus annuus.
Shurk-aloo, HIND., Pachyrhizus angulatus.
Shurlige, Bankimu, PANJ., Corylus colurna.
Shu-sha-jin, CHIN., Amomum xanthoides.
Shuta puspha, HIND., Anethum sowa.
Shuthi, Ban haldi, BENG., Curcuma zedoaria.
Shutr-murgh, PERS., Ostrich.
Shutur-khar, PERS., Alhagi maurorum.
Shu-yu, CHIN., Dioscorea triphylla.
Shwæ pha yung, BURM., Cucurbita maxima.
Shwet akund, BENG., Calotropis gigantea.
Shwet-bach, BENG., Acorus calamus.
Shwet-bariala, Sida rhomboidea.
Shwet-busunda, Acalypha Indica.
Shwui-sie, CHIN., Alisma plantago.
Shwui-yin, Tan-sha, CHIN., Cinnabar.
Shyama lutá, BENG., Ichnocarpus frutescens.
Siah-bandar, HIND. See Papioninæ.
Siah-dana, PERS., Nigella sativa.
Siah-gosh, HIND., Felis caracal.
Siah musli, Curculigo orchioides.
Siamese. See Burial Customs, i. 523; Khampti.
Siang-pi, CHIN., Caoutchouc.
Siang-sz-tsze, CHIN., Abrus precatorius.
Siau. See Celebes.
Siau-hwui-hiang, CHIN., Aniseed.
Sibr, also Sabr, ARAB., Aloes.
Sibundi doli. See Koel.
Si-chang-tan, CHIN., Areca catechu.
Sicka, HIND., Hovenia dulcis.
Sidalam, TEL., Corypha umbraculifera.
Sidda-ki, TIB., Cuon rutilans.
Sidhi. See Cannabis.
Sidziafi, MARIAN ISLANDS, Rhea.
Siekran, ARAB., PERS., Hyosciamus niger.
Sigapu shandanum, TAM., Pterocarpus santalinus.
Siharu, PANJ., Boehmeria salicifolia.
Sij, BENG., Euphorbia antiquorum.
Siju, KANGRA, Fraxinus xanthoxyloides.
Sikat yelli, TEL. See Pteropodidæ.
Sikaya, TEL., Acacia rugata.
Sikerwal—Rajputs.
Sikurayi, TEL., Pteropus Edwardsii.
Siladitya. See Jain.
Silarumba, SANSK., Canna Indica.

Silasanam, SANSK., Inscriptions on stones. See Architecture, 145.
Silassattu, TEL., Agathotes cherayta.
Silenus veter, Inuus silenus.
Sili, SIND., Plotus melanogaster.
Silk cotton tree, Cochlospermum gossypium.
Silk-worms. See Bombycina.
Sillarus, HIND.? Liquid storax.
Silpagiri. See Bijala; King of Kalyani.
Silundia Gangetica, Silond, BENG.
Siluroids. See Fishes, 1114.
Sima. See Divination; Ordeal.
Sima avisi, TEL., Cassia alata.
Sima chinduga, TEL., Inga dulcis.
Sima ippa chettu, TEL., Achras sapota.
Simai-pusini kai, TAM., Cucurbita ovifera.
Sima-kirai, TAM., Colocasia esculenta.
Simal, HIND., Bombax Malabaricum.
Simeon Seth. See Bidpai.
Simia leonina, Inuus silenus.
Sim-kukra, Sim-titar, HIND., Woodcock.
Simorri. See Cataract.
Simugh b'us-shirin, PERS., Dorema ammoniacum.
Sin, or Hurki, the moon-god of the Chaldees.
Sind. See Feudatory; Hyderabad, 135; Languages.
Sindia. See Feudatory; Hindustan, 80.
Sindoorum, TAM., Red lead.
Singally, Sozilly, BENG., Fish maws.
Singhara, BENG., HIND., Trapa bispinosa.
Singpho—Kampti.
Singrowla of Nepal, Cassia lignea.
Sinhala, Sculptures.
Sinh-ka-bab, Indus river.
Sin-lih, Pan-lih, CHIN., Chestnuts.
Siphonaceæ, Sea-weeds.
Siphonanthus Indica, Clerodendron siphonanthus.
Siphonia elastica. See Caoutchouc.
Sir, Sil, Bharwi, PANJ., Imperata Koenigii.
Sirafi. See Abu Zaid.
Siragum, TAM., Cumin seed.
Sira-shengalnir, TAM., Vernonia cinerea.
Sirex gigas, White borer. See Borer.
Sirguja. See Chutia Nagpur; Oraon.
Sirhind Canal. See Canals.
Siriari, HIND., Tiaridium Indicum.
Sir-i-Kul (Lake). See Oxus.
Siri manu, TEL., Conocarpus latifolia.
Siri-pala. See Palli.
Sirisha, BENG., Acacia speciosa.
Sirmur. See Hill States.
Sirohi, Hindustan, 81.
Sirru corrutti-vayr, TAM., Trichosanthes incisa.
Sirru kalangu, TAM., Plectranthus rugosus.
Sirru kattalay, TAM., Aloe litoralis.
Sirru kura, TEL., Amarantus campestris.
Sirru pulai, TAM., Ærua lanata.
Sirru-vullie-kalangu, TAM., Dioscorea aculeata.
Sisan, SIND., Crocodile.
Si-sha-jin, CHIN., Amomum xanthoides.
Sisik panu, MALAY, Tortoise-shell.
Sison ammi, Bishop's-weed seed.
Sissoo of Bombay, Dalbergia latifolia.
Sisyphus. See Copridæ; Insects.
Sitabari. Hot Springs, 113.
Sitana, *sp.* See Bloodsucker.
Sitang—Rivers, Bore.
Sitapa chettu, TEL., Smilax ovalifolia.
Sita phal, DEKH., Anona squamosa.
Sitawar, SUTLEJ, Asparagus filicinus.
Sitophilus oryzæ. See Insects; Weevils.
Siura, HIND., Epicarpus orientalis.
Siva gyanmut—Hindu, 72.
Sivun, Shewun, HIND., Gmelina arborea.
Siwah. See Jupiter Ammon.
Siwalik. See Fossils; Himalaya; Mountains.
Sjeria samstravadi, MAL., Barringtonia acutangula.
Skanda, Kartikeya.
Skimmer, Rhynchops albicollis.
Skimmi, JAPAN, Illicium anisatum.
Skin, Sakin, HIM., Capra sibirica.
Skodze, LADAKH, Allium sphærocephalum.
Sleinanachd of the Celts. See Divination.
Slevogtia verticillata, Cicendia Hyssopifolia.
Sloth, Lemur gracilis, Lemuridæ, Mammalia.
Sloth bear, Ursus labiatus.
Slug. See Bornella digitata.
Smew, Mergus albellus.
Smilax aspera, Hemidesmus Indicus.
Smriti, HIND., Law.
Smut. See Blight.
Snake bird. See Plotus melanogaster.
Snake gourd, ENG., Trichosanthes anguina.
Snake-stick, Staphylæa emodi.
Snake-wood tree, Strychnos nux vomica.
Snakes, Reptiles, Serpent.
Snat'haka varattam. See Hindu, 67.
Snipe. See Gallinago; Scolopacidæ.
Snow cock, Tetraogallus Himalayensis.
Snow leopard, Felis uncia.
Snow partridge, *sp.* of Lerwa.
Snow pheasant. See Phasianidæ; Pheasant.
Soap acacia, Acacia rugata.
Soap-nut tree, Sapindus detergens.
Soap-stone, Steatite.
Soarez de Albergaris. See Portugal.
Sochul, HIND., Bit-laban.
Soda. See Cutch; Deserts, 920; Pramara; Rajput; Reh.
Sogdiana. See Aryan, 176; Hun.
Sohag canal. See Canals.
Sohaga, HIND., Borax.
Sohanjana, BENG., Moringa pterygosperma.
Sohni, a Bedouin tribe.
Sohun, Guganbher, HIND., Eupodotis Edwardsii.
Soils of India. See Husbandry, 127.
Sokapan. See Borneo, 419.
Solar dynasty. See Lunar Dynasty; Sun; Rajput; Sun-worship.
Solara, PANJ., Cymbopogon laniger.
So-lo-tsze, CHIN., Æsculus Chinensis.
Som, Soma, HIND., Sarcostemma.
Soma-lata, Brahmu, SANSK., Ruta graveolens.
Somavalli, Jewanti, TEL., Tinospora cordifolia.
Somendilla, SINGH., Berrya ammonilla.
So'minta, TEL., Sesbania Ægyptiaca.
Somnatpur. See Architecture, 146.
Son or Sugum. See Divination.
Sonaghar. See Architecture, 146; Jain.
Sona-pat, BENG., Cassia elongata.
Sonari. See Bhilsa.
Sondali, Sonalu, BENG., Cathartocarpus fistula.
Sone. See Coal, 752; Suvarna.
Sonf, HIND., Fœniculum vulgare.
Sonnerat. See Botany.
Sonth (dry ginger), MALAY, Zingiber officinale.
Soojie. See Bread.
Sook China, BENG., China root.
Sootash, TURK, Jade.
Sophir. See Ophir.
Sophytes. See Bactria, 221.
Sorakaia, TEL., Lagenaria vulgaris.
Soramandalam. See Arcot; Chola.
Sora panji-gadur, TEL., Golunda Elliotti.
Sorrel, Oxalidaceæ.
Sorupenka, TEL., Cuttle-fish bone.
Sosan, HIND., Iris florentina.
Soter megas. See Bactria, 223.
Sounds, Swim, ENG., Isinglass.
Sourah. Burial Customs, i. 521.
Sour-sop, Anona muricata.
Sou-sou, HIND., Platanista Gangetica.
Soussi. See Bodice, 403.
South Sea chestnut, Inocarpus edulis.
Southern India. See Hill Tracts.
Sowa, Sui-chuka, HIND., Anethum graveolens.
Soya, HIND., Anethum sowa.
Soy-bean, Soja hispida.
Sozili, GUJ., HIND., Fish maws.
Spalaghzai, N.W. HIM., Fagonia cretica.
Spalyrius. See Bactria, 223.
Spanish Indies. See Philippine.
Sparrow-hawk, Accipiter nisus and A. virgatus, Kestrel.
Sparrows, *sp.* of the Passerinæ.
Spathodea Indica, Bignonia Indica.
Spear grass, ENG., Chrysopogon aciculatis.
Spectre insects. See Phasma.
Spelane, TR.-INDUS, Peganum harmala.
Sperm whales. See Cetacea; Ivory; Whales.
Sphænophorus planipennis, Weevils.
Sphærococcus lichenoides. See Sea-weeds.
Sphærosacme rohituka, Amoora rohituka.
Sphegidæ. See Insects; Wasp.
Sphyrænæ. See Fishes, 1118.
Spice Islands. See Archipelago, 135.
Spider crab, Haliotis gigantea of Japan.
Spider hunters, Arachnothera, *sp.*
Spider worts, Commelynaceæ.
Spiders. See Galeodes.
Spilornis. See Eagle.
Spindle trees, Celastraceæ.
Sping, Gorwa of Sutlej, Arundinaria falcata.
Spinifex squarrosus, Sand-binding plants.
Spin Tarin. See Afghanistan.
Spirit-worship. See Central Provinces.
Spirits. See Demon; Preta.
Spondias elliptica, Buchanania latifolia.
Sponge. See Venus flower-basket; Zoophyte.
Sponia orientalis, Celtis orientalis.
Spoon-bill, Platalea leucorodia.
Spotted deer, Axis maculatus.
Sprat, poisonous. See Clupeidæ; Fishes.
Spunk. See Amadou.
Spur fowl, *sp.* of Gallus, Galloperdix. See Phasianidæ.
Spurge, Euphorbia lathyris.

Spurge-olive, Daphne mezereum.
Squalus fulgens. See Fishes; Phosphorescence.
Squids. See Calamaries; Cuttle-fish.
Squirrels, *sp.* of the Sciuridæ, genera Sciurus, Pteromys, Sciuropterus.
Srad'ha. See Bhut; Hindus, 69; Preta.
Sri kaya, MALAY, Anona squamosa.
Sri mali pattan. See Oswal.
Srinaggar. See Cashmere.
Sringa takamu, TEL., Trapa bispinosa.
Sringeri. See Adwaita.
Sripada. See Hindus, 65.
Sri phal, BENG., Ægle marmelos.
Sri-p'hala. See Phallus.
Srirangam. See Cauvery.
Sri talam, TEL., Corypha taliera.
Sri-Vaishnava. See Siva; Vira Saiva.
Sri Yeo, the holy spirit. See Arka Bandhu.
Srol, Sawali, Silein, KANG., Alnus nitida.
Staff tree, Celastrus paniculatus.
Stag. See Cervus; Mammalia.
Standards, Ox-tail.
Star-anise, Illicium anisatum.
Star-apple, Chrysophyllum Roxburghii.
Star-fish. See Phosphorescence.
Star-stones. See Precious Stones.
Starga of Ladakh, Juglans regia.
Starling. See Sturnidæ.
Stasanor. See Bactria, 221.
Stawin, MAHR., Alstonia scholaris.
Steno. See Cetacea; Delphinidæ.
Stenops Javanicus, Nycticebus tardigradus.
Stephanus of Byzantium. See Orita.
Stereospermum chelonoides, Bignonia chelonoides.
Steris aquatica, Hydrolea Zeylanica.
St'hamba. See Architecture, 143.
Sth'nanam, TAM., TEL. See Abhyangana; Ablution; Bathing.
Stilago bunias, Antidesma bunias.
Stomatapodes. See Crustacea.
Stonechat, *sp.* of Saxicola.
Storax, Liquidambar, Rose maloes.
Storks, *sp.* of Ciconia, Mycteria, and Leptoptilos.
Strachia geometrica. See Coffee Planting, 773.
Stræmia tetrandra, Cadaba Indica.
Stratiotes alismoides, Hydrocharis cellulosa, Ottelia alismoides.
Strato. See Bactria, 222.
Stravadium rubrum, Barringtonia acutangula.
Streptostigma viridiflorum, Harpullia imbricata.
Strobilanthus. See Dyes.
Stromateus. See Fishes, 1116.
Stump. See Coffee Planting, 776.
Stylanthus Thwaitsii, Podadenia sapida.
Styloceros muntjac. See Cervidæ.
Stylocoryne Webera, Webera corymbosa.
Stylodiscus trifoliatus, Bischoffia Javanica, Andrachne trifoliata.
Styx of the Hindus, the Baitarani river of Orissa. See Bridge.
Su—Suevi.
Suari. See Bendkar.
Sub'h-i-kazib, PERS., Dawn.
Subhramanya. See Skanda.
Subunreka. See Cataracts; Sirguja; Waterfall.
Suchal-hand, CHENAB, Cichorium intybus.
Sucking-fish, Echeneis remora.
Sudab, ARAB., Ruta graveolens.
Sudab, HIND., Euphorbia lathyris.
Sudan. See Kashmir.
Sudi. See Panchanga.
Suez Canal. See Commerce, 789.
Suganda pala, TEL., Hemidesmus Indicus.
Sugoria, HIND., Hog-deer.
Suhi gandhal, PANJ., Boucerosia edulis.
Suh-muh, CHIN., Cæsalpinia sappan.
Su-hoh-hiang, CHIN., Storax, Rose maloes.
Suhu, LEPCH., Inuus rhesus.
Suhu-tum, LEPCH., Cuon rutilans.
Suji, JAPAN, Cryptomeria.
Sukan kire, TAM., Rumex acetosa.
Suk-chain, PANJ., Pongamia glabra.
Sukh dursun, BENG., Crinum Asiaticum.
Sukkur. See Bakkar.
Suknam, Sunnam, LEPCH., Ailurus fulgens.
Sukun, Kluwi, MALAY, Artocarpus integrifolius.
Sulaiman. See Abu Zaid.
Sulpha, BENG., Anethum sowa.
Sultan Sarwar. See Muhammadanism.
Sum, JHELUM, Fraxinus floribunda.
Sum, PANJ., Bombax Malabaricum.
Sumaicha. See Deserts, 920.
Sumandar soh, HIND., Letsomia nervosa.
Sumbul, ARAB, HIND., Nardostachys jatamansi.
Sumbulpur. See Chutia Nagpur; Sirguja.
Sum bun, JAV., Blumea balsamifera.
Summers. See Begum Samroo.
Sumra. See Deserts, 920; Pramara.
Sumsan or Smasan, Hindu Cremation Place. See Chiwana.
Sum-ul-Far, Shuk, ARAB., Arsenic.
Sun birds, Honey-suckers, *sp.* of the family Nectarinidæ.
Suna, ARAB., Cassia lanceolata.
Sunbul, ARAB., Spikenard.
Sunday-kai, TAM., Solanum pubescens.
Sundi, BENG., Nymphæa stellata.
Sundip channel. See Bore.
Sundri, BENG., Heritiera minor.
Sundur, HIND., Minium, Red lead.
Sundur. See Hindustan, 81.
Sung-chi, CHIN., Resins.
Sungei Ujong. See Malay Peninsula.
Sung-yun. See Parashawara.
Sunker chil, BENG., Haliastur Indus.
Sunkeswaram, TEL., Poinciana elata.
Sunkjiri, Sunkjeeru, HIND., Soapstone.
Sunnam, LEPCH., Ailurus fulgens.
Sunni sect. See Khalifah; Muhammadanism.
Sunnu, Tsunnu, KANGRA, Amygdalus Persica.
Sunnu, RAVI, Fraxinus floribunda.
Sun-worship. See Adonai; Sutrapada.
Supari, HIND., Areca catechu.
Suphura kumra, BENG., Cucurbita maxima.
Sura. See Kol.
Surabhi. See Cow; Kama Dhenu.
Suraj khand. See Confervæ; Hot Springs, 113.
Suraj mukhi, HIND., Helianthus annuus.
Surbo jaya, BENG., Canna Indica.
Suri-kanda, TEL., Typhonium orixense.
Surkh-vasooka, HIND., Graptophyllum hortense.
Surma, DUKH., PERS., Sulphuret of antimony.
Surri mara, SINGH., Albizzia odoratissima.
Sur-sinjli, JHELUM, Crataegus oxyacantha.
Surun, MAHR., HIND., Colocasia esculenta.
Surwala, HIND., Chrysopogon aciculatis.
Surya kanti chettu, TEL., Ionidium suffruticosum.
Surya-kund—Tapta-kund.
Suryavansa. See Orissa; Solar Race.
Susa in Khuzistan. See Choaspes.
Susa, Sūsūk, Sishuk, HIND., Plantanista Gangetica, Cetacea.
Susanjird. See Carpets.
Susi. See Cloths.
Susni-shak, BENG., Marsilea quadrifolia.
Susuh, JAV., Bird nests.
Suta muli, BENG., SANSK., Asparagus racemosus.
Sutash, TURK. See Yuh.
Sutjira, Agareh, HIND., Achyranthes aspera.
Sutlej. See Boats; Canal; Himalaya; Hot Springs, 111.
Sutrunjiya. See Architecture, 145.
Suvarna Bhumi. See Chryse.
Suvarnuka, SANSK., Cathartocarpus fistula.
Swala, JAPAN, Holothuria.
Swallow wort, Calotropis gigantea.
Swallows. See Hirundinidæ.
Swamp deer, Rucervus Duvaucelli.
Swarga, Hindu, 66, 67; Indra-Loka.
Swastika. See Cross.
Swāyamvara. See Adhigachhed. At the tournament (Swāyamvara) of Draupadi, she was won by Arjuna, and became the wife of the five brothers, who arranged that she should stay two days alternately with each, the master of the house alone entering it during that time. But Arjuna accidentally broke the rule, for, hearing an alarm of robbery, he rushed into Dhritarashtra's house to rescue the arms, whilst Draupadi was present, and departed into exile.
Sweet bay, Laurel.
Sweet flag, Acorus calamus.
Sweet potato, Batatas edulis.
Sweet-rush, ENG., Andropogon schoenanthus.
Sweet sop, Anona squamosa.
Swertia angustifolia, Ophelia angustifolia.
Swertia cheyrata, Agathotes chirayta.
Swetambara. See Jain.
Swietenia chickrassa, Chickrassia tabularis.
Swietenia chloroxylon, Chloroxylon Swietenia.
Swietenia febrifuga, Soymida febrifuga.
Swifts, *sp.* of the Cypsalinæ.
Swim. See Air-bladders; Fish Maws; Isinglass.
Sword. See Armour, 162.
Sword bean, Canavalia gladiata; Wild do., C. virosa.
Sword-fish, Histiophorus. See Fishes.
Syama. See Cerbera; Yama.
Syamali, TEL., Helicteres isora.
Sycee. See Coins.
Sykes, Colonel. See Birds, 367.
Sylvia philomela, Philomela turdoides.
Syn-teng. See i. 449; Hills.

Sypheotides Bengalensis. See Birds; Bustard.
Syr Darya. See Central Asia, 619.
Syria. See Greece.
Syringa plants. See Philadelphaceæ.
Syrnium Indrani, Devil bird.
Syzygium jambolanum, Eugenia jambolana.
Sz, Tsz, CHIN., Diospyros kaki.
Szu-Tartars. See Hun.

T

TAAG, also Tag, BENG., HIND., Crotalaria juncea.
Taaleb, ARAB., Fox.
Taam, ARAB., Food.
Tabalbar, HIND., a brass bowl.
Taban, also Niato, MALAY, the Gutta-percha tree, Isonandra gutta.
Tabanneboo, BENG., HIND., Citrus acida, C. bergamia (a variety).
Tabar, HIND., Battle-axe.
Tabashiri rang, HIND., Pale yellow, with tone of blue.
Tabasi, TEL., Cavallium urens.
Tabati, TEL., Mallea Rothii.
Tabernæmontana densiflora, Ophioxylon densiflorum.
Tabi, MALAY, Pepper, Long pepper.
Tabia, BALI, Cayenne pepper.
Tabki hurtal, HIND., Hurtal.
Taboo. See Chank.
Tacca liker, MALAY, Tacca pinnatifida.
Tachash, HEB., Badger.
Ta cheng, or Mahayana. See Tibet.
Tachxadogbo, COCHIN-CHIN., Acorus calamus, Sweet flag.
Tachypetes aquila, Frigate bird.
Tachyres zarinda, of Celebes, a rare butterfly with cinnabar red wings.
Tada chettu, TEL., Grewia tiliæfolia.
Tadagunni, CAN., Dolichos catjang.
Tadala, SINGH., Colocasia antiquorum.
Taddi maram, TAM., Pterospermum tuberiflorum.
Tadhal. See Cannabis sativa.
Tadi chettu, TEL., Terminalia bellerica.
Tadmor, ARAB. See Baalbec; Palmyra.
Tadpole, Pha-laung.
Tadrelu, HIND., Coriaria Nepalensis, also Barleria cristata.
Tadru, HIND., Rhamnus purpureus, also R. virgatus.
Tembile, SINGH., Cocos nucifera.
Taemuni. See Iranian Races.
Taemuri. See Iranian Races.
Tafta, a kind of silk cloth.
Ta-fung-tze, CHIN., Gynocardia odorata.
Tagabaloy, a tribe in Mindanao.
Tagada, TEL., Bignonia chelonoides.
Tagada tunga, TEL., Cyperus dubius.
Tagala. See Archipelago, 138; Iloco; Philippines.
Tagara, MALEAL., TAM., Cassia tora.
Tagara. See Paitan.
Tagaram, TAM., TEL., Tin.
Tagaru, TEL., Morinda tinctoria.
Tagashai, Tagaray, TAM., Cassia tora.
Tagetes. See Dyes.
Taggar, HIND., Valeriana Hardwickii and V. Wallichii.
Taghalaq. See Feroz.
Taghan. See Kafir.
Taghar, HIND. Calotropis procera.
Tagho, HIND., Pistacia Atlantica, also Celtis Caucasica and C. Nepalensis.
Taghun or Takpun, PUSHTU, Celtis Caucasica, Nettle tree.
Tagor. See Brahmans, 431.
Tag-pa, BHOT., Birch, Betula bhojputra.
Tagu-muda, TEL., Gmelina arborea.
Ta-hat, BURM., Tectona ternifolia.
Tahir-hay of Himalaya, Felis pardus.
Tahtah, HIND., PERS., the Tartar.
Ta-hwai-hiang, CHIN., Star-anise.
Ta-hwang, CHIN., Rhubarb.
Taiagri nuren, MAL., Dioscorea triphylla.
Taibembaga, MALAY, Acetate of copper.
Tai-che-shuh, CHIN., Hæmatite.
Tai Ho. See Fo Hi.
Tailor bird, Orthotomus longicauda and O. coronatus.
Tajak. See Afghanistan, 30; Central Asia; Iranian Races; Parsivan.
Taj-i-Khurus, HIND., Celosia cristata.
Taj Mahal. See Sculpture; Shah Jahan.
Tak or Takshak, Paitan, Sacæ, Indo-Scythi.
Taka-ji-ka kund. See Dhanwantari.
Takali pallam, TAM., Physalis angulata.
Taka pana, HIND., Pistia stratiotis.
Taker, SUTLEJ, Capparis spinosa.
Takhallus, ARAB., any literary title.
Takht-i-Bahi. See Cave Temples, 611.
Tak-i-Khosra. See Khusru.
Takiya, HIND., Pillow, a fakir's residence.
Takka. See Jartikka.
Takkali pandu, TEL., Physalis angulata.
Takkavi, ARAB. See Khiraj.
Ta-kung, CHIN., Levisticum.
Takuri kulay, HIND., Dolichos pilosus.
Tal, Cho, T'so, BHOT, Lakes.
Tal, Tar, HIND., Palmyra tree; Borassus flabelliformis.
Tala gass, SINGH., Corypha umbraculifera.
Talapoin, or Rahan. See Monk.
Talashrube, TAM., Aristolochia Indica.
Tal-gach'h, BENG., Borassus flabelliformis.
Tali, BENG., Corypha umbraculifera.
Tali, PANJ., Dalbergia sissoo.
Talia mankena, TEL., Urena lobata.
Talien-noe, BURM., Gynocardia odorata.
Taliera elata, Corypha elata.
Talipat, SINGH., Corypha taliera.
Tali rami, BENG., MALAY, China grass.
Talishapatri, TAM., TEL., Flacourtia cataphracta.
Talla-goya, SINGH., Iguana.
Talla-maha, SINGH., Halicore dugong.
Tallas, JAV., Colocasia esculenta.
Talmakana, Ikshura, HIND., Asteracantha longifolia.
Talpur family. See Kalhora; Laghari; Sind.
Taludala, TAM., Clerodendron phlomoides.
Talura, TAM., Vatica laccifera.
Ta-ma, Ho-ma, CHIN., Corchorus capsularis.
Tamalapaku, TEL., Piper betle.
Tamalpatra, SANSK., Cinnamomum nitidum.
Tamana, TAHITI, Calophyllum inophyllum.
Tamara, TAM., TEL., Nelumbium speciosum.
Tamara-tonga, MALEAL., Averrhoa carambola.
Tamartam maram, TAM., Averrhoa carambola.
Ta-na-yok, BURM., Rondeletia tinctoria.
Tambatankai, TAM., Lablab cultratum.
Tambra, HIND., Garnet.
Tambraparni river, i. 566.
Tambul, ARAB., Betel leaf.
Tambut, MAHR., Hocomlia montana.
Tamidelu, TEL., Eleusine coracana.
Tamil. See Literature.
Tamma kaia, TEL., Lablab cultratum.
Tammuz. See Sun-worship.
Tam-poo-ni, MALAY, Artocarpus echinatus.
Tamr, Nukhal, ARAB., Phœnix dactylifera.
Tamravalli, TAM., Rubia cordifolia.
Tamrooj, CAN., MAHR., Elæodendron Roxburghii.
Tamuli, BENG., Curculigo orchioides.
Tanaku maram, TAM., Cochlospermum gossypium.
Tana Papua—New Guinea.
Tandai, C. of Panjab, Albizzia odoratissima.
Tandal ekoti, MALEAL., Crotalaria retusa.
Tandi maram, TAM., Terminalia bellerica.
Tanduka, SANSK., Diospyros tomentosa.
Tandula, an ordeal. See Divination; Ordeal.
Tangarise kura, TEL., Cassia, sp.
Tangayree, CAN., Cassia auriculata.
Tang-chan. See Eagre.
Tangedu chettu, TEL., Cassia auriculata, Inga xylocarpa.
Tanggilin, MALAY, Pangolin.
Tanghai? Tangala, MALAY, Ægle marmelos.
Tang-hwang, CHIN., Gamboge.
Tang-kwei, CHIN., Levisticum.
Tangles—Laminaria.
Tang-li, CHIN., Grewia vestita, Serpent-worship.
Tangun. Horse, 105.
Tang-yu, CHIN., Wood oil.
Tan-Gyur. See Kah-Gyur.
Tan-hiang, Tan-muh, CHIN., Sandalwood.
Tani kaia maram, TAM., Terminalia bellerica.
Tan-mohr, MAHR., Bustard.
Tannir-vittang kelangu, TAM., Asparagus adscendens.
Tan-pu-lo, CHIN., Citrus bergamia.
Tantepu chettu, TEL., Cassia tora.
Tan tie den, BURM., Rottlera tinctoria.
Ta-nyen, Tan yew, BURM., Inga bigemina.
Tan-yong. See Borneo, 419.
Taphozoinæ. See Cheiroptera.
Tapia, HIND., Cratæva nurvala, C. Roxburghii, Garlic pear.
Tapioca plant, Manihot utilissima.
Tappa of Tongataboo, cloth made from the paper mulberry tree.
Tappeta, TEL., Asystasia Coromandeliana.
Tapta Masha, an ordeal. See Divination.
Taqwim-ul-Baladan. See Abulfada.
Tara, wife of Vrihaspati.
Tara, Taliera, Tariat, BENG., Corypha taliera.

Tarakzai Khel. See Afghanistan.
Taranatha. See Paxitirtha.
Tarang-giling, MALAY, Ant-eater.
Tarantula, Lycosa Singoriensis.
Taras, HIND., Hyæna striata.
Tarbagtai. See Ili.
Tarbuzah, Tarbuz, PERS., Citrullus cucurbita.
Tarikh-i-Rashidi, by Hyder Mirza.
Tarim. See Central Asia; Rivers.
Tar ka jhar, HIND., Borassus flabelliformis.
Taro, Kopeh of S. Seas, Colocasia antiquorum.
Tarooh. See Hill States.
Tarpan horse. See Horse, 109.
Tarragon, Artemisia dracunculus.
Tarsee phal, MAHR., Chrysophyllum Roxburghii.
Tarshish. See Povisiah.
Tartiha, TR.-INDUS, Artemisia.
Tarung, Trung, MALAY, Brinjal, Egg plant.
Tarwa, CHUK., Hippophae salicifolia.
Tarwai, Tirwi, HIND., Ipomœa turpethum.
Tarwar, HIND., Cassia auriculata.
Tasaduq, ARAB., Sacrifice.
Tasbih, Masbaha, ARAB., Rosaries.
Tashkurgan. See Afghanistan, 31; Khulm.
Tassar. See Bombyces; Cloths.
Tasu, TEL., a Hindu hour.
Tau, TURK., Horse-tail.
Tau, HIND., Grislea tomentosa.
Tau, Ping-t'au, CHIN., Peach.
Tau bai, BURM., Dolichos pilosus.
Tau-fu, CHIN., Pulse, Curd.
Tau-k'au, CHIN., Amomum globosum.
Tawpooni, MALAY, Artocarpus echinata.
Taura, HIND., Machilus odoratissima, Pennisetum cenchroides.
Taus, a musical instrument.
Taús Abu'l Abd-ur-Rahman. See Sufi.
Tau-sa-lat, BURM., Justicia ecbolium.
Tava karadi, TAM., Mellivora Indica.
Tavaku, TAM., Cochlospermum gossypium.
Tavatiki, TEL., Schmiedelia serrata.
Taviti-chettu, TEL., Caralluma adscendens.
Tavoy potato, Dioscorea fasciculata.
Tawaf, or circumambulation of the Kaba at Mecca; must never be performed at the tomb of Mahomed. See Tayf; Tuaf.
Tawah, HIND., a girdle, a flat round baking plate of iron.
Tawai of TR.-INDUS, Fragaria vesca.
Tawar or Tor, HIND., the elephant creeper, Bauhinia racemosa.
Tawi, HIND., Grislea tomentosa.
Tawiz, ARAB., Charms.
Taw-shouk, BURM., Limonia carnosa.
Taw-the-din-bin, BURM., Ricinus dicoccus.
Taxila. See Jartikka.
Taxus. See Coniferæ.
Tay, BURM., Ebony, Diospyros ebenum.
Tayara tayzee, HIND., a Muhammadan domestic ceremony.
Tay-lak-youk, BURM., Sulphuret of antimony.
Tayl-kodokhoo, Tiaridium Indicum.
Taynga, TAM., Cocoanut palm.
Tay thee, BURM., Diospyros kaki.
Tayum, TANGALA, Indigofera tinctoria.
Tazak tsun, HIND., Rhododendron anthropogon.
Tazeea, or Taboot, the representation of the tomb of Hasan and Husain; Tazeea khana, the house of mourning, or Ashoor khana.
Ta zeen ban, BURM., Bolbophyllum sunipia.
Tcherkess. See Kabarda.
Tchitrea paradisi, Paradise flycatcher.
Tchou-ma, CHIN., China grass, Rhea.
Tea. See Fahm; Hla-pet.
Tea tree of Siberia, Caragana arborescens.
Teal, *sp.* of Dendrocygna, Querquedula.
Tebu gass, SINGH., Costus speciosus.
Tecoma undulata, Bignonia undulata.
Teddee maram, TAM., Pterospermum suberifolium.
Tee. See Cave Temples, 610.
Teea-dunda, TEL., Bryonia umbellata.
Teemboorni, Teemroo, MAHR., Diospyros montana.
Teesu, HIND. ? Dhak flowers, flowers of Butea frondosa.
Tee-tee, Tay-tee, BURM., Diospyros kaki.
Tegada, TEL., Ipomœa turpethum.
Tegh Bahadur. See Nanak.
Tehr, HIND., Wild goat, Hemitragus jemlaicus, H. hylocrius.
Teila, HIND., Ribes grossularia.
Tein hyp-so, BURM., Arsenic.
Tein n'gyet, BURM., Cæsalpinia sappan.
Tej-pat, BENG., Cinnamomum nitidum.
Tekada-juteè, BENG., Monetia tetracantha.
Tekata-shij, BENG., Euphorbia antiquorum.
Tekka, MALEAL., SINGH., Tectona grandis.
Tekkali, Tilaka, TEL., Clerodendron phlomoides.
Tekki. See Turkoman; Yamut.
Telae, MALAY, Abrus precatorius.
Tela-kucha, BENG., Coccinea Indica.
Tel el Amarna. See Thya.
Teleostei. See Fishes, 1108.
Telephori, Scarlet beetles. See Insects.
Telia maina, HIND., Sturnus vulgaris.
Telinga potato, ENG., Amorphophallus campanulatus.
Telini, HIND., Mylabris Cichorii.
Telkatcha, HIND., Bryonia grandis.
Tel koduku, TAM., Tiaridium Indicum.
Tella chikur-kaia, TEL., Lablab cultratum.
Tella-giniya chettu, TEL., Alhagi maurorum.
Tella-goda, TEL., Diospyros sylvatica.
Tella-gomoodoo, TEL., Antidesma diandrum.
Tella-juvi, TEL., Ehretia buxifolia.
Tella manga, TEL., Gardenia lucida.
Tella motuku, TEL., Dalbergia Oojjainensis.
Tella neredu-chettu, TEL., Combocarpus latifolia.
Tella pachchari, TEL., Dalbergia paniculata.
Tella poonkee, TEL., Givottia rottleriformis.
Tella sopara, TEL., Albizzia elata.
Tella sugandhi pala, TEL., Hemidesmus Indicus.
Tella tumma, TEL., Acacia leucophlæa.
Telli, TAM., Anabas scandens.
Tellu kallu, TAM., Bezoar.
Telmi, SINGH., Bassia longifolia.
Telnur mudul, BENG., Curculigo orchioides.
Tel-pote, LEPCHA, Bassia butyracea.
Telsu, TEL., Acacia odoratissima.
Telugu. See Dravidian.
Tel-yelka of Yanadi, Gerbillus Indicus.
Temples. See Orissa.
Tenasserim. See Coal, 754; Hot Springs, 114.
Tencrium. See Tiryaq Farooq.
Tendu, also Tendua, HIND., Ebony, Diospyros ebenum, D. lanceolata, and D. melanoxylon.
Tendwa, HIND., Felis pardus, Panther.
Tenga, TAM., Cocos nucifera, Cocoanut.
Tenga, TEL., Cordia sebestena.
Tengale, TAM., TEL., Right-hand castes.
Tengi Saulek. See Elymais.
Tengri Nor Lake. See Lake.
Tenimber. See Archipelago, 35.
Tenkaia, TEL., Cocos nucifera.
Ten mazhaiu, TAM., Bees-wax.
Tenna, MALEAL., Setaria Italica, Panicum Italicum.
Tennu, MALACCA, Tapirus Malayanus.
Tennus, MAHR., Dalbergia Oojjainensis.
Ten-rec or Tend-rec, Centetes illiger.
Tenthredo. See Insects.
Teora, BENG., Lathyrus sativus.
Teorah, Oil of Brassica erucastrum seed.
Teori, Dud kalmi, BENG., Ipomœa turpethum.
Tepuriya, BENG., Physalis Peruviana.
Terai tree-cat. See Viverridæ.
Teram, MALAY, Oyster.
Terek Pass, 7977 feet. See Caucasus, i. 609.
Terminalia arjuna, Pentaptera arjuna.
Termites, White ants.
Terns, *sp.* of Sternula, Thalasseus, Onychoprion, Sulochelidon, Gelochelidon, Hydrochelidon, Seena, Sterna.
Terra Japonica, Gambier.
Terrapens. See Reptiles; Tortoise.
Tesin-apho-ta-roup, BURM., Smilax Chinensis.
Tesoo Lama. See Bhutan.
Testudinidæ. See Chelonia; Tortoise.
Tetragonotheca Abyssinica, Guizotia oleifera.
Tetraogallus. See Pheasant.
Tetrodon hispidus. See Kitama Kura.
Tettan kotte maram, TAM., Strychnos potatorum.
Tevangar, TAM. See Lemuridæ; Loris gracilis.
Tewari. See Brahmans, 431.
Tewas, HIND., Ougeinia dalbergioides.
Tezbul, HIND., Xanthoxylon hostile.
Thab, HIND., Erythrina arborescens, also Hymenodyction excelsum.
Thabambu, TAVOY, Anacardium occidentale.
Tha-b'hot-kha, BURM., Trichosanthes cucumerina.
Tha-boo-kyee, BURM., Millusa velutina.

Tha-bwat-nha-wai, BURM., Luffa fœtida.
Tha-byæ, BURM., Acmena leptantha; Tha-byæ-pouk, Acmena Zeylanica.
Tha-byeh gah, BURM., Eugenia caryophyllifolia.
Tha-byoo, Dillenia speciosa.
Tha-dee-wa, BURM., Croton polyandrum.
Thadsal, Butale, CAN., Grewia tiliæfolia.
Thain, TAM., Terminalia bellerica, Myrobalans.
Thai-pin-yu. See Pagan.
Thai race. See Khampti.
Tha-khwa, BURM., Cucumis utilissimus.
Tha-khwa-hmwæ, BURM., Cucumis melo.
Thakola, Kathogli, BEAS, Adelia serrata.
Tha-koop-poo, BURM., Stereospermum chelonoides.
Thakur. See Kashmir.
Thakuri-kulay, BENG., Dolichos pilosus.
Tha-lai, BURM., Punica granatum.
Thall. See Kuram District.
Thal-padmo, BENG., Hibiscus mutabilis.
Thama-jam-wai-zeke, BURM., Pterospermum aceroides.
Thama-khai-ok, BURM., Abutilon Indicum.
Thambagam, TAM., Vatica tumbuggaia.
Thambatin, TAM., Canavalia gladiata.
Tha-min, BURM., Rusa dimorpha.
Than or Thani, HIND. of the Chenab district and Lahoul, Juglans regia, Walnut.
Thanari, HIND., Staphylea emodi.
Tha-nat, BURM., Cordia myxa.
Tha-nat-kha, BURM., Murraya exotica.
Tha-nat-tau, BURM., Garcinia elliptica, Gamboge tree.
Than-ba-ya, BURM., Citrus bergamia.
Thandu-kire, TAM., Amarantus oleraceus.
Thangi, also Thangoli, PANJ., Corylus colurna.
Thannab Shah, one of the Kutub Shahi dynasty in Hyderabad in the Dekhan.
Than-the-ah, BURM., Hopea floribunda.
Than-wen, BURM., Crocus sativus.
Than-yeet, BURM., Capparis pandurata.
Thanzatt, Nai, CHENAB, Hordeum hexastichon.
Thaori. See Deserts.
Thar, Tharni of Kanawar, Hemitragus jemlaicus.
Thar, NEP., Nemorrhœdus bubalina.
Tha-ra-bi, BURM., Calysaccion longifolium.
Tharla-goonj, MAHR., Adenanthera pavonina.
Tharpanam. See Hindu, 66.
Tharra, TEL., Grewia tiliæfolia.
Tharran, a small Burmese violin.
Tharri, HIND., Dioscorea deltoidea.
Tharuar, HIND., Benthamia fragifera.
Thar-ud-jamal, ARAB., Ostrich.
Thatch-grass, Saccharum spontaneum.
Thaumalea Amherstiæ. See Pheasant.
Thau-mo, Wa-mo, BURM., Polyporus.
Thau-na—Oo-tara.
Thaut-tha, BURM., Acacia elata.
Tha-wen, BURM., Pongamia glabra.
Thayet-myo, a district in the Pegu division, British Burma.
Theburskud. See Kanawar.
The-dew, BURM., Bixa orellana.
Theet khya, Zi-tha, BURM., Castanea Martabanica.
The-ho-thayet, BURM., Anacardium occidentale.
Theinghana, CAN., Cocos nucifera.
Theit-to, BURM., Sandoricum Indicum.
Thelatuth, Laterite or brickstone, used as a builder's stone, for which it is excellently fitted. Most of the handsome Roman Catholic churches at Goa are built of it.
Thelli mara, MALEAL., Canarium strictum.
Them-bau-h'soke-gyee, BURM., Cicca disticha.
Them-bau-khyen-boung, BURM., Hibiscus sabdariffa.
Them-bau-ma, BURM, Azadirachta Indica.
Them-haw-thee, BURM., Carica papaya.
Then boung, BURM., Phœnix paludosa.
Then-gan-pha-yung, BURM., Hopea odorata.
Theng-hio, CHIN., Cloves.
Theng mah, CHIN., Urtica heterophylla, Neilgherry nettle.
Theng-twa, BURM., Acetate of copper.
Theobroma. See Chocolate.
Theodotus. See Bactria, 222.
Theophila. See Insects.
Theriaca andromachi, Theriaca veneta, Tareaq Faruq.
Therrundi of Malabar, Ætobatis nari nari.
Thetis. See Adjai.
Thetti, TAM., Ixora coccinea.
Thet-ya, BURM., Gardenia floribunda.
Thet-yen-nee, Tiglium pavanna.
Thi-dew, Thi-den-pan, BURM., Bixa orellana.
Thikeree, BENG., HIND., Phaseolus radiatus.
Thilak, HIND., Wikstræmia salicifolia.
Thim-bo-Nyan, BURM., Batatas edulis.
Thin-bo zi pyu, BURM., Phyllanthus distichus.
Thirtankara. See Jain; Parasnath.
Thiru vala connay, TAM., Bauhinia tomentosa.
Thissa, HIND., Rhus buckiamela.
Thit-ka-do, BURM., Cedrela toona.
Thit-kyah, BURM., Quercus semiserrata.
Thit-kyam-ho, BURM., Cinnamomum iners.
Thit kyouk nway, BURM., Willoughbeia Martabanica.
Thit-lin-da, BURM., Spathodea, *sp.*
Thit men, BURM., Agathis loranthifolia, also Dammara orientalis and Podocarpus neriifolia.
Thit-pa-gan, BURM., Pongamia, *sp.*
Thit-phyew, BURM., Sibia glomerata.
Thit-sai, BURM., Buchanania latifolia.
Thit-see, BURM., Melanorrhœa usitata. See Resin.
Thit-tha hpu tshi, BURM., Melaleuca cajaputi.
Thit-wa-ji, BURM., Armosia dasycarpa.
Thit-ya, BURM., Gordonia floribunda.
Thi-yu, CHIN., Petroleum.
Thoda gatti, CAN., Dalbergia latifolia.
Thom, BHOT, Ursus, *sp.*
Thomas, George. See Hissar.
Thona, SUTLEJ, Taxus baccata.
Thorn apple, Datura stramonium.
Thorn tree, Cratæva crenulata.
Thorpa tribe, Tibet.
Thoth, the divine intellect of the Egyptians. See Osiris.
Thoura, HIND., Conocarpus latifolia.
Thovary parpu, TAM., Cajanus Indicus, Pigeon pea. See Burri Tour; Dhal.
Thrushes, *sp.* of Merulidæ and Brachypodidæ.
Thuhar, HIND., Euphorbia nivulia.
Thuja articulata, Callitris quadrivalvis.
Thukallum, MALEAL., Elettaria cardamomum.
Thul or Thal, Sthala, Arid land.
Thulkuri, BENG., Hydrocotyle Asiatica.
Thul-pudmo, BENG., Hibiscus mutabilis.
Thum, HIND., Berchemia, *sp.* In Bassahir, Thum is the Fraxinus xanthoxyloides or crab ash, and in Kanawar, Puliurus aculeata.
Thumbatan-kai, TAM., Dolichos ensiformis.
Thumbe kire, TAM., Leucas aspera.
Thumuti, TAM., Cucumis pubescens.
Thuneer, Zurnub, HIND., Taxus baccata.
Thung-hsen-pan, BURM., Gardenia florida.
Thunku-pushpa, MALEAL., Clitorea ternatea.
Thunu, JHELUM, Taxus baccata.
Thuparamaya. See Pallonarua.
Thur, Chald. See Parkhar; Thul.
Thu-ra-pee, BURM., Calophyllum, *sp.*
Thurlkuri, BENG., Hydrocotyle Asiatica.
Thurnel, PANJ., Benthamia fragifera.
Thur-wag of Kanawar, Felis uncia.
Thwoot-ta-bat, BURM., Achras sapota.
Thy-vala ver, MALEAL., Roots of Gynandropsis pentaphylla.
Tiaily, TAHITI, Aleurites triloba.
Ti-an, KANAWAR, Acer cultratum.
Tiau-chih, CHIN., Pæonia rubra.
Tiau-t'ang, CHIN., Uncaria gambir.
Tibba, PANJ., Sandy hillocky soil.
Tibet. See B'stan-H'ygur; Burials; Hot Springs.
Tidal wave. See Bore.
Tiddi, HIND., Grasshopper. See Insects.
Tien-chuh-kan-kyang, CHIN., Zedoary.
Tien-hwa-fen, CHIN., Bryonia.
Tien-liau, Liu, CHIN., Polygonaceæ.
Tien pau-tsau, CHIN., Solanum nigrum.
Tien Shan—Central Asia; Ilavrata.
Tien-sz-lih, CHIN., Æsculus Chinensis.
Tie thie, BURM., Ficus carica.
Tietti, Tiette, JAV., Strychnos tieute.
Tifan, CHIN., Typhoon.
Tige jemudu, TEL., Sarcostemma.

Tiger lily, Pardanthus Chinensis.
Tiglath-Pileser. See Babylonia.
Ti-huieh, CHIN., Alkanet.
Tika. See Euonymus tingens.
Tikhur, Tikor, HIND., Curcuma angustifolia.
Ti-kin, CHIN., Euphorbia chamæsyce.
Tikri, HIND., Boerhaavia erecta.
Tikta-raj, BENG., Amoora rohituka.
Tikto shak, BENG., Cratæva Roxburghii.
Ti-kuh-pi, CHIN., Berberis lycium.
Til, HIND., Sesamum Indicum.
Tilaka. See Rudra Bhatta.
Tilaor, HIND., Houbara.
Tilea gurjun, BENG., Dipterocarpus lævis.
Tilgiri of Kashmir, Sturnus vulgaris.
Tilia kachang, PANJ., Aconitum napellus.
Tilian. See Borneo, 419.
Tilora, HIND., Sturnus vulgaris.
Tilpattar, Kilpattar, JHEL., Acer cultratum.
Timah-itam, MALAY, Lead.
Timbul, PANJ., Ficus Roxburghii.
Timburi, DEKH., Diospyros embryopteris.
Timmer, SIND., Avicennia tomentosa.
Timor. See Archipelago, 135.
Tincal, Borax.
Tind, Albinda, HIND., Citrullus fistulosus.
Tinda parua, MALEAL., Epicarpus orientalis.
Ting-hiang, CHIN., Caryophyllus aromaticus.
Ting-tsze, CHIN., Cloves.
Tinian pine, Beef-wood, Casuarina muricata.
Tin-mu, HIND., lit. three mouths; the river formed by the junction of the Chenab, Jhelum, and Ravi. At Multan it is half a mile wide.
Tinnevelly senna, Cassia elongata, C. officinalis.
Tinnim, ARAB., a sea serpent.
Tin-stone, Cassiterite.
Tipili, TAM., SINGH., Chavica Roxburghii.
Tipula, *sp.*, the crane-fly; the larvæ attacks poppy seed in store.
Tir, Sera, SIND., Capra ægagrus.
Tirah valley. See Chura.
Tircanamalay marara, TAM., Berrya ammonilla.
Ti-rh, Muh-rh, CHIN., Fungus, Mushroom.
Tirmantha, TAM., Earnest money.
Tirni, Calligonum polygonoides.
Tiroonoot oondi, TAM., Ashes.
Tirpu, Plains of S. Can., Hopea parviflora.
Tirthankara. See Jain; Palitana.
Tirukalli, TAM., Euphorbia tiraculli.
Tirukkaz Hukkunram. See Paxitirtha.
Tiru-nitri-pach'ha, MALEAL., Artemisia.
Tiruvallavar. See Kural.
Tirwa, CAN., Xylia dolabriformis.
Ti-shwang, CHIN., Saltpetre.
Tiska, CAN., Gazella Bennettii.
Tista. See Rivers.
Tita, BHOT, Gentiana tenella.
Tita, BENG., Picrorrhiza kurrooa.
Titans. See Rori Barolli.
Tita-pat, BENG., Corchorus acutangulus.
Titar, Tatri, JHELUM, Rhus succedanea.
Tithi. See Panchanga.
Titles. See Chalukya; Hindu, 74; Hwang.
Tit-sein, Ban-kha, BURM., Terminalia bellerica.
Titta commodoo, SINGH., Colocynth.
Ti'u of Hazara, Artocarpus integrifolius.
Tiwur, BOMBAY, Barringtonia acutangula.
Tiyari. See Chaldee.
Tkeng-hia, CHIN., Caryophyllus aromaticus.
Toa-kha-kyi, BURM., Chiretta.
Toaratti maram, TAM., Capparis divaricata.
Tobba. See El-Beit; Himyar.
Tochari. See Ili; Sacæ.
Toda. See Dravidian.
Toda pendek, MALAY. See Fishes, 1116.
Toda vadi, MALEAL., Oxalidaceæ.
Toddali, TAM., Toddalia aculeata.
Todda pana, MALEAL., Cycas circinalis.
Toddy. See Cocoanut.
Toddy cat, Paradoxurus musanga.
Toddy shrike, Artamus fuscus.
Tœmbili, SINGH., Cocos nucifera.
To-gei, MALEAL., Peacock.
Toggul bawali, CAN., Pteropus Edwardsii.
Togral Beg. See Attila.
Toguru, TEL., Morinda citrifolia.
Tohar, Tour, HIND., Cajanus Indica, Dhal.
Tokai, MALAY, Gecko.
Toka pana, HIND., Pistia stratiotis.
Tokdar, HIND., Eupodotis Edwardsii.
Toko-pat palm. See Jhapi.
Tokra, HIND., Basket.
Tola, a Hindu college, i. 435.
Tola, HIND., Ordeal.
Tola, CAN., Canis pallipes, Wolf.
Tolsu-mudriya, BENG., Leea.
Tom, Tarum, Talum, MAL., Indigofera tinctoria.
Tomato—Lycopersicum.
Tombiravan, TAM., Jugglers.
Tombs. See Architecture, 149.
Tomerus of Arrian. See Oritæ.
Tomicus. See Insects.
Tommon munga, MALAY, Curcuma amada.
Tomon, MALAY, Curcuma zedoaria.
Tomra kaddu, HIND., Lagenaria vulgaris.
Tonareng. See Semitic Races.
Tonberos of Pliny. See Oritæ.
Tondano. See Celebes.
Tondi, Tadi chettu, TEL., Terminalia bellerica.
Tondi teregam, MALEAL., Callicarpa.
Tonga-bhera. See Oritæ.
Tong-pang-chong, CHIN., Rhinacanthus communis.
Tongus, HIND., Marsdenia tenacissima.
Tonk. See Hindustan, 80.
Toon, Cedrela serrata.
Tooth-brush tree, Salvadora Persica.
Topaz, Precious stones.
Topes. See Buddhist Remains; Ingouletz.
Tor Tarin. See Afghanistan.
Tora-bujja, SUTLEJ, Adhatoda vasica.
Toralu, CAN., Canis pallipes, Wolf.
Tora malu, SINGH., Cybium guttatum, the seir fish.
Torch tree, Ixora parviflora.
Tordino berluccio, VENICE, Ortolan.
Torelaga, TEL., Limonia acidissima.
Tori, Torii, JAP. See Toran.
Toro. See Ordeal.
Torpedinidæ. See Fishes, 1117.
Tortoises. See Chelonia; Reptiles.
Tortricidæ. See Reptiles.
To-sa of Nepal, Hordeum hexastichon.
Tota calir akkisa, TEL., Colocasia Indica.
Tota kura, TEL., Amarantus oleraceus.
Totanus, Greenshank. See Scolopacidæ.
Tot-chi-fa, CHIN., Quisqualis Indica.
Totilla-gass, SINGH., Calosanthes Indica.
Totri, PANJ., Rhus coriaria.
Touaf, ARAB., Circumambulation.
Touanese, a kind of Chinese silk fabric.
Toucans, *sp.* of the family Ramphastidæ.
Touk-kyau, BURM., Pentaptera arjuna.
Touk-ta, BURM., Tacca pinnatifida.
Toung peing-nai, BURM., Artocarpus echinatus.
Toung-phet woon, BURM., Pterospermum acerifolium.
Toung-tha. See Chittagong.
Toung-than, BURM., Xanthoxylon budrunga.
Tour, HIND., Xanthium strumarium.
Tovaray, TAM., Diospyros toposia.
Tow. See Codilla.
Tower of Silence. See Dokhma.
To-wi-kie, CHIN. See Colours, 786; Porcelain.
Towru, Toudu, TAM., TEL., Bran.
Toxotes jaculata. See Fishes, 1117.
Toy Cart—Jonesia asoka.
Tragelaphus hippelaphus, Portax pictus.
Tragopon. See Pheasant.
Tragularia horrida, Pisonia villosa.
Tragulus. See Cervidæ.
Tranna, HIND., Vincetoxicum canescens.
Transmigration. See Sankhya.
Transoxiana—Mawar-u-Nahr.
Trao, Rjao, LADAKH, Buckwheat.
Trap. See Building Materials.
Trap-door spider. See Insects.
Trap-tuffa. See Building Materials.
Trasi, JAPAN, Balachan.
Trasta-walu, SINGH., Ipomœa turpethum.
Trawake of Sutlej. See Oxalidaceæ.
Tree cat, *sp.* of Paradoxurus.
Tree-ferns. See Alsophila.
Tree of healing, 586.
Tree of life. See Carpets, 586.
Tree swift, Dendrochelidon, *sp.*
Tree-worship, Serpent-worship.
Trees, sacred, Hindu, 65.
Trekam, Trekhan, JHEL., Acer cultratum.
Trepang, MALAY, JAPAN, Holothuria.
Treronidæ. See Birds; Columba.
Tributary Mahals. See Bendkar; Cuttack.
Trichelia emetica. See El-Kaja.
Trichia exigua. See Drepana; Insects.
Trichinidæ. See Sillago.
Trichobusis. See Hurdah.
Trichoglossus ornatus. See Cittura.
Trichoon karka, Arundo karka.
Trichopodus. See Fishes, 1116.

Trichosporum grandiflorum, Æschynanthus grandiflorus.
Tridacna. See Clam; Mollusc.
Trigla. See Gurnard.
Trigonella Indica, Rothia trifoliata.
Trigonella tetrapetala, Cyamopsis psoraloides.
Trigonocephalus Sumatranus, Reptiles.
Trikudnah, MURREE, Acer cultratum.
Trilocha varians, a silk-worm of India. See Bombycina, 412.
Trimeresures. See Reptiles.
Trimurti. See Basant.
Trincomalee wood, Berrya ammonilla.
Tringa, Stints, Knot, Scolopacidæ.
Trionyeidæ. See Reptiles.
Tripoli; in Barbary is Tarablus-ul-Gharb, a seaport town with a harbour, and Tarablus-us-Sham, Syrian Tripoli, a seaport town with an open roadstead. Tripoli means three towns.
Tripunkhi, HIND., Coldenia procumbens.
Tri-sira, a name of Cerbura.
Trisula or Trident. See Siva.
Triumphal arch. See Pai-loo; Toran.
Trivikrama Bhatta. See Sri Harsha.
Trivikrama Sena. See Baital Pachisi.
Trogon, *sp.* of Harpactes.
Trophis aspera, Epicarpus orientalis.
Tropic bird, *sp.* of Phæton.
Tropidonotus junceus. See Reptiles.
Trout of the rivers of India, *sp.* of Barilius.
Trubu, MALAY, Fish roe, Mausa toli.
Truffles. See Fungus.
Trumba, Kala, KASHMIR, Buckwheat.
Trummel, Tirmul, PANJ., Ficus Roxburghii.
Tsa-ba-len? BURM., Andropogon schoenanthus.
Tsabri, SUTLEJ, Buckwheat.
Tsah-tsiang-ts'au, CHIN. See Oxalidaceæ.
Tsale, TIB., Borax.
Tsalla-gadda, TEL., Asparagus adscendens.
Tsal Tsalya. See Fly; Insects.
Tsal-wee, BURM., a chain worn as a badge of nobility by the Burmese. [illegible] been surmised to have its [illegible] the Brahmanical thread.
[illegible]ey, BURM., Lagerstrœmia [illegible]ora.
[illegible]t, BURM., Anethum graveo[illegible]
[illegible]ik, BURM., Anethum sowa.
[illegible] also Si Tsang, the Chinese [illegible] of Tibet.
[illegible]-shuh, CHIN., Atractylodes [illegible]a.
T'san-pu, or Brahmaputra.
Tsan-tau, Hu-tau, CHIN., Faba vulgaris.
Tsa-tha-khwa, BURM., Coccinea Indica.
Tsau, Ta-tsau, CHIN., Jujube tree.
Ts'au kiuh-ming, CHIN., Celosia argentea.
Tsau-koh, CHIN., Gleditschia Sinensis.
Ts'au-kwo, CHIN., Amomum medium.
T'sau-mu, CHIN. See Oxalidaceæ.
Tsau-tau-k'au, CHIN., Amomum globosum.
Tsay-tham-by-ah, BURM., Gardenia lucida.
Tseh-sie, CHIN., Alisma plantago.
Ts'eh-tsih, CHIN., Euphorbia lunulata.
Tsein-a-pho-ta-roup, BURM., Pachyma cocos.
Tse-ki, CHIN., Porcelain.
Tser-khar, Soorch, PANJ., Hippophae salicifolia.
Tser-kuji, Chu-li, CHIN., Prunus Armeniaca.
Tse tse. See Fly; Insects; Tabanidæ.
T'sia-pangam, MALEAL, Cæsalpinia sappan.
T'siela, MALEAL., Ficus t'siela.
Tsien, Tsang, or Anterior Tibet, Tibet.
T'sing-hau, CHIN., Artemisia, *sp.*
Tsing-kiuh-pi, CHIN., Citrus microcarpa.
T'sing-kwo, CHIN., Canarium pimela.
Tsing-siang, CHIN., Celosia argentea.
Tsing-sian-tau, CHIN., Pea.
Tsing-tu. See Sukhavati.
Tsin-kiau, CHIN., Gendarussa vulgaris.
Tsioh-rh-ngo-tan, CHIN., Euphorbia chamæsyce.
Tsiru panna, MALEAL., Calophyllum calaba.
Tso, TIBETAN, a lake. See Lake.
Tsoing, BURM., Gavæus sondaicus.
Tso-na-ts'au, CHIN. See Solanaceæ.
Tso-tsiang-ts'au, CHIN. See Oxalidaceæ.
Tsze-fen-shwang, CHIN., Vermilion.
Tsze-hwa-ti-ting, CHIN., Fumaria officinalis.
Tsze-kin-hwa, CHIN., Viola odorata.
Tsze-ts'au-jung, CHIN., Lac.
Tsz-tan, CHIN., Anchusa tinctoria.
Tuba—Kalpa-vriksha.
Tuba bidji, MALAY, Anamirta cocculus.
Tubiki, Tinduki, TEL., Diospyros embryopteris.
Tubipora musica, Zoophyte.
Tubunna, Chakan, BENG., Celtis orientalis.
Tuckir, Tuggur, HIND., Asarum Europæum.
Tuda valle, TAM., Solanum trilobatum.
Tufan, ARAB., TURK., Deluge.
Tuffa armina, ARAB.; Armeniaca vulgaris.
Tuffah, ARAB., Pyrus malus.
Tuffah-ul-arz, ARAB., Anthemis nobilis.
Tu-fu-ling, CHIN., Smilax Chinensis.
Tuga. See Brahmans, 431.
Tugha, TURK., Horse-tail standard.
Tugu-hsen-pan, BURM., Gardenia florida.
Tuhfah-us-shaitan, ARAB., Mandrake.
Tu-hiung, CHIN., Realgar.
Tuh-kiah, SANSKRITO-CH., Chestnuts.
Tuh-kioh-lien, CHIN., Caladium xanthorizum.
Tu-hwui-hiang, CHIN., Aniseed.
Tuisto. See Suevi.
Tui-tui of Australia, Aleurites triloba.
Tuj, Dalchini, HIND., Cinnamon.
Tukeyiun, HEB., Peacock.
Tukharistan. See Talikan.
Tukhm-i-bunj-i-Rumi, PERS., Hyosciamus niger.
Tuki, TEL., Diospyros ebenum.
Tukla, Kapila, HIND., Rottlera tinctoria.
Tula Ayana. See Ayana.
Tulip tree, Thespesia populnea.
Tulka-pyr, TAM., Phaseolus.
Tulsi, Ocimum, an ordeal. See Divination.
Tulsi Sashti. See Kanheri.
Tulu. See Languages.
Tum, BENG., Garuga pinnata.
Tumal, HIND., Diospyros tomentosa.
Tumbi maram, TAM., Diospyros ebenum.
Tumbuggaia, TEL., Vatica tumbuggaia.
Tumi, Tumbi, TAM., TEL., Diospyros Wightiana.
Tumiki, Tumiki, TEL., Diospyros embryopteris.
Tumma chettu, TEL., Diospyros melanoxylon.
Tummi, TEL., Leucas cephalotes.
Tum-pha, TIB., Taxidea leucura.
Tumtum, ARAB., Rhus coriaria.
Tumulus. See Cromlech; Ingouletz; St'hupa.
Tung, BENG., Rottlera tinctoria.
Tung, KASH., Taxus baccata.
Tung, Titar, Titri, PANJ., Rhus semialata.
Tunga muste, TEL., Cyperus hexastachyus.
Tung-k'au, CHIN., Brick-tea.
Tung-kwa, CHIN., Benincasa cerifera.
Tung-lo, CHIN., Sulphate of copper.
Tung-po-tau, To kuh, CHIN., Amomum cardamomum.
Tung-sha, CHIN., Sal ammoniac.
Tung-shu, CHIN., Jatropha curcas.
Tung-toh-muh, CHIN., Aralia papyrifera.
Tung-t'sau, CHIN., Clematis vitalba.
Tung-ts'ing, CHIN., Ligustrum lucidum.
Tunguz. See Oronchon.
Tunicaries. See Ascidiadæ.
Tunkana, SANSK., Borax.
Tun-kwa, Hiang-kwa, CHIN., Cucumis melo.
Tunna, Toon, BENG., Cedrela toona.
Tunnus, MAHR., Ougeinia dalbergioides.
Tupha, TURK., Horse-tail standard.
Tu-pih-poh, CHIN., Betel leaf.
Tur, Dhal, HIND., Cajanus Indicus.
Turai, Chaul-turai, HIND., Luffa fœtida.
Turaju, head hunters of Celebes.
Tura lodh, HIND., Rondeletia tinctoria.
Turanian languages—Literature.
Turanj, HIND., Citron.
Turbat-i-Haidari. See Khaf.
Turbuz, HIND., Citrullus cucurbita.
Tureh-tezak, PERS., Cress.
Turfa, ARAB., Tamarix gallica.
Turi, MALAY, Agati grandiflora.
Turia, HIND., Brassica juncea.
Turk. See Afghanistan; Central Asia; Ertoghrul; Kara Kalpak; Turkoman.
Turka-vepa, TEL., Olax scandens.
Turkilani. See Afghanistan.
Turkish. See Languages.
Tur-mandi, HIND., a cattle stand.
Turmeric, Curcuma longa.
Turmeric tree, Coscinium fenestratum.
Turnsol, Tiaridium Indicum.
Turpani, HIND., Viscum album.
Turpentine trees, Tristania albicans of Australia.
Turquoise. See Firozah; Precious Stones.
Turræa virens, Atalantia monophylla.
Turrien, SIAM., Durio zibethinus.

Tursha, Hamaz, PERS., Rumex acetosa.
Turshka. See Takshak.
Turtles. See Chelonia; Reptiles.
Turui, BENG., Luffa, *sp.*, Watermelon.
Turumti, Hypotriorchis chicquera.
Turunj, ARAB., Citron.
Turunjabin, HIND., Manna of Alhagi maurorum.
Tusa. See Cloths.
Tusi wool. See Ibex.
T'u-sz-tsze, CHIN., Cusuta reflexa.
Tut, DUKH., HIND., Morus Indica.
Tutanagam, TAM., Zinc.
Tutanague work. See Arts, 172.
Tu-tang, Koh-liu, CHIN., Calamus.
Tutatar, HIND., Woodcock.
Tu-thi, TAM., Abutilon tomentosum.
Tutiya, Nila tutia, HIND., Sulphate of copper.
Tutthanjana, SANSK., Bluestone.
Tutti benda, TEL., Abutilon Indicum.
Tuttura-benda, TAM., Abutilon Indicum.
Tuturalu of Kamaon, Martes flavigula.
Tuvaray, CAN., Cajanus Indicus.
Tuwari. See Deserts, 920.
Twice born. See Dwaija.
Typhlopode—Poneridæ.
Tze-tau, CHIN., Rosewood.

U

UA-JO, Ua, Khas, of Sutlej, Hordeum cœleste.
Ubbukada, TEL., Rothia trifoliata.
Ubdie narikaylum, SANSK, Sea-cocoanut.
Ubhul, HIND., Juniperus recurva.
Ubi, JAV., MALAY, Dioscorea alata.
Ubusha of Sutlej, Artemisia, *sp.*
Uchinta kura, TEL., Solanum trilobatum.
Ud, MAHR., Paradoxurus musanga.
Ud, ARAB., HIND., Agallocha wood.
Udai. See Binua; Kedah.
Udaipur, Hindustan, 80; Mewar.
Udaya Das. See Birbhan.
Udayagiri. See Cave Temples; Khandagiri.
Ud-billi, HIND., Lutra nair.
Udiram panum, SANSK., Cacalia coccinea.
Udora verticillata, Hydrilla verticillata.
Udotea. See Sea-weeds.
Udugu, Udugu, TEL., Alangium decapetalum.
Udumu, TAM., Iguana.
Ugai, Shing, TR.-IND., Fraxinus floribunda.
Ugal, Ulgo phapar, SUT., Buckwheat.
Ugaru, BENG., Excoecaria agallocha.
Ugir-turki, PERS., Acorus calamus.
Uigur. See Dungani; Turk; Turkestan.
Ukkilbar ke munke, DUKH., Canna Indica.
Ulandu, TAM. See Phaseolus.
Ulat-chandal, BENG., Gloriosa superba.
Ulc. See Caoutchouc.
Ulimera, TEL., Diospyros chloroxylon.
Ulimidi, TEL., Cratæva Roxburghii.
Ulisi, Valisi, Valasalu, TEL., Guizotia oleifera.
Ullador. See Mala-Arayan.
Ullena tige, TEL., Cardiospermum halicacabum.
Ullinda, TEL., Diospyros chloroxylon.
Uluwa, SINGH., Trigonella fœnum græcum.
Ulva latissima, Sea-weeds.
Ulvallu, Ulava, TEL., Dolichos uniflorus.
Umar-ibn-ur-Ridh. See Sufi.
Umati, TEL., Datura.
Umbrella. See Cave Temples, 610; H'tee; Tee.
Umbrina Russelli. See Isinglass.
Umbuti ki baji, DUKH. See Oxalidaceæ.
Umi-do-ganie, CHIN., Limulus longispina.
Um-Keis. Hot Springs, 111.
Umkund babri, TR.-IND., Ajuga bracteata.
Ummeydes. See Abdallah.
Umriti, Amalaca, SANSK., Emblica officinalis.
Unab, ARAB., Fruit of jujube tree.
Unab-deo. See Hot Springs, 113.
Unái. See Hot Springs, 112.
Undi, Sultana champa, HIND., Calophyllum inophyllum.
Undimandari, TEL., Polianthes tuberosa.
Undopherres. See Bactria, 224.
Undurugu manu, TEL., Sapindus rubiginosus.
Unkudu, TEL., Uncaria gambir.
Un-küe, CHIN., Limulus longispina.
Unona esculenta, Artabotrys odoratissimus.
Unona longifolia, Polyalthia longifolia.
Unona narium, Uvaria narum.
Unsri of Sutlej, Rubus, *sp.*
Untamol, HIND., Tylophora asthmatica.
Unta ruma, MALAY, Camel's hair.
Untia bag, HIND., Felis leo.
Unt-katara, HIND., Solanum xanthocarpum.
Ununtamul, BENG., HIND., Hemidesmus Indicus.
Uorhuree. See Kurao; Marriage.
Upad'hay'ya. See Hindu, 66.
Upa Meru. See Pamir.
Upana, SANSK., Asarum Europæum.
Upanayam. See Hindu, 66.
Upanga, BENG., Achyranthes aspera.
Uparinta, TEL., Cardiospermum halicacabum.
Upas tjeute, Tshellik, JAV., Strychnos tieute.
Upas tree, Antiaris toxicaria.
U-pa-tzin, BURM., a recluse.
Uplati, HIND., Aplotaxis auriculata.
Upo'daki, SANSK., Basella cordifolia.
Uppu ponna, TEL., Rhizophora mucronata.
Upurajita, BENG., Clitoria ternatea.
Upwa, Yupo, LADAKH., Avena fatua.
Ur of the Chaldees, Imam Ali. See Babylonia, 218; Chaldæa, 641.
Urál Lake. See Lake.
Urali, Mala-Arayan.
Uraon. See Dravidian.
Uravada, Varavada, TEL., Bruguiera parviflora.
Urceola elastica. See Caoutchouc.
Urdu. See Literature.
Uredo. See Caries; Fungus.
Urela-tamara, MAL., TAM., Ionidium suffruticosum.
Uren, MALEAL., Urena lobata.
Urghi, HIND., a bunch of doorva grass tied with a slip of plantain leaf or with red cotton.
Urginea Coromandelica. See Kaza Gadda.
Urginea maritima, Squill.
Urit-manis, MALAY, Glycyrrhiza.
Uriya. See Orissa.
Urkan, ARAB., Lawsonia inermis.
Uro kanija nalika, TEL., Celtis orientalis.
Uropeltidæ. See Reptiles.
Urrvi, Urni, Geh, PANJ., Corylus colurna.
Ursa. See Panchami Rishi.
Ursool, MAHR., Canthium didymum.
Urtenysa, ARAB., Cyclamen, *sp.*
Urtica heterophylla, Girardinia Leschenaultiana.
Urtica interrupta, Boehmeria interrupta.
Urtica nivea, China grass, Boehmeria nivea.
Uru, Urni of Kaghan, Cæsalpinia sepiaria.
Uru joba, Juva, BENG., Hibiscus rosa Sinensis.
Urukann, SINGH., Lasianthera apicaulis.
Urupa, MALEAL., Hopea decandra.
Urus, BENG., Solanum verbascifolium.
Urus or Utarosha, SANSK., Adhatoda vasica.
Urvi. See Prit'hiva.
Ushak? ARAB., Gum-ammoniac.
Ushb, ARAB., Green grass; when dry it is called Hashish.
Ushnaz daoud, ARAB., Phaseolus.
Ushtarana Afghans. See Povindah.
Usil manu, TEL., Cratæva Roxburghii.
Usima. See Kusima.
Usirika, TEL., Phyllanthus emblica.
Usman. See Ertoghrul.
Ussulur-rasun, ARAB., Elecampane root.
Ustakhudus, ARAB., Lavender.
Utareni, TEL., Achyranthes aspera.
Utharayanan, SANSK., the northern solstice. See Avani Avattam; Hindu, 66.
Utimookta, DUKH., Hiptage madablota.
Utman Khel. See Afghanistan.
Utmanzai. See Afghanistan.
U-tsang—Tibet.
Uvaria cerasoides, Guatteria, *sp.*; Polyalthia cerasoides.
Uvaria lutea, Alphonsea lutea.
Uvaria uncata, Artabotrys odoratissimus.
Uyana, SANSK., from Aya, to move.
Uyodhya, properly Ayudhya, province of Oudh, from Yoodh, war.
Uzbak. See Bokhara, 405; Asia; Kalmuk; Turk; Tu

V

VADA GANNERU, TEL., Pl acuminata.
Vadaja, TEL., Acorus calamus
Vada kodi, MALEAL., Gendarussa vulgaris.
Vadanike, TEL., Vangueria spinosa.
Vadatala, TAM., Dichrostachys cinerea.
Vaday valli maram, TAM., Vachellia farnesiana.
Vadlaya rala, TEL., Hiptage madablota.
Vaghe, TAM., Albizzia lebbek.
Vahan, the vehicle of Hindu deities.
Aku para, the tortoise which sustains the earth. See Hindus, 63.
Antelope of Vayu or Pavana and Chandra.
Arva, half horse, half bird, one of the horses of the moon.
Buffalo of Yama.

...ster,
... Kama
... and Par-
... Deva.
... of Agni.
...ga, or Ananta, the ser-
...nt of Vishnu.
...kshya.
...iger and lion of Parvati, as Kali and Durga.
... Vulture of Sani or Jupiter.
...ahea. See Caoutchouc.
...aidik. See Brahman, 430; Hindu, 70.
...Vairagi. See Byragi; Sanyasi.
...hivaswata, Sun-born.
...ajra valli, SANSK., Cissus quadrangularis.
...akka, Vakudu, Carissa carandas.
Valabhacharya. See Bindraban; Rudra Sampradayi.
Valaiti agati, DUKH., Cassia alata.
Valaiti-mung, DUKH., Arachis hypogea.
Valaiti sunn of Muttra, the Ambari.
Valambiri kaya, TEL., Isora corylifolia.
...ati-polam, TAM., Balsamodendron myrrha.
...e-palam, TAM., Plantains.
...lai murda, TAM., Terminalia arryi.
...ai sharunne, TAM., Trianthema candrum.
...lai tutam, TAM., Sulphate of nc.
...la rugu, TAM., Cicendia hyssopifolia.
...e kire, TAM., Gynandropsis pentaphylla.
...i modigam, MAL., Ancistrocladus eyneanus.
...lisneria verticillata, Hydrilla rticillata.
...i teregam, MALEAL., Ficus rubesns.
...luvy, TAM., Celastrus paniculas.
...mpiri, MALEAL., Isora corylifolia.
...na Deva, a Vedic Risli, author many hymns.
...anar, Dwarf avatar. See Avatar.
...nigram and Vaminagari, Bamian y.
...lapura. See Balabhi.
...inta, TEL., Gynandropsis pentaphylla.
...npyridæ, Vampire bats, *sp.* of ...legaderma.
...n. See Lakes.
...a, HIND., Silk thread for weaving.
...a-go, BENG., Gavæus gaurus.
...a-prastha. See Hylobii; Sansi.
...gala patchi, TAM., Acetate of pper.
...ni, Parambay, TAM., Prosopis icigera.
...parati, Parati, TAM., Gossypium rbaceum.
...ta sena, the heroine in the drama ...ha-khá-kati or Toy Cart.

Vâra, SANSK. See Hora; Panchanga.
Varaga, Varagalu, TEL., Panicum, *sp.*
Varaha, Boar avatar. See Avatar.
Varanidæ. See Reptiles.
Varanus. See Iguana.
Varanus Piquotii, Empagusia flavescens.
Varna, SANSK., Colour. See Caste.
Varnish tree, Stagmaria verniciflua.
Varra kasimi, TEL., Toddália aculeata.
Vartaka, SANSK., Solanum melongena, Egg-plant, Brinjal.
Varugu, Warugoo, TAM., Panicum.
Vasa-nabhi, TEL., Aconitum napellus.
Vasana gaddi, TEL., Andropogon schoenanthus.
Vasant'ha. See Basant'h; Kama.
Vashishtadwaitya. See Dwaitya.
Vasi. See Jain.
Vassambu, TAM., Acorus calamus.
Vatica robusta. Hindu worship, 65.
Vatsan, Sunni of PANJ., Hibiscus cannabinus.
Vatsa priam, SANSK., Commelyna communis.
Vattanghy, TAM., Cæsalpinia sappan.
Vatti-veru, TEL., Andropogon muricatus.
Vayu velangam, TEL., Embelia ribes.
Vayvagarra lunu, SINGH., Sal-ammoniac.
Veckalie, TAM., Anogeissus latifolius.
Vedala chettu, TEL., Gærtnera racemosa.
Vedanga. See Joshi; Panchanga.
Vedanta. See Darsana; Sankhya.
Vedditale, TAM., Dichrostachys cinerea.
Veduru uppu, TEL., Tabashir.
Vegetable marrow, Cucurbita ovifera.
Veiled prophet, Hashim-bin-Hakim.
Vekkudu tige, TEL., Cardiospermum halicacabum.
Velaga, Kapitthamu, TEL., Feronia elephantum.
Velago xylocarpa, Pterospermum suberifolium.
Vel-ambar, HIND., Pentatropis spiralis.
Vela villa, TAM., Feronia elephantum.
Vel-ghas, HIND., Cuscuta reflexa.
Vellai naga maram, TAM., Conocarpus latifolia.
Vellai toaratti maram, TAM., Capparis grandis.
Vella munthi, MAL., Macacus radiatus.
Vella mûtti, TAM., Terminalia arjuna.
Vellanga, TAM., Feronia elephantum.
Vella nuchi, TAM., Vitex negundo.
Vellarsia Indica, Menyanthes Indica.
Vellerikai, TAM., Cucumis sativus.
Veltu, TEL., Rottlera laccifera.
Veluturu, Yel-tur, TEL., Dichrostachys cinerea.
Vel velam, Vellai tumma, TAM., Acacia leucophlæa.
Vema donda, TEL., Echinops echinatus.
Vembu, MALEAL., Acorus calamus.
Vempali, TEL., Tephrosia purpurea.
Venda, MALEAL., Abelmoschus esculentus.
Vendidatl. See Hapta Hindu; Parsee; Pa-zend; Zend Avesta.
Vendium, TAM., Trigonella fœnum græcum.
Venetians. See Commerce, 790.
Vengay, TAM., Pterocarpus marsupium.
Venna-devi kura, TEL., Commelyna communis.
Venna katte-tige, TEL., Asystasia Coromandeliana.
Ventek, Veveyla, TAM., Lagerstroemia microcarpa.
Ventilago. See Dyes.
Venuturu, TEL., Caillea cinerea.
Vepam maram, TAM., Azadirachta Indica.
Veppalei, TAM., Conessi bark.
Verbena cuneata, Zapania nodiflora.
Verbena triphylla, Aloysia citriodora.
Verbesina sativa, Guizotia oleifera.
Verduru gadda, TEL., Eulophia virens.
Ver kadale, TAM., Ground-nut.
Veronica Lindleyana, Picrorrhiza kurrooa.
Verri ulva, TEL., Dolichos falcatus.
Veru sanaga, TEL., Arachis hypogea.
Vesha, SANSK., an ordeal.
Vesha-moongi, TAM., Vesha moongaloo, TEL., Crinum Asiaticum and C. defixum.
Vesha-mushti bijum, SANSK., Strychnos nux vomica.
Vetala-Panchavisati, the Baital Pachisi.
Vetch, Vicia sativa; Chickling vetch, Lathyrus sativus.
Vetra, SANSK., Calamus.
Vettilei, TAM., Chavica betle.
Vetti vayru, TAM., Cuscus root.
Vettiyan, TAM., a village servant who performs the lowest offices.
Veyala, TEL., Vitex negundo.
Vichitra-virya. See Pandu.
Videha, the modern Tirhut.
Vidi maram, TAM., Cordia myxa.
Vigraham, Salai, TAM., Idols.
Vihara. See Architecture, 143; Buddhist Remains; Cave Temples.
Vijianagar, Bijayanagar, Hampi.
Vikramaditya, Sinhasana, Dwatrinsatika, Korur.
Village deities. See Hindus, 63.
Villarsia Indica. See Chiretta.
Vilva-marâm, TAM., Ægle mârmelos.
Vimâna. See Architecture, 143.
Vindhya Mts., i. 44; Hindustan, 77.
Viola suffruticosa, Ionidium suffruticosum.
Viperidæ. See Reptiles.
Viragu, TAM., Harmala ruta?
Virakta, Vairagi. See Saiva.
Viramu, Vigram, TEL., Idols.
Vir kadale, TAM., Arachis hypogea.
Viru shanagalu, TEL., Ground-nut.
Visagul, SINGH., Bezoar.
Vish, Bish, Bikh, HIND., Aconitum ferox.
Visha. See Divination; Ordeal.
Visha bodi, TEL., Sida acuta.
Visha kallu, TAM., Bezoar.
Vishal, Vellal, TAM., Embelia ribes.
Vishamandala, SANSK., Crinum Asiaticum.
Vishnu kranta, TEL., Evolvulus alsinoides.
Vishnu-Sarman. See Panchatantra.
Vishwa-tulasi, SANSK., Basella alba.
Visishta-Dwaita. See Charvaka.
Vispard. See Parsee.
Vistara'kula'pala, TEL., Holostemma Rheedianum.
Visva Karma. See Caste.
Viswanatha. See Raghava.
Vitasta, the Hydaspes.
Vitis quadrangularis, Cissus tangularis.

Vitti-ver or Vetti-ver, TAM., Cuscus root.
Vittulei-kasturi, TAM., Abelmoschus moschatus.
Vittulu, TEL., Seeds.
Vitty maram, TAM., Dalbergia sissoides.
Vivada Ratnakar, a law-book by Chandeswara, about A.D. 1314.
Vivaswat, SANSK., the brilliant, a name of Surya, the sun.
Vobilinta, TEL., Polygonum herniaroides.
Vodata, TEL., Sciurus palmarum.
Vodisa, TEL., Cluytia collina.
Vole, Arvicolinæ, *sp.*, Arvicola Neodon.
Volkameria multiflora, Clerodendron phlomoides.
Vologeses. See Hoormuz.
Vood'harni. See Hindu, 70.
Vowal meen, TAM., Pomphret.
Vrash, HIND., Rhus buckiamela.
Vrihat Kathasagara. See Baital Pachisi; Literature.
Vrinda Vana. See Brindaban.
Vrishabdeva. See Brishabdeva.
Vrishotsarg. See Brikhotsarg.
Vuckan maram, TAM., Diospyros cordifolia.
Vuckoo-nar, TAM., Sunn.
Vula, TEL., Cadaba Indica.
Vuladambu, TAM., Calonyction grandiflorum.
Vular, KANGRA, Verbascum thapsus.
Vullari kire, TAM., Hydrocotyle Asiatica.
Vum-maai, TAM., Chloroxylon Swietenia.
Vuna, HIND., Viburnum fœtens.
Vurtuli, HIND., Dichrostachys cinerea.
Vutti-khillo-killupi, TAM., Crotalaria verrucosa.
Vuttom, TAM. See Iron; Olli.
Vuttunghy, TAM., Sapan-wood.

W

Waa-kailu, TEL., Carissa diffusa.
Wadda-kaha, SINGH., Acorus calamus.
Wadi buti, SUTLEJ, RAVI, Ajuga bracteosa.
Wagher of Dwaraka. See Saurashtra.
Waghorn, Lieut. Overland Route.
Waghutty, MALAY, Capparis grandis.
Wagna khyat, BURM., Bambusa.
Wagtails, *sp.* of the sub-fam. Motacillinæ.
Wah, Wah donka, BHOT, Ailurus fulgens.
Wahabee. See Joasmi; Khalifah.
Wahab Shahi, the Kirmani wool.
Wahlea, MAHR., Basella alba.
Wai-bashika. See Digambara.
Wainganga. See Chanda.
Wai-warung, HIND., Embelia ribes.
Wakara, Wæla, SINGH., Artocarpus integrifolius.
Wakeel or Vakil, ARAB., PERS.
Wakkalu jamadalu. See Slave.
Wakkan. See Oxus.
Walbelin gas, SINGH., Ailantus [illegible]aricus.
Walgu-meris, SINGH., Cubebs.
Wal-jamboo, SINGH., Jambosa aquea.
Wal-kaha, SINGH., Curcuma zedoaria, Calkera serratta, Gomphia angustifolia.
[illegible] SIND., Lablab vulgare.
[illegible]eel, TAM., Bangles.
Wallago attu, Boalli of Bengal.
Wallas, JAV., Aristolochia Indica.
Wallurasi, TEL., Walsura piscidia.
Wal-papri, BOMBAY, Lablab vulgare.
Walsura, TAM., Walsura piscidia.
Wal tjedde, SINGH., Cyclea Burmanni.
Walu-luway, SINGH., Amygdalus communis.
Wal-wareka, SINGH., Casearia Zeylanica.
Wampu, Litsi of Chenab, Pyrus aucuparia.
Wang-shuee-teng. See Boats, 400.
Wanur, MAHR., Presbytis entellus.
Wan-Wang. See Literature.
Wan-yen-hiang, CHIN., Pastilles.
Wan yin silver. See Coins.
Wara guda, TEL., Cycas circinalis.
Warak, JAV., the Rhinoceros.
Warangal. See Adavi Rajas; Belala; Carpets; Pakhall.
Warangan-putih, MALAY, Arsenic.
Wara-tara, TAM., Dichrostachys cinerea.
Warawane, TR.-INDUS, Ribes.
Warbaggol, MAHR. See Pteropodidæ.
Warblers, birds of sub-fam. Calamoherpinæ, Drymoicinæ, Phylloscopinæ.
Warchechunai, TR.-INDUS, Asparagus Panjabensis.
Warealu, GUJ., Fœniculum panmori.
War-Mubarak. See Rohri.
Warragu koli, TAM., Bustard.
Warrala, SINGH., Cloves.
Warri-adu, TAM., Hemitragus hylocrius.
Warumba, HIND., Solanum xanthocarpum.
Warwyk, Admiral. See Dutch.
Wasma, Basma, PANJ., Indigofera tinctoria.
Wasps. See Chrysididæ; Insects; Vespidæ.
Wassana-pillu, TAM., Andropogon schoenanthus.
Water-cock, Gallicrex cristatus.
Water-hen, *sp.* of Gallinula.
Water-melon, Citrullus cucurbita.
Water-ouzel, Hydrobata Asiatica.
Wattal. See Kashmir.
Watta tali, MALEAL., Caturus spiciflorus.
Watte, MALEAL., Oxytenanthera Thwaitesii.
Waunta, GUJ., Freehold land.
Wax-flower, Gardenia florida.
Wazu, ARAB., Ablution, Purification.
Weasels. See Mammalia; Mustelidæ.
Weaver birds, *sp.* of Ploceus.
Weaving. See Clothing, 745.
Webera corymbosa, Ixora parviflora.
Webera cymosa, Canthium didymum.
Wedi lunu, SINGH., Saltpetre.
Wee Nee. See Literature.
Weevils. See Coffee Planting, 774; Insects.
Weewarana, Raane, SINGH., Alseodaphne semecarpifolia.
Wei, or Chung Tsang, Central Tibet, Tibet.
Wei, Wei-shu, CHIN., Centetes illiger.
Wei-jui, CHIN. See Polygonaceæ.
We-kurundu, SINGH., Cinnamon.
Weld seed oil, Oil of Reseda luteola.
Weliyanna, SINGH., Anisophyllum Zeylanicum. See Ceylon.
Wel-kappitey, SINGH., Croton aromaticum.
[illegible]
Weppa[illegible]
Wer, Hi[illegible]
Werdil, H[illegible]
Wesha, HIND[illegible]
Western Ghats, [illegible]
Wetilla, MALEAL., phææfolia.
Wet-khyæ-pa-nai, BURM., Ure[illegible] ata. See Bun-ochra.
Wet-theet-kya, BURM., Castal[illegible] tribuloides.
Wetyor, HIND., Juniperus cor[illegible] munis.
Wfeheh, ARAB., Rennet.
Whales, *sp.* of Globiocephalus, Ba[illegible] enoptera. See Balænidæ; Cet[illegible] cea; Megaptera.
Whang yang, CHIN., Procap[illegible] gutturosa.
Wheat ears, Saxicola, *sp.*
Whimbrel, Numenius phæopus.
Whisks. See Oxtail Standard.
Whistling teal, Dendrocygna awsurc[illegible] and D. major.
White ant. See Termes.
Whiting fish, Collichthys pama.
Whitlow root, Eulophia virens.
Wi. See Karen.
Wi, HIND. of Sutlej valley, [illegible] Europea, O. ferruginea, O. cu[illegible] data, Olive.
Wicker-work. See Phog.
Widows. See Hindus, 69.
Wigeon, the Mareca penelope.
Wilayat, HIND., PERS., written [illegible] Valayat, Velait, and Badait, eign, a foreign country; Vilay[illegible] a foreigner.
Wilayati bengan, Solanum lyco[illegible] sicum.
Wilayati kantala, Agave Americ[illegible]
Wilayati kikar, Parkinsonia [illegible] leata, also Acacia farnesiana.
Wilayati mendhi, Myrtus [illegible] munis.
Wilayati nil, Prussian blue, Indigo of Bengal, etc., prep[illegible] in European factories.
Wilayati peori, Yellow chromat[illegible] lead.
Wilayati sun of Muttra, Hibi[illegible] cannabinus. See Ambari; Cr[illegible] laria juncea.
Wild almond tree, Terminalia [illegible] appa.
Wild apricot. See Clusiaceæ.
Wild ass of Cutch, Equus ona[illegible]
Wild ass of Tibet, E. hemion[illegible]
Wild beasts. See Husbandry, 1[illegible]
Wild dog, Cuon rutilans.
Wild goat, *sp.* of Hemitragus.
Wild sheep, Ovis cycloceros, nahura.
Wili, HIND. of Kanawar, Olea E[illegible] pea, O. ferruginea, and O. cu[illegible] data, Olive.
Willaiti-mung, Ground-nut, Ara[illegible] hypogea.
Will-o'-the-wisp. See Fire, 110[illegible]
Willughbeia. See Caoutchouc.
Willum-min, TAM., Willum mat[illegible] DUKH., Sable fish.
Wilumpi, MALEAL., Averrhoa [illegible] imbi.
Wimzda, PUSHTU, a female s[illegible]

inds. See Hindustan, 77.
inter cherry, Physalis angulata.
itch, Dakin, Dhakin.
Vizard. See India; Ordeal; Witch.
oadugu, TAM., Cluytia collina.
oani, TEL., Acacia ferruginea.
oda or Vada Chinta-kaia, TEL., Garcinia cambogia.
odalla, TAM., Acacia catechu.
odisha, TEL., Cluytia collina.
odrade, TAM., Alstonia scholaris.
œl-midi, SINGH., Vitis vinifera.
oh-kayu-lawang, JAV., Cloves.
i-pala, Jav., Nutmegs.
hab, HIND., Aquila fulvescens,
ach.
lu. See Okkala.
pe, white, Canis laniger; black, Ta niger; Indian, C. pallipes.
Volfsbane, Aconitum lycoctonum.
Volverine, Helictis Nepalensis.
Vomen. See Hindu, 70.
Wonga-wongu, Australian pigeon.
Woni, TEL., Acacia ferruginea.
Wontay, CAN., Garcinia cambogia.
Wood-apple tree, Feronia elephantum.
Wood-oil tree, Dipterocarpus alatus.
Wood-peckers, Birds of the family Picidæ.
Wooddulu, TEL., Phaseolus mungo.
Woodfordia floribunda, Grislea tomentosa.
Woodooga, TEL., Aleurites triloba.
Wooduga, TEL., Alangium hexapetalum.
Woolavalu, TEL., Dolichos uniflorus.
Woolunthu, TAM., Phaseolus mungo.
oma mara, CAN., Calophyllum ophyllum, TAM., Melia semperirens.
oondy, MAHR., Calysaccion longifolium.
oorala-tel, SINGH., Clove oil.
oosherike-pu or Woosherike-kaia, TEL., Phyllanthus emblica, Emblica officinalis.
oosta-kaia, TEL., Solanum pubescens.
othulu, TEL., Phaseolus mungo.
rm. See Ichthyophis glutinosus.
rm-killer, Aristolochia bracteata.
rmwood, Artemisia, *sp.*
rmia Coromandeliana, Dillenia entagyna.
thalay, TAM., Acacia catechu.
tiangil, HIND., Carpesium, *sp.*
tu, CAN., Loranthus falcatus.
wli, MAHR., Ulmus integrifolia.
w-wow, Hylobates agilis.
ren, Birds of the sub-fam. Myiotherinæ, of the genera tesia, pnoepyga, troglodytes, rimator, Reguloides cristatus.
restlers. See Jetti; Kushtigar; Phailwan.
rightia piscidia, Echaltum.
ryneck, Birds of the genus Yunx.
uchnak, MAHR., Aconitum ferox.
u-chu-yu, CHIN., Xanthoxylon piperitum.
udalu, TEL., Phaseolus mungo.
uddar or Wudiawar, TEL., Labouring men, tank and well diggers, road-makers. See India; Waddar.
uduga, TEL., Alangium hexapetalum.
ufat-nama, ARAB., the history of one's death.
ugi, a great maritime people of Celebes, the Macassar men. See Bugi; India.
uh-mu, Wu-pi, CHIN., Ebony.
wo. CHIN., Ficus carica.
Wukama maram, TAM., Diospyros cordifolia.
Wu-king. See Literature.
Wu-kiu-muh, CHIN., Stillingia sebifera.
Wukku, TAM., Crotalaria juncea.
Wukkum, SIND., Zapania nodiflora.
Wukna maram, TAM., Diospyros cordifolia.
Wulena, HIND., Sterculia Wallichii.
Wulhe keeray, TAM., Convolvulus repens.
Wu-lien-ts'ze, CHIN., Averrhoa carambola.
Wull-ellu, also Ellu, CAN., Sesamum orientale.
Wulli kirai or Vulli kirai, TAM., Convolvulus repens.
Wul-wala, TEL., Dolichos uniflorus.
Wuma mara, CAN., Calophyllum inophyllum.
Wumb, MAHR., Nephelium longanum.
Wu-mu, Wu-pi, CHIN., Diospyros melanoxylon.
Wunde, CAN., Female tree of Calysaccion longifolia.
Wungu or Ketangi, a wood of Java, often used instead of teak; the grain is somewhat finer; when in full blossom, it is perhaps the most beautiful tree existing.
Wuni, of Java, affords a reddish wood.
Wunjah maram, TAM., Acacia amara.
Wunjooli maram, TAM., Cedrela toona.
Wurak, HIND., PUSHTU, Rhamnus virgatus, R. Persica?
Wurali. See Curare.
Wuria, HIND., Corylus colurna.
Wuroon Dev. See Spirit-worship.
Wurriale, GUJ., HIND., Fennel seed, Nigella sativa.
Wurrus, MAHR., Bignonia quadrilocularis.
Wusaweh. See India.
Wusiat nameh, ARAB., a will or testament.
Wu-sih-fu, CHIN., Bole Armenian.
Wusiqâ, a bond or written agreement.
Wustay-kaia, TEL., Solanum pubescens.
Wu-tsih-yu, CHIN., Cuttle-fish.
Wu-tung-shu, CHIN., Dryandra cordifolia.
Wu-yu-wha, CHIN., Jonesia asoka.
Wyala, TEL., Vitex negundo.

X

XANJURA, HIND., Commelyna obliqua.
Xanthoxylum hostile. See Tejbal.
Xanthoxylum piperitum. See Fagara; Japan; Pepper.
Xatifah, MALAY, Carpets.
Xenopeltidæ. See Reptiles.
Xerxes. See Languages; Persepolis.
Ximenia Ægyptiaca, Balanites Ægyptiaca.
Xiphidium. See Hæmodoraceæ.
Xiphiidæ. See Fishes, 1118.
Xiphiline. See Polyandry.
Xisuthrus. See Chaldæa, 641.
Xylia dolabriformis, Inga xylocarpa.
Xylocarpus granatum, Carapa Moluccensis.
Xylophagi. See Insects.
Xylopia aromatica. See Pepper.
Xyloscopa tenuiscapa. See Carpenter Bee.
Xylotrechus quadripes. See Borer; Coffee Planting, 775.

Y

YACONIN, JAP., a person in Government employ.
Yadava. See Krishna.
Yadu or Jadu. See Rajputs.
Yæ-kha-oung, BURM., Ficus dæmonum.
Yæ-kyie, BURM., Strychnos potatorum.
Yæ-tha-pan, BURM., Ficus glomerata.
Yah-chih-ts'au, CHIN., Commelyna polygama.
Ya-hiang, Mih-hiang, CHIN., Lignaloes.
Yailak. See Kishlak.
Yai-nan, BURM., Petroleum.
Yajna-walkya. See Janaka.
Yajnopavita, SANSK., Zonar.
Ya-kiu, CHIN., Stillingia sebifera.
Ya-lan-mi, CHIN., Cochineal.
Yali. See Sculptures.
Yalum, MALEAL., Elettaria cardamomum.
Yam, *sp.* of Dioscorea.
Yama-dipa, Lamp of Yama. See Cartica.
Yanadi. See Cuddapah.
Yang of Kashmir, Ferula asafœtida.
Yang-k'i-shih, CHIN., Asbestos.
Yang-t'sai, CHIN., Sea-weed.
Yang-t'-sing, CHIN., Cobalt.
Yang-tze-kiang, i. 438.
Yan-siu-kiu, CHIN., Hydrangea Thunbergii.
Yashm, PERS. See Jade; Yuh.
Yashti madhukamu, TEL., Liquorice
Yasna. See Zendavesta.
Yavanika, SANSK., Ligusticum ajowan.
Yaverne, SINGH., Alseodaphne semecarpifolia.
Yayla, Yalak, or Ailak, TURK., upland.
Yazna or Yajna. See Parsee.
Yegi, TEL., Pterocarpus marsupium.
Yela kulu, Sanna elaki, Elettaria cardamomum.
Ye-lan-hiang, CHIN., Pergularia odoratissima.
Yelderm. See Othman.
Yelka of Waddars, Gerhillus Indicus.
Yella maddi, TEL., Anogeissus latifolius.
Ye Malai, Mount Dilli.
Yemaneh, BURM., Gmelina arborea.
Yen-chi-kiah, CHIN., Lawsonia inermis.
Yendaik, BURM., Diospyros embryopteris, Dalbergia latifolia.
Yen-hu-soh, CHIN., Corydalis amabigua.
Yenki, Limboo, Boehmeria frutescens.
Yen-lai-hung, CHIN., Plumbago Zeylanica.
Yentawa, TEL., Herpestes, *sp.*
Yenuga-palleru, TEL., Pedalium murex.
Yen-wo, CHIN., Bird nests.
Yerika, Erika, MALEAL., Calotropis gigantea.
Yerkala. See Couvade; Cuddapa
Yerool, CAN., MAHR., Inga xylocarpa.
Yerra adavi malla, TEL., Jasmi
Yerra gogu, TEL., Hibiscus riffa.

Yerra-juvi, TEL., Ochna squarrosa.
Yetti-cottay, TAM., Strychnos nux vomica.
Yew, Taxus baccata.
Yezdejird. See Persia.
Yezid. See Khalifah.
Ygarrot. See Philippines.
Yih-mu-ts'au, CHIN., Leonurus Sinensis.
Yin-chin-hau, CHIN., Wormwood.
Ying-chun-hwa, CHIN., Magnolia conspicua.
Ying-shwui-shih, CHIN., Calc. spar.
Yoga. See Sankhya.
Yoh-hung-hwa, CHIN., Safflower.
Yomah. See Mountains.
Yomut. See Turkoman.
Yoong, BURM., Conocarpus acuminatus.
Young-tha-ji, BURM., Xanthoxylon budrunga.
Ypo, CELEBES, Strychnos tieute.
Yuchi or Yue tchi. See Hun; Indo-Scythi; Sacæ.
Yudishtra. See Baldeva; Indraprastha; Pandu.
Yueh-shih, Hwan-sha, CHIN., Borax.
Yueh-tan, CHIN., Gardenia radicans.
Yuen-tan, Tan-fen, CHIN., Minium.
Yuh, CHIN., Jade.
Yu-kiau, Yu-piau-kiau, Isinglass.
Yu-li, CHIN., Cherry, Cerasus vulgaris.
Yul-Sung, or Lhassa. See Tibet.
Yung ma dæ, BURM., Abelmoschus esculentus.
Yung-mai, Yang-ma, CHIN., Eriobotrya Japonica.
Yun-hiang, CHIN., Sandarach.
Yu-tu, CHIN., Colocasia esculenta.
Yu-yu-liang, CHIN., Hæmatite.
Yuz, HIND., Hunting leopard, Felis jubata.
Y-wai-gyi, BURM., Adenanthera pavonina.
Ywet kya pen pouk, BURM., Bryophyllum calycinum.

Z.

ZABABI, HIND., a kind of emerald.
Zabad, ARAB., Civet.
Zabib, ARAB., Vitis vinifera, Raisins.
Zabit, ARAB., PERS., a chief magistrate of a town; in Egypt, the police magistrate.
Zabiyah-ul-Mohil. See Maldive Islands.
Zablestan. See Kandahar.
Zabrjad or Zamarrad, HIND., Emerald.
Zabub. See Fly; Insects; Zimb.
Zadianuj, ARAB., Fennel, Nigella sativa.
Zadwar, ARAB., Curcuma zedoaria.
Zae. See Zai; Zoe.
Zaemukt. See Afghanistan.
Zafaran, HIND., Crocus sativus, also Aristolochia rotunda.
Zafar-takeea, a fakir's dwelling.
Zafnee, PERS., the laurel.
Zaghun, HIND., Cucumis melo.
Zagros. See Ecbatana.
Zahal, ARAB., Saturn.
Zahar, PERS., Poison.
Zahari gugal, KASH., Cicuta virosa.
Zahar mohra, HIND., Bezoar.
Zahr-ul-ajl, ARAB., Mirabilis jalapa.
Zai, PUSHTU, a section of a tribe, [s]tener written Zye, as Eusufzye, [Z]akzye. See Zoe.
[Z]ahah, a Muhammadan saint; [off]ons are offered at his shrine.
Zain-ul-abidin, ARAB., a Muhammadan. See Sufi.
Zaisi, HIND., Glycirrhiza triphylla.
Zaitun, HIND., Olea Europæa, the olive tree, also Olea ferruginea.
Zaj-balur, PERS., Alum.
Zaj-i-sham, Syrian vitriol.
Zakat, ARAB., Alms, Tithes, Customs, Duties levied on commodities of importance.
Zakha Khel. See Afghanistan.
Zakhm-i-haiyat, PERS., Sphæranthus mollis, also S. hirtus, Glinus lotoides, Cissampelos pareira, Tinospora cordifolia, and the creeper Lettsomia.
Zal. See Teheran.
Zaleya decandra, Trianthema decandrum.
Zalzalah, PERS., an earthquake.
Zamai, HIND., Suæda fruticosa.
Zamarrud, ARAB., Emerald, Beryl.
Zamba, HIND., Prunus padus.
Zambak, ARAB., Polyanthes tuberosa; PERS., Jasminum sambac.
Zamboorak, small pieces of artillery, wall-pieces or swivels mounted on camels.
Zambur, HIND., large powerful pincers, Forceps.
Zam-gyouk, BURM., Garuga, *sp.*
Zamin, PERS., Earth; Zamin-bosi, a humble salutation, literally kissing the earth.
Zamin-kand, HIND., Arum campanulatum, also Dioscorea bulbifera, Yam.
Zammalu, SINGH., Pterocarpus marsupium.
Zamorin. See Feudatory; Fishermen.
Zampun, a Chinese district officer in the valley of the Sutlej in Hundes.
Zam-zam, Hagar's well at Mecca.
Zand, also Zend. See Persia.
Zanda, HIND., Dracocephalum heterophyllum.
Zandian, TEL., the zonar or zannar, sacred cord of the Hindus.
Zangar or Zangabar, Verdigris, Subacetate of copper; when pounded it yields a blue-green of great beauty. Zangari-kacha-rang, Verditer, a green colour, not permanent; it is made by dipping cloth into a solution of verdigris. Zangari-pukhta-rang, Verditer, permanent blue. Zangari rang, a pale blue-green colour; applied also to emeralds of good colour, a verditer blue or turquoise colour.
Zangaria. See Central Asia, 619.
Zangbar, ARAB., Sulphate of copper, Blue-stone, Blue vitriol.
Zangbari, PERS., Pistacia terebinthus, Turpentine.
Zangcha, HIND. of Basahir, Bricktea.
Zanjabil, PERS., Ginger.
Zanjafar, ARAB., Cinnabar.
Zanjira, also written Yanjira and Jinjeera, a Mahratta corruption of Jazira, an island.
Zanjira, PERS., a chain, a kind of gold wire.
Zantedeschia aromatica, Homalonema aromaticum.
Zar, HIND., Gold; Zarin, Golden.
Zara baf, Cloth of gold or gold tissue.
Zar-afshan. See Central Asia; Chryse.
Zar afshane kaghaz, Gold paper.
Zaral, HIND., Gymnosporia spinosa.
Zarangi. See Daria.
Zarawand-kalan, HIND., or Z. dara[j] or Z. tawil, Aristolochia longa.
Zarawand mundaraj or Z. khurd, Aristolochia rotunda.
Zarayat, PERS., Agriculture, Husbandry.
Zar buti, HIND., Cuscuta reflexa.
Zard, PERS., Yellow.
Zarda, HIND., a quality of tobacco
Zardak Lahori, PERS., Ba[l]at edulis.
Zard-alu, PERS., Prunus Armeniaca Apricot, the Armeniaca vulgaris properly Zard-aru, the yellow peach, corrupted in the hills of the N.W. Himalaya into [z]aldhari, and hari.
Zard chob, Zard chobeh, PERS., Turmeric, Curcuma longa.
Zard gopi, HIND., Butea frondosa.
Zard matti, HIND., Yellow ochre.
Zar-dozi, HIND., Embroidered with gold thread, Gold embroidery.
Zard sosan, HIND., Amarantus aurea.
Zareeh, a tombstone, in the shape of a taboot.
Zarf, ARAB., a cup without handles: plural, Zaruf, Vessels.
Zargal, HIND., Flacourtia sepiaria.
Zargar, a goldsmith.
Zari, HIND., Zizyphus nummularia.
Zari, Cloth of gold. See Bodla.
Zaria, PERS., Chain armour.
Zarira, also Kasbul zarira, HIND., Agathotes, *sp.*
Zarishk talkh, HIND., Berberis lycium, B. Asiatica or B. aristata
Zarmanochegus. See Pandya.
Zarnaik surkh, ARAB., Red [s]phuret of arsenic.
Zarnaik-zard, PERS., Yellow [s]phuret of arsenic, Orpiment.
Zarnub, also Zurnui, HIND., Taxus baccata, Himalayan yew.
Zarrah Lake, the Aria Palus; Z[ar] is a mountain in Dawar, and celebrated idol which was th[e] worshipped. According to Elp[h]stone, it is in the middle of Lake Zaranj or Zarrah, which natives call the Sea of Z[ar]. Conolly, however, says it is [n]in the lake, but in the vicin[ity] of it.
Zarrat or darra, ARAB., Sorghum vulgare.
Zatar-kalandar, HIND., Thymus [ser]phyllum.
Za te pha, BURM., Nutmeg, Myristica moschata.
Zatt, a gipsy tribe in Oman.
Zatud, HIND. of Ladakh, Urtica hyperborea.
Zaza, a Kurd race between Diarbeker, Palo, and Moosh.
Zbam or Mat zbang, HIND., Abelmoschus triflora, also Lonicera quinquelocularis.
Zbur, HIND., Artemisia sacrorum.
Ze-being, a tribe in Burma.
Zebra. See Equidæ; Kyang; Malamalia.
Zedoary, Curcuma zedoaria.
Zekum, ARAB., Euphorbium.
Zelu, PERS., Leeches.
Zen-bywon, BURM., Dillenia [spe]brella.
Zend. See Literature; Pa-zend.
Zendavesta. See Huzuraish; Pa[zend] sec.
Zengi-har, BENG., Myrobalan.
Zenobia, widow of Odenatus. S[ee] Tadmor; Palmyra.

Zeocritum distichon, Hordeum distichon.
Zeolites, Minerals composed of silica, alumina, some alkali, and some water; they are abundant near Naldroog.
Zerambad, Zerakbad, also Jadwar, PERS., Curcuma zedoaria.
Zerawand-daraz, Zerawand-ut-tawil, PERS., Aristolochia longa.
Zerfusht. See Zoroaster.
Zerumbet speciosum, Alpinia nutans.
Zeuzera coffeæ. See Coffee Planting; Drepana.
Zewar or Kali zewar, HIND., Bupleurum marginatum.
Zeylah, in lat. 11° 22′ N., long. 43° 30′ E., a seaport town of some importance on the east coast of Africa, trading with Mocha.
Zezi, HIND. of Spiti, a kind of barley.
Zhamo, BHOT, Sciurus lokriah.
Zhangar, HIND., Dolomiæa macrocephala.
Zhikak, HIND., Daphne oleoides.
Zhiko, HIND., Lonicera hypoleuca.
Zhing, TIB., Cultivated land.
Zho, TIB., the domestic animals in Ladakh are principally ponies, the yak, the zho, asses, mules, sheep, goats, and dogs. The zho or zhobu is a hybrid between the yak and the common cow; the female is called a zho-mo.
Zhuk, HIND., Spiræa Kamtschatika.
Ziarat, a valley in Baluchistan of considerable extent, well watered and cultivated.
Zib, ARAB., Iguana.
Zibakh, ARAB., Mercury.
Zigana, 12 leagues from Trebizond on the road to Erzerum, gives name to the Ziganah Dagh pass.
Zigger, a Baluch tribe. See Baluchistan; Minghal.
Zik, BHOT, Felis diardi.
Zilzarch, HIND., PERS., Rasaut, the extract of berberry root.
Zimb of Abyssinia, one of the Tabanidæ. See Fly; Insects; Tse-tse.
Zimbil, HIND., Potamogeton graminеus.
Zimbjoon, Dillenia aurea.
Zimiong, BHOT, Mustela subhemachalana.
Zimma, BURM., Chickrassia tabularis.
Zimmay. See Karen; Laos; Maha-Radza-Weng; Titles.
Zimpe. See Bhutan.
Zin, PERS., HIND., a saddle, pronounced Zeen; Zin-posh, an embroidered saddle-cover.
Zinbaori, JAP., a war surcoat with gold tissue facing.
Zinbyewn, BURM. ? Dillenia, *sp.*
Zinda Shah Madar. See Dam-i-Madar.
Zindik, ARAB., a fire-worshipper.
Zin-ga-lae, TAVOY, Ancistrolobus carneus.
Zingi. See Orfa.
Zinjabil, Zingabil, ARAB., Zingiber officinale.
Zinzid, PERS., Elæagnus orientalis.
Ziogun, a title of former secular emperors of Japan.
Zira, HIND., Bupleurum marginatum, also Cuminum cyminum.
Ziraat, HIND., Agriculture, Cultivation, Tillage, Husbandry.
Zirah gulab, HIND., Rosa centifolia.
Zirai rang, HIND., Shade of the brown drab colour of zira or cumin seed; in Pushtu, yellow colour.
Zirak, the ancestor of the Barukzai clan of Afghans. See Daurani.
Zira safed, Cuminum cyminum, Cumin seed.
Zira siyah, HIND., Carum gracile, also Cuminum cyminum, black cumin; sometimes applied to caraway seed, also to Aplotaxis candicans.
Zircon. See Precious Stones.
Zirduk, PERS., Carrot, Daucus carota.
Zireer, PERS., Melilotus officinalis.
Zirishk shirin or Mitha zirishk, a raisin derived from the Vitis vinifera.
Zirishk talkh or Zirisht-tursh, a very austere berry which resembles the fruit of the Berberis lycium.
Zirra, also Zirra baktar, PERS., Plate armour.
Zirsud, ARAB., Curcuma longa.
Zitha, BURM., Castanea Martabanica.
Zizania aquatica. See Pasari.
Zizyphus hamosa, Sageretia hamosa.
Zjibb-ul-ajl, EGYPT., Mirabilis jalapa.
Zodiacal signs, Joshi.
Zoe, PUSHTU, means son, generally spelled Zae, Zye, Zie, or Zai.
Zoeæ. See Crustacea.
Zoenil, HIND., Pyrethrum, *sp.*
Zogi. Dras adjoins Kashmir, the intercommunication being by the Zogi pass, a remarkable depression of 11,300 feet, through which blow the moist winds of Kashmir, and Dras is the most humid and fertile province of Tibet.
Zohak. See Gaveh.
Zohur, ARAB., HIND., PERS., Noon; Zohar-ka-namaz, the noontide prayers.
Zoilus. See Bactria; Greeks.
Zolim-buriki, TAM., Schleichera trijuga.
Zollinger, a Dutch naturalist who resided a long time in the island of Bali.
Zonangi. See Jonkan.
Zonnalu, TEL., plur., Sorghum vulgare.
Zonuridæ, a family of Saurian reptiles. Tachydromus sexlineatus, the Tachydrome, is a tropical form of this family, and is found in Cochin-China, China, Borneo, and Java; Pacseudopus gracilis is of Khassya. See Reptiles.
Zoottupaku, TEL., Cynanchum extensum.
Zoroastrians. See Ormuzd; Parsee.
Zosho, HIND., Daphne oleoides.
Zoung-gâ-la, BURM., Ancistrolobus carneus.
Zoung yah, BURM., Averrhoa carambola.
Zoz, Zozan, HIND., Alhagi maurorum.
Zozymus, LEACH., a genus of brachyurous crustacea.
Zrând, HIND., Cuscuta pedicellata.
Zruf, ARAB., Zizyphus jujuba.
Zuburjud, PERS., Topaz.
Zuddal tayngai, TAM., Sea-cocoa-nut.
Zufa, HIND., Nepeta ciliaris.
Zufæ yabis, ARAB., Hyssopus officinalis, also written Zufai yeabus and Zufai yebus.
Zulikha, Potiphar's wife.
Zull, ARAB., Carpets.
Zunkar mad'ni, also Tutiaj sabz, PERS., Sulphate of copper.
Zurak or Zoruck, a heavy traffic boat on rivers Sutlej, Indus, etc.
Zury, TURK., a thorny shrub of Balkh on which camels graze.
Zutup-aku, TEL., Cynanchum extensum.
Zu un Nun. See Sufi.
Zu-ya, Dze-ya, BURM., Cumin seed.
Zygodactylæ. See Phosphorescence.

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